FORRAD

FOUNDATION FOR RURAL RECOVERY AND DEVELOPMENT

ANNUAL REPORT

2012 - 2013

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Abbreviations

AFPRO	Action for Food Production
CSMCRI	Central Salt and Marine Chemicals Research Institute
CSR	Corporate Social Responsibility
FORRAD	Foundation for Rural Recovery and Development
MITTPL	Michelin India Tamil Nadu Tyres Private Limited
RO	Reverse Osmosis
SHGs	Self Help Groups
SIPCOT	State Industries Promotion Corporation of Tamil Nadu
TWAD	Tamil Nadu Water and Drainage Board

Balaji ka Banda, post monsoon 2012

Organisation Overview

The Foundation for Rural Recovery and Development (FORRAD) established in 1980, as a public charitable trust, works on issues of natural resource management and sustainable agriculture. FORRAD facilitates and supports grass root initiatives that address issues of natural resource management, human resource development and sustainability by instituting participatory, transparent and accountable processes.

Over the last 32 years, the organisation has undertaken a wide range of projects including irrigation, drinking water, agriculture, road construction, housing, forestry, land development, alternative energy, and livelihood in partnership with more than 450 grass-root organizations, in rural Uttarakhand, Jharkhand, Chhattisgarh, Bihar, Odisha, Madhya Pradesh, Rajasthan, Uttar Pradesh, Andhra Pradesh, Karnataka, Kerala and Tamil Nadu.

The organisation aims to ensure that control over natural resources and technologies associated with their conservation, treatment and eventual supply or availability is vested with rural communities. Although centred on natural resources, FORRAD's work intersects with issues of social justice, empowerment, public health and employment generation.

FORRAD's work approach and profile has changed over the last few years. Though the interventions remain technical in nature, the focus is increasingly on the social dynamics associated with water security including harvesting, conservation and de-contamination, and sustainable agriculture. A new component of FORRADs work is its engagement with industry, exploring ways in which various stakeholders can collaborate towards more equitable and ethical forms of industrialisation.

The organisation believes and recognizes that rural women, more than men, feel the burden of depleting natural resources and environmental degradation. The prevailing norms and values however, deny women voice and visibility. FORRAD ensures that women' opinions are prioritised; and that women are a part of and fulfil decision-making roles in the planning and implementation of all projects.

FORRAD is primarily a facilitator and supports its partner organisations in implementation of projects. Only in Tamil Nadu, FORRAD has its own field office and a team of program staff and volunteers. As a facilitating agency, FORRAD supports its partners through regular field visits, project reviews, feedback and support in implementation. FORRAD is responsible for the overall implementation and accountability to its donors. It receives the reports from the partners, reports to the donors and manages the relations with them. It also raises resources for projects.

Areas of work

- Sustainable Agriculture
- Water conservation/Water security and drinking water
- Ethical Industrialisation
- Direct Aid

Current work

PROJECT	GEOGRAPHICAL AREA
1. Watershed Development around Sambhar Salt Lake	Rajasthan – Ajmer, Nagaur and Jaipur districts
2. Installation of Reverse Osmosis (RO) plants in villages around Sambhar Salt Lake	Rajasthan – Five villages in Silora Block, Ajmer district
3. Watershed Development in Mahoba	Mahoba district, Uttar Pradesh
4. Ethical industrialisation – water and agriculture projects, community facilitation	Tiruvallur district, Tamil Nadu
5. Direct Aid – to the most disadvantaged families	Rajasthan and Delhi

Highlights of the year

• In Rajasthan, all completed watershed structures, filled up during the monsoon of 2012; as a result 752 million litres of fresh water became to the community.

• The bund of Jhag Nadi, Ajmer District, Rajasthan breached due to 200 millimetres of rainfall received in 2012. The community repaired the bund, but it breached again after two days. The entire village, then voluntarily came forward, to fix the breach and strengthened the bund by dumping mud on it. This is reflective of the involvement of the community and the strong sense of ownership regarding this asset.

A woman in village Jhag, Ajmer district, Rajasthan, when asked "who does this Nadi belong to?" answered proudly that "it belongs to me. I have worked for several months, carrying mud to build this structure and hence it belongs to me". The women has carried over 2000 kilograms of mud as (100) head-loads, covering about 8 kilometres a day on foot to build the Nadi. It indicates the involvement and sense of ownership of the community

• In Tamil Nadu, the first round of water tests revealed that 65 percent of sources were bacteriologically contaminated. 137 tests across various sources were conducted in March 2012 (dry season). These reports were sent to the Panchayats and health authorities for their information and possible action. Despite this, none of the Government agencies, made any effort to clean any of the sources, except for dropping chlorine tablets, in some instances. FORRAD decided to take the lead and focus first on the overhead tanks which supply the major share of water for household use. The water in 26 of the 46 overhead tanks tested had shown bacterial contamination and required cleaning and whitewashing. The Panchayats and community members witnessed heaps of sludge being removed from the tanks, which were subsequently cleaned, white washed and disinfected. Realising that they had been consuming dirty and contaminated water for long, most of the Panchayats have now taken the responsibility to clean and disinfect their own tanks.

PROJECT PROFILES

Agriculture made possible again with the recharge from the renovated Sivan Koil Kulam

FORRAD, at present primarily works in three states in India – Rajasthan, Uttar Pradesh, and Tamil Nadu, with a mandate to work on issues of water security and sustainable agriculture.

In Tamil Nadu, FORRAD was approached by Michelin India Tamil Nadu Tyres Private Limited (MITTPL) to provide support for community and land development in areas adjoining the plant.

RAJASTHAN

Focus areas:

- Provision of drinking water
- Watershed Development

The semi-arid zone around the Sambhar salt lake in Rajasthan has over 100 villages, where salt production is the main source of livelihood. Poor rainfall and climatic changes over the years and indiscriminate extraction of the ground water for salt production has caused the water surface to shrink and the water table to drop rapidly. Salt has leached deep into the water table and fertile lands have become saline and arid. Drinking water is scarce and contaminated with very high salinity. Thus, poor land fertility has led to limited livelihood avenues; and contaminated water and lack of potable water sources has a large impact on the health and lives of people.

Given this, FORRAD's effort is two-fold:

- Provision of clean drinking water through the installation of RO units
- Strategic harnessing of rain water to replenish surface and ground water sources through the construction rain water harvesting structures.

The immediate focus is to address the immediate consumption needs of potable water for the community; and the long-term intervention is to replenish the groundwater. These efforts commenced in 2010, after extensive community consultations to understand the community needs and issues.

Provision of drinking water

Geographic area – Five villages in Silora Block, Ajmer district.

Project activities

- Installation of five solar-powered Reverse Osmosis (RO) water filtration plants in collaboration with Manthan, a community-based partner organisation, in the villages – Jhag, Bhopa ki Dhani, Sinodiya, Mordikala and Solawata
- Of these, 3 units were installed in the year 2010-11 while the units in Mordikala and Solawata were installed in July 2012.
- Prior to installation, socio-economic surveys were undertaken to understand the household profile and water sources; to ensure the effective use of the RO system.

Fetching water from the Solar Powered RO plant in Solawata

The RO plants use indigenous technology, developed by the Central Salt and Marine Chemicals Research Institute (CSMCRI) in Gujarat. The first prototype of the solar powered plant was installed by Manthan in 2006. The plants in operation at present have been modified since. They are designed to reduce the salt content from 8000 to 500 ppm (the recommended limit for drinking water). They can be operated for eight hours a day; and process 400-800 litres of water per hour. The plants have been specially developed to operate on solar power, as the power supply from the grid is erratic. The plants need 5 kw of power which is generated by 96 panels mounted on the roof' of the buildings that house them.

Community involvement

- *Pani Samitis* (water committees) have been formed to monitor the installation, use and functioning of the plants
- Decisions on location of the RO plants, use of space, nature and extent of community contributions, and selection of plant operators were taken in consultation with the *Samitis*
- The village community also ensured unused community buildings were allocated to house the RO plants, by getting requisite permission from the Government. This was a strategic decision - situating the plant in a community building, as opposed to a private one, ensured that everyone had equal access to water
- The *Pani Samitis* were given an orientation on the RO units and their functioning. Subsequently, two persons from each village, both men and women have been trained in the operation and maintenance of the RO plants

Achievements and Project Impact

The immediate achievement has been :

- Availability of drinking water at a reasonable price in this water stressed region - People were earlier dependent on expensive water tankers for drinking water; now, for a modest monthly contribution of Rs. 25 per family, there is easy access to safe drinking water.

In arid Rajasthan, a village that has an adequate supply of drinking water is highly preferred when selecting grooms. Ease in access of water is preferred by families who are marrying of their daughter, as they do not want her to be subjected to the daily drudgery of fetching water from long distances. It is no surprise then that the families previously hesitant are now much more willing to marry their girls to boys from the villages that are within easy reach of the RO plants!

The impact of the interventions has been :

- Social Equity in Access to Water – Water is now available to everyone in the village community, irrespective of caste and other barriers. The control that a few had over access to potable and sweet drinking water has been altered.

- Reduced Drudgery for Women – The RO plants have considerably eased the burden on women and girls who now travel shorter distances and spend less time fetching water; teachers say that this has resulted in higher school attendance among girls. The RO units are also operated by women and they have now become providers of water. Having undergone training and operating the RO units, has empowered these women to deal with situations and issues not only in the plant, but, in their households and the community. This process is helping to raise questions on gender stereotypes; and importantly enabling women to overcome their marginalisation in decision making.

- Improved Health Status - With access to safe drinking water, there is anecdotal evidence of a decline in the physical problems associated with consumption of contaminated water. Earlier the water with fluoride and TDS levels beyond the permissible limit, caused problems such as joint pain, digestive disorders and skin ailments.

- Demystification and Decentralisation of technology – Viable and Replicable Community Option – The community members have learnt the skill of operating and managing the RO plants. They manage the system on their own. The technology for water purification has been demystified and decentralized at the community level - a feat that is unheard of in water purification technology so far. More so, the process is managed by women. This could be a model for replication across locations which have low access to clean drinking water.

This project has sent out a very positive message to the community, local leaders, and government bodies that it is possible, at local level, to provide clean drinking water . The RO plants have become an example for the rest of the villages in the area. Local leaders visiting their village are now immediately requested by the community to install an RO plant – like the ones installed by Manthan. It has become the preferred solution to the crisis of safe drinking water.

Nosal before the rain

Watershed Development

Geographic area - Silora, Kuchaman and Dudu blocks of Ajmer, Nagaur and Jaipur districts respectively

Project activities

- Construction of seven water-shed structures, two of which were completed in the previous year and five were completed in the current year.

Table 1: Watershed structures constructed in the year 2012-13

Structure type - village	Projected Storage Capacity (in litres)	Number of villages likely to benefit	Heads of live-stock likely to benefit	Projected Employment generated (in person days)
Charagh Nadi – Ringi	91,560,574	4	15000	3132
Balaji ka Bandha – Kotri	60,547,862	7	15000	8293
Khedi-ki-Dhani Banda - Jhag	236,910,898	6	12000	11528
Gochar Banda - Nosal	252,729,674	4	10000	3303
Charagh Nadi - Kotri	58,173,500	4	3400	2461
Catchment of Dheera Talaab - Jhag	Survey underway	Survey underway	Survey underway	
Srirampura Nadi - Srirampura	Survey underway	Survey underway	Survey underway	2102
Bausi Tiba	Survey underway	Survey underway	Survey underway	738
Aabas ki Nadi	Survey underway	Survey underway	Survey underway	670

Nosal - monsoon filled

Once completed, the watershed development project is expected to cover the entire catchment around the Sambhar salt lake. The first phase, which is on-going, started in 2011. As mentioned above, this year, seven structures were constructed; and the project envisions the construction of 31 structures across 20 villages. The structures would not only benefit the 20 villages in Ajmer, Jaipur and Nagaur but the adjoining villages as well. When the entire project is completed, it is expected to harvest over a billion litres of water from 1,900,000 square meters catchment and benefit directly about 146,000 persons and 273,000 livestock and other animals. This is the first phase of the project and is expected to be completed by 2015. Based on the results of this initiative, the next steps would be planned

Community involvement

Community involvement has been integral to this project since its inception in 2010. For each structure that is built, a participatory process is followed, involving the communities' right from the initial stages of conceptualisation to construction and maintenance of these structures.

An initial village level meeting is organized where the concept of watersheds and the proposed project is discussed. This is followed by the formation of a *Pani Samiti* / Water Committee comprising village residents. A meeting is held with the local Panchayat, and on obtaining a no-objection certificate from them, the actual work is begun. A technical and socio-economic survey conducted in the concerned village, in collaboration with the *Pani Samiti,* forms the basis on which the structure is planned and executed. *Pani Samitis* are involved in identification of locations to build watershed structures, finalisation of plans on the basis of the technical survey and traditional knowledge, purchase of material, allocation of labour, distribution of wages, supervision and maintenance of the structure after completion.

The breached bund of Jhag banda being restored by the community during the monsoon

The key benefit of community involvement is that

- It fosters a sense of ownership of the project, ensuring its sustainability
- Employment for the local community is generated through earthworks and construction.

Achievements and Project Impact

The immediate benefit of the project has been the employment it has generated for the community, particularly for the women. So far, a total of 32,227 person days of employment has been generated for 1025 men and 2136 women; the latter accounting for 70 percent of the persons employed through this project.

The impact of the project has been

o Increased availability of surface water and recharging of ground water in 42 villages

o Greater water security through water harvesting and storage in various watershed structures – A total of 759 million litres of storage was created via these structures which were filled to capacity during the 2012 monsoon.

o Ownership by the community and involvement in the maintenance and protection of the water sources, ensuring their sustainability and impact.

Khedi ki Dhani is a hamlet of village Jhag in District Ajmer, Rajasthan; in the summer of 2012, owing to the acute salinity and scarcity of water, the entire hamlet had contemplated relocation. Fortunately, during the monsoon of 2012, the watershed structure that had been freshly completed, filled up and overflowed in a single day (8th August 2012). Encouraged, the residents of the Dhani then decided to stay back.

UTTAR PRADESH

Focus areas:
- Watershed Development
- Sustainable agriculture

District Mahoba falls within Bundelkhand, a water-stressed and drought prone region of Uttar Pradesh. Over the last decade, Mahoba has experienced erratic and unpredictable rainfall, and a few years of drought. Consequently, the water levels dropped significantly, affecting agriculture and livelihood. Also, significant green cover and the soil' holding capacity have been lost in the process.

Approximately 70 percent of agriculture in the area is rain-fed and agricultural productivity is low. Nearly 63 percent of the families live below the poverty line.

The objectives of the project are thus:
- To improve the availability of surface and ground water; thus enhancing soil quality, agricultural productivity, animal and human health
- To improve the socio-economic conditions of the people leading to reductions in out-migration

Water Security and Sustainable agriculture

Geographic area – 500 hectares of land owned jointly by villages Bilkhi (Kabrai block) and Tola Swayam (Charkhari block), Mahoba district

Project activities

The project commenced in January 2010, but the major earth work operations began in May 2011. Prior to that a household level baseline survey was conducted in 2010 and processes for community engagement initiated. The community involvement was enabled through the formation of Farmers Groups and Self Help Groups (SHGs). A Watershed Committee was also formed to function as a nodal group. The processes were strengthened this year and interventions were undertaken.

- Formation and strengthening of local groups – meetings, training programmes, and exposure visits for the farmers groups, SHGs and watershed committee were organised to provide information on various issues ranging from those specifically to do with agriculture to the wider topics of health access and government schemes and entitlements.

Farm Bunding helps capture rain where it falls and allows the soil to retain its moisture

The following activities were undertaken during this financial year :

o Construction of Khasi check-dam in Bilkhi village in March 2013, to store rain water and enable recharge of ground water sources. This dam has a catchment area of 100 hectares, and an estimated storage capacity of 3604 cubic meters. A total of three such check-dams have been constructed since inception of the project.
o Farm Bunding – 128 hectares of land belonging to 83 farmers was bunded
o Well deepening – deepening and cleaning of two wells one each in Bilkhi and Tola Swayam was undertaken
o Plantation - over 900 saplings including guava, *amla*, mango and *karondha* were distributed to the two Panchayats and planted; around 6 kms of farm bunds were planted with 6000 *mehandi* samplings, *mehandi* being both a fencing and commercial crop

Table 2: Training programmes, meetings and information dissemination in the year 2012-13

Participants	**Training programmes**	
Farmer' groups	• Crop disease, prevention and cure • Matka Khad – organic composting	January 2012
	Monthly meeting - Summer sowing, soil testing for kharif crops	May 2012
	Kharif cops and organic manure	June 2012
	Monthly meeting – water distribution for newly constructed check dams	August 2012
	Soil testing, preparation of Rabi crops and plantation	September 2012
	Rabi crops and zero budget farming	October 2012
	Education trip – soil and water conservation	October 2012
	Natural seed treatment	December 2012
	Educational trip – Farm ponds and farm bunding	December 2012

Chandrashekhar group check dam filled with water during monsoon 2012

Community involvement

Given the social dynamics and underlying power relations in Uttar Pradesh, there was strong resistance to the project in the initial stages. A watershed not only recharges water, it alters power relations from certain sections in the community, too. Resistance from certain sections within the community was inevitable. Overcoming this and securing the trust and involvement of the community in the interventions was a long process and while trust from a wide section of the community has been ensured, there remain people in power who are opposed to it.

The local communities now play a critical role in the planning and monitoring of project activities:

- A watershed committee comprising nine members, including two women, was formed – the committee plans, organises and monitors the on-going activities of the watershed project – they oversee the construction and earth works, serve as an advisory body, look into purchases, engagement of persons for work, wage payments, monitor accounts and finances
- Farmer groups have been formed in each village, to serve as a core-group to pilot new and improved agricultural techniques and methods
- Women's Self Help Groups (SHG's) promote savings among women and help in availing of benefits from various government schemes

These groups ensure not only involvement with the watershed project, but also a representation of different sections of people in the process. The needs of key constituencies, especially women and farmers are addressed through these groups. They also serve as a platform for exchange of ideas on issues and local solutions; and for disseminating information on a range of topics such as organic farming, animal husbandry, crops and fertilisers, government schemes, and health.

Sita Rani Check dam as on Sep 2012

- Convergence with government schemes – To optimise the use of resources and supplement project activities, government schemes and services were leveraged, wherever possible. As a result of these efforts fifteen farmers received benefits under the Bundelkhand Relief Package.

- Trenches were dug on 30 hectares of land in Bilkhi, over15000 saplings were planted and farm ponds were constructed in the fields of ten farmers as part of a collaboration between the Forest Department and the Japan International Cooperation Agency (JICA)

Achievements and Cumulative Project Impact

- Increase in land under irrigation – This year, the Khasi Check dam was completed and is the third in a series of check-dams to be constructed under the project. The dams are to provide water for surface irrigation and to recharge the groundwater – it is expected to benefit six farmers and irrigate 7- 10 hectares of land.

The total catchment area of the three check-dams built so far is 26.65 hectares and the cumulative water storage capacity is 13,544 m^3 in a single filling. The direct beneficiaries of these dams are 22 farmers; a further 22 farmers stand to benefit indirectly from the ground water recharge

- Increase in Farm area bunded – 128 hectares of land have been bunded so far, benefiting 83 farmers; an additional 15 farmers adjoining these bunds will benefit indirectly over time

- Improved agricultural productivity – the increase in irrigation coverage through check-dams and bunds had led to improved soil fertility and there has been 25-40 percent increase in the output of wheat, gram and peanuts

1. Chandrashekhar checkdam under construction
2. Chandrashekhar checkdam during the monsoon 2012

- Tree plantation has helped to prevent soil erosion and improve soil conditions
- As a result of the activities/ meetings/ trainings with women groups:
  - 19 women were sanctioned maternal health benefits of Rs. 4500 each
  - 26 women have applied for the Janani Surakhsa Yojna – a scheme for pregnant women
  - 16 elderly people and 2 widows have begun receiving pensions of Rs. 300 per month
- The SHG members actively practice in their daily lives, aspects learnt in the trainings, such as water conservation, timely health access etc.; they also advocate judicious use of water and water conservation among local community members
- Work with the Farmer's groups has resulted in the adoption of alternative agricultural methods and techniques leading to overall increase in productivity and income from agriculture
- Following the horticulture training, 11 farmers from Bilkhi and 9 from Tola Swayam have started vegetable farming on two hectares of land
- Training on organic farming has led to 28 farmers using 'Matka khad', an organic fertiliser, instead of chemical fertilisers
- 23 farmers of Bilkhi and 10 from Tola Swayam have begun practising 'twin cropping' on their fields; 16 farmers from both villages have begun to practice 'mixed farming' (cultivating three or more crops simultaneously), with a total coverage of 23 hectares
- Information on kharif and water efficient crops has increased the productivity of *Kharif* crops such as peanuts and *Vigna mungo* by 15 percent

Seeing the positive effects of the various activities undertaken, people have been coming forward to offer their fields for the construction of check dams, gully plugging and other earth-works. The community has been contributing 20 percent of the labour for farm bundings, construction of check dams and pond farms; and 10 percent labour for gully plugging.

TAMIL NADU

Focus areas
- Community facilitation cell
- Water and agriculture

Michelin India Tamil Nadu Tyres Private Limited (MITTPL) had been allotted 290 acres by the State Industries Promotion Corporation of Tamil Nadu (SIPCOT).

FORRAD is a part of a multi stake holder CSR (Corporate Social Responsibility) programme initiated by MITTPL that involves the community, government bodies, several NGOs, neighbouring companies and institutions.

The objectives of FORRAD's program in Tamil Nadu are:

- Improving agricultural productivity (multiple harvests) without indiscriminate exploitation of water; and modernising agricultural practices through new technology
- Ensuring the sustainability of agriculture and animal husbandry by securing water resources
- Impacting the health of people and animals by improving the quality of water available to them
- Creating public awareness and responsibility on the importance of securing both water quality and availability
- Enabling a community group to monitor industry and government behaviour

Culvert inserted in the feeder channel to Sivan Koil Kulam

Ethical Industrialisation

Geographic area – Ellapuram and Gummidipoondi blocks , Tiruvallur district, Tamil Nadu

Project activities
Tiruvallur is a water-rich district with a complex lake system - the project area alone has over 27 lakes, irrigation tanks, small ponds and watering holes. Over the years, the control over these water bodies has moved out from the villages and into the more centralised systems of the PWD (Public Works Department), leading to poor maintenance. The construction of overhead tanks and piped water systems in villages has led to the neglect of open wells, which have become garbage dumps, resulting in water contamination.

Given this, the initial efforts in this project have been to clean, maintain and restore water resources, as water and its availability have a direct impact on agricultural practices and productivity in the region.

The key activities undertaken in the year 2012-13 are:

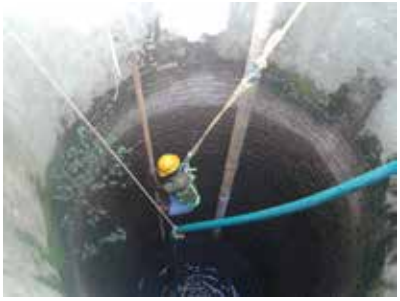
- Restoration of ponds – There are two small ponds (*kulams*) near the Sivan koil (temple) in Keezh Karumanur of Soolaimeni panchayat. The main temple *kulam* (survey no 112) and a newer *kulam* (survey no 272). The main feeder channel into both these *kulams* comes in from Sengarai eri (lake), about 1.5 km away. This had, over the years, silted up and weeded up and as a consequence prevented the supply of water to both these *kulams*. The new *kulam* (survey no 272) which served as a percolation lake feeding the ground water table and replenishing the irrigation tubewells of the area had also silted up in the past few years, drying up the wells and turning the surrounding area barren.

Responding to requests from the farmers and from the village panchayat, FORRAD arranged for the restoration of the lake in cooperation with the local community. The work was monitored and undertaken by local people during the month of November. As the soil had compacted quite a great deal the initial digging had to done mechanically after which local people from Keezh Karumanur were employed for the rest. The two *kulams* together have a storage capacity of 10 million litres. As *kulam* 272 is a percolation lake it will fill more than once. The Sengarai lake is areas largest lake and Sivan koil kulam gets its overflow during the monsoon period that lasts from October to mid January. FORRAD had, in 2011, undertaken the restoration of Tamarai *kulam* which feeds the Sengarai lake.

Table 3: Restoration of Pond

Restoration of Kulam (pond)

Location	Capacity Before (in litres)	Capacity After (in litres)	Current Status
Sivan Kovil Kulam (Shiva Temple Pond) in Keezh Karumanur	1,369,000	4,333,000	Formerly barren lands in and around the region now used for agriculture. Also serves as a watering hole for livestock (including ducks) and for fishing.



Chandrapuram well

Cleaning and repair of open wells – 5 wells were cleaned in the year 2012-13, in the following villages. With the availability of piped water supply, the open wells had become garbage dumps thus contaminating ground water.

- Chandrapuram
- Seenikuppam
- Thambunaidupalayam
- Kannankottai colony
- Karadiputhur

Process Followed

- Cleaning of bushes surrounding the well
- De-watering
- De-silting
- Chlorination
- Repair of the inside wall of the well (in-case of damage)
- Construction of the platform, outer wall, pillars, iron rods for pulley
- Water testing

Cleaning and repair of Overhead Tanks – 24 public overhead tanks that were a source of household water for drinking and cooking, were found to be badly contaminated and they were cleaned and the water treated for contamination.

Prior to cleaning, fliers and pamphlets on water safety and contamination of the over-head tanks were sent out to schools and villages, to inform them of the issue and urge them to take action. However, as there was no response to this from the community and authorities; FORRAD undertook the initial effort of cleaning 24 tanks. The contamination levels before and after cleaning were measured, and some tanks that remained contaminated post cleaning were treated again.

Restoration of channels – Based on a preliminary natural resource survey conducted by AFPRO (Action for food production) and requests from the local community, FORRAD initiated the process of de-silting irrigation channels, in collaboration with the local communities

Table 4: Irrigation channels restored

Irrigation Channels restored in the year 2012-13				
Village	Year	Length of channel de-silted	Employment Generated	Approximate no. of farmers benefitted
Soolaimeni	2012	1,500 mts	193 Person-days	167

Community Facilitation cell – A cell comprising local community members was established in the year 2011, with the aim of observing and monitoring industry, government and community behaviour in their area. Members of the cell (comprising three women and four men), were equipped with the skills and confidence to interact with the relevant authorities.

To begin with, members of the facilitation cell were oriented on their roles and responsibilities and following this, several activities were undertaken:

- Assisting individuals to benefit from government schemes – Individuals were helped to fill applications to avail of various government schemes; this also helped members of the community facilitation cell to familiarise themselves with the functioning of the government machinery and make themselves better known to people in the project area
- Monitoring water quality - One of the functions of the facilitation cell is to monitor the environment around the industrial sites. A cross-section of water resources (lakes, open wells, irrigation channels and overhead tanks) are monitored across 31 villages and hamlets.

In partnership with the Tamil Nadu Water and Drainage (TWAD) Board, which provided members of the facilitation cell water testing kits and training to use them, water testing was done for the first time in the summer of 2012; and was repeated in the monsoon season.

Table 5: Details of water sources tested

Season	Water Sources Tested
2012 Dry season	127
2012 Monsoon season	117

Water testing results

127 tests in 31 villages conducted 12-22 March 2012

Characteristic	BIS Acceptable Limit	BIS Permissible Limit	Range of results	Samples above Acceptable Limit	Samples above Permissible Limit
pH	6.5 – 8.5	6.5 – 8.5	6.5-8	0	0
Hardness	**200**	**600**	**40-830**	**63**	**4**
Alkalinity	**200**	**600**	**30-740**	**58**	**1**
Chloride	**200**	**1000**	**20-620**	**21**	**0**
Fluoride	1.0	1.5	0-1.5	4	0
TDS	**500**	**2000**	**144-2544**	**77**	**1**
Iron	**0.1**	**1.0**	**0-0.3**	**29**	**0**
Ammonia	-	-	0-5	-	-
Nitrite	-	-	0-0.5	-	-
Nitrate	45	45	0-45		0
Phosphate	-	-	0-5	-	-
Residual chlorine	0.2	0.2	0-0.5		6
Turbidity	-	-	none - slight turbidity	-	-
Appearance	-	-	Clear and colourless - brownish	-	-
Odour	-	-	None - soil and algae	-	-
Bacteria	Not present	Not present	Not present - present		78

117 tests in 31 villages conducted 01-13 December 2012

Characteristic	BIS Acceptable Limit	BIS Permissible Limit	Range of results	Samples above Acceptable Limit	Samples above Permissible Limit
pH	6.5 – 8.5	6.5 – 8.5	6.5-8.5	0	0
Hardness	**200**	**600**	**30- 750**	**56**	**2**
Alkalinity	**200**	**600**	**10-670**	**42**	**1**
Chloride	**200**	**1000**	**10-690**	**13**	**0**
Fluoride	1.0	1.5	0-3	1	1
TDS	**500**	**2000**	**72-2532**	**62**	**2**
Iron	**0.1**	**1.0**	**0-5**	**8**	**3**
Ammonia	-	-	0-3	-	-
Nitrite	-	-	0-0.5	-	-
Nitrate	45	45	0-45		0
Phosphate	-	-	0-2	0	0
Residual chlorine	0.2	0.2	0-0.2		0
Turbidity	-	-	none - slight turbidity	-	-
Appearance	-	-	Clear and colourless - brownish	-	-
Odour	-	-	None - soil and algae	-	-
Bacteria	Not present	Not present	Not present - present		68

Community involvement

Water testing training in progress

As in all FORRAD projects, community involvement forms a key component. FORRAD's engagement in Tamil Nadu, began with a survey and community needs assessment. A series of interactions were held with communities to understand and prioritise their needs. In addition, community members are integral to planning, construction, repair, restoration and monitoring activities for watershed initiatives in their respective villages. Community members benefit directly from employment generated from the projects; and indirectly from cleaner and more abundant water for agriculture, household use and for livestock.

The facilitation cell routinely engages with the community, MITTPL and local government bodies to address the needs of the community. To begin with, community members are being made aware of government schemes and entitlements they can benefit from and are being assisted in the application process. This is enabling the local community to access larger entitlements. It has also helped create an initial interface between the community and the facilitation cell, paving the way for greater community involvement in the coming years.

Achievements and Project Impact

Desilting Sivan koil kulam

- Increased water security in the region - through water storage in the restored surface water bodies and water channels and effective replenishment of the ground water table
- Alternative water sources for the community in the form of de-contaminated well water. Although the initial intent was to clean and cover the wells to prevent littering and contamination, once the wells were cleaned, people started using them as an alternative water source
- Provision of clean and safe drinking water through cleaning and repair of overhead tanks and decontamination of tank water
- Restoration of irrigation channels, which has benefited several small farmers who do not have tube wells; and also prevents the over-exploitation of ground water
- Regular testing of water quality in all water bodies to monitor water quality in the area and alert the community and authorities to any drastic changes in the same

IAMWARM orientation

IAMWARM (Irrigated Agriculture Modernisation and Water-Bodies Restoration and Management) is a government scheme directed at improving crop productivity, food production, and agricultural income in Tamil Nadu. Its ground-level programs seek to (1) modernise irrigation systems, as well as water service delivery and management, with special attention given to reviving traditional water bodies, and (2) increase agricultural productivity through intensification and diversification. The project proposes to restore 163 water bodies, 2 anicuts, and 256 km of supply channels in the Araniyar Sub-basin, which has a total area of approximately 27,000 ha and of which FORRAD projects are a part. It also seeks to undertake various agricultural interventions in approximately 1900 ha of the Araniyar Sub-basin.

FORRAD saw the possibility of working with the local administration in creating awareness about the scheme and making it more accessible to farmers in the area. While there was no headway made with regards to the water-bodies restoration component, the officials at Krishi Vigyan Kendra at Tirur were found to be very cooperative and interested in collaboration. A series of meeting were organised through the year in various villages to introduce farmers to the IAMWARM project and the various benefits that they were entitled to under this project.

At total of 300 farmers from all the project villages attended these meetings.

The village level meetings were interspersed with trips to the Krishi Vigyan Kendra in Tirur where the farmers got a chance to see the demonstration plots and the various agricultural and animal husbandry experiments underway at the institute.

A total of 100 farmers made these visits. They got an opportunity to observe the following:

- System of Rice Intensification
- Integrated soil nutrition management
- Nursery bed preparation for paddy cultivation
- Lady finger pest management
- Vermicompost preparation
- Goat rearing
- Rabbit rearing
- Poultry units

As a consequence of these visits more farmers have started availing of the various subsidies available to them and 50 farmers have agreed to experiment with SRI on their lands.

"BACK TO BASICS":

DIRECT AID TO VERY VULNERABLE FAMILIES IN RAJASTHAN, AND DELHI.

Funded predominantly by individual monetary and in-kind contributions, from a growing network of individuals, this initiative seeks to provide direct assistance to vulnerable individuals and families usually belonging to marginalised and ostracised communities.

For three consecutive years now, FORRAD and Manthan have been collaborating to assist hamlets in Ajmer and Nagaur districts in Rajasthan with the provision of basic needs; over 450 families belonging mainly to nomadic communities have been identified for assistance. Assistance is also provided to widows and the elderly in Jai Hind colony in South Delhi.

During this year, as part of 'Back to the Basics', a total contribution of Rs. 4,97,000 was received in cash; Rs. 15,000 received as community contributions and approximately Rs. 450000 was received in kind.

This contribution helped to

- Construct 14 concrete water storage tanks in Rajasthan, enabling about 93,000 litres of water storage. These tanks store enough water to meet the drinking water and cooking needs of a family of 5 and livestock for about 6 to 8 weeks.

- The following warm covers and woollen items were distributed - 540 blankets and 161 quilts; 873 items of kids woollens, 496 shawls and 637 assorted clothing items for all age groups

- 3 tin roofs to provide shelter to families were installed in Rajasthan

Lady fetching water from a recently constructed 6000 litre tank

A resident of Kotri, Rajasthan, Maluram Khateek moves from village to village in search of work. His wife Achuki stays at home to take care of their five children, all of whom are mentally disabled. Every time Achuki needed water, she would have to request her neighbours to either fetch it for her, or watch her kids while she went out to fetch drinking water. 'It is not always possible to leave our children with others, since it is difficult to manage mentally challenged kids', she says.

Seeing their predicament, Manthan constructed a water tank for them; they now fill their tank once a month, or once in six weeks. As Kamla from Manthan sums it up "a woman's life revolves around water for the household and her children. Building this tank has made Achuki's life much easier than before."

Men from communities such as the Bawarias, watch over others' fields for a living. After receiving blankets, they said that they could now brave the cold and work longer hours and this would help to increase their income.

Some recipients of blankets also thanked Manthan volunteers saying they had a restful sleep for the first time in their lives!

Rekha's house collapsed during the rains this year and her alcoholic husband provides little support. She was also pregnant and close to delivering the child.

Seeing her plight, the community members put together a temporary structure for walls; FORRAD supported the erection of a roof to ensure that Rekha had a protected structure in which she could take care of her family and her new born child.

OUR COMMUNITY BASED PARTNERS

Organisation	Brief Description	Address
Prayatna Sansthan	Established in 1985, Prayatna works with over 100 villages in the Sambhar Salt Lake area and focuses on natural resource management, public health, employment generation and education.	Dudu Block, Village Solawata, Jaipur, Rajasthan 303348 +9129573957 prayatnasansthan@gmail.com Director: Dhanraj Sharma
Manthan Sanstha	Manthan Sanstha began its life in 1987 a field centre of the Barefoot College in Tilonia. Registered as an autonomous organization in 1998, Manthan works on education for girls and young adults, preventive health care, water conservation and watershed development, and public accountability.	Village and P.O. Kotri, Via as Rupangarh, District - Ajmer, Rajasthan 305814 +91-1497-226011 barefootkotri@gmail.com Coordinator: Teja Ram
Gramonnati Sansthan	Established in 1983, and inspired by the Gandhian ideals of village self-sufficiency Gramonnati works on livelihood, land rights, women's empowerment, water conservation, sanitation, and hygiene.	Langhanpura, Near Subhash Chowki, At/P.O. Mahoba, Uttar Pradesh 210427 +91-5281-254097 gramonnatiup@yahoo.co.in Director: Arvind Khare

DONORS

Donor	Project	Grants Received April 2012 – March 2013 Amounts in INR
Anandana (India)	Installation of solar powered RO plants in 5 villages	40,000
	Watershed development around The Sambhar Salt Lake	2,518,112
	Watershed Development in Bundelkhand	3,210,119
Michelin India TamilNadu Tyres Private Limited (India)	Initiatives and water and community facilitation	2,518,100
Bekaert Industries Private Limited(India)	Initiatives in agriculture and water and community facilitation	100,000
Coca-cola Foundation (USA)	Watershed development around the Sambhar Salt Lake	12,478,958
Back to Basic	Donations from individuals and institutes	497,700

Individual and Institutional Monetary Donations to Back to Basics

Annie Thomas, Balkrishna Kochar, Soonu Kochar, Brinda Singh, Kanika Satyanand, Pramila Nazareth, Mona Rao, Kamla Sood, Nalini Khullar, Ranjan Pal and Saroj Sirkeck, Pradeep and Pamela Anand, Mathew Abraham, Mohit Satyanand, Shanoor Seervai, Mahi Mehra, Mona Seervai, Payal Kapur, Neeta Ratwani, Sashi Agarwal, Joginder Kaur, Maninder Pal Singh, Sonali Srivastava, Magic Mountain Investments, Magic Mountain Retreats Pvt Ltd, Gitanjali Kamra, Mukul Mudgal, Bindu Devi Prasad, Nandita Parshad, Nitya Nand, Malavika Sharma, Vikram Bajaj.

BOARD OF TRUSTEES

NAME	POSITION
Mr. D.K. Manavalan	Chairperson
Dr. Ms. Jyotsna Chatterji	Vice-Chairperson
Mr. Sanjit (Bunker) Roy	Trustee
Dr.T.C.A. Srinivasaramanujan	Trustee
Prof. S.K. Joshi	Trustee
Ms. Mythily Jagannathan	Trustee
Ms. Kanika Satyanand	Trustee
Ms. Neelam Singh	Managing Trustee
Ms. Susan Abraham	Director, (Invitee)

AUDITORS: SMS & Associates

FOUNDATION FOR RURAL RECOVERY & DEVELOPMENT
124-A/6, IIND FLOOR, KATWARIA SARAI
NEW DELHI -110016

Balance Sheet
as on 31st March 2013

Liabilities	Amount In Rs.	Amount In Rs.	Assets	Amount In Rs.	Amount In Rs.
Capital Fund		2,04,069.00	**Fixed Assets**		
			- As per Sch-XIV		1,77,111.00
			Current Assets, Loan and Advances		
General Fund	24,90,105.00		- Cash & Bank Balances		
Less: Excess of expenditure over income	20,10,713.00	4,79,392.00	- As per Sch -II	1,03,50,116.00	
			Loans & Advances		
Unspent Grant			- As per Sch -III	7,83,655.00	
As per Sch-XIII	1,06,49,290.00	1,06,49,290.00			
			Deposits		
Current Liabilities & Provisions			- As per Sch -IV	46,587.00	1,11,80,358.00
- Expenses payable	24,343.00				
- TDS payable	375.00	24,718.00			
		1,13,57,469.00			**1,13,57,469.00**

"As per our audit report of even date attached"

For SMS & ASSOCIATES
Chartered Accountants

Shukdev Sadhoo
(Partner)
Place : New Delhi
Date: 27/08/2013

For **Foundation for Rural Recovery &Development**

Neelam Singh
(Managing Trustee)

FORRAD 124-A/6 Second Floor Katwaria Sarai Main Road NEW DELHI-110 016

Susan Abraham
(Director)

FOUNDATION FOR RURAL RECOVERY & DEVELOPMENT
124-A/6, IIND FLOOR, KATWARIA SARAI
NEW DELHI -110016

Income and Expenditure Account
for the period of April 2012 to March 2013

Expenditure	Amount in Rs.	Amount in Rs.	Income	Amount in Rs.	Amount in Rs.
To Expenses			By Unspent Grants		11,94,818.00
- Expenses Agriculture & Water (Tamil Nadu)	25,30,802.00		**As per Sch-I**		
- Expenses -After -School Centres (Tamil Nadu)	74,672.00		**Grants & Donations**		
- Expenses Santushti-I - CCIF	29,35,217.00		-Grant from - CCIF (Jalnidhi Project)	32,10,119.00	
- Expenses Santushti-II - CCIF	33,56,090.00		-Grant from -MITTPL	25,18,100.00	
- Expenses Jalnidhi - CCIF	23,60,973.00		-Grant from -Bekaert Industries Pvt. Ltd	1,00,000.00	
- Expenses The Coca Cola Foundation	17,17,631.00		-Grant from - CCIF (Santushti-I)	40,000.00	
- Expenses Back to Basics	4,33,941.00		-Grant from - The Coca Cola Foundation	1,24,78,958.00	
- Expenses incurred by FORRAD	15,825.00	1,34,25,151.00	-Grant from - CCIF (Santushti-II)	25,18,112.00	
			-General donations (Back to Basics)	4,97,700.00	2,13,62,989.00
- Depreciation	46,548.00				
- Return of Grant -GAA	6,00,226.00	6,46,774.00			
To Unspent Grant		1,06,49,290.00	**Other Income (Interest income)**		
As per Sch XIII			**-As per sch-VI**		1,52,695.00
			By Excess of expenditure over income		20,10,713.00
		2,47,21,215.00			**2,47,21,215.00**

"As per our Audit Report of even date attached"

For SMS & ASSOCIATES
Chartered Accountants

(Shukdev Sadhoo)
(Partner)
Place : New Delhi
Date : 27/08/2013

For **Foundation For Rural Recovery & Development**

Neelam Singh
(Managing Trustee)

Susan Abraham
(Director)

FORRAD 124-A/6 Second Floor Katwaria Sarai Main Road NEW DELHI-110 016

குடிநீர் பாதுகாப்பு

பாதுகாப்பற்ற குடிநீர்

- ஒவ்வொரு ஆண்டும் 37.7 மில்லியன் இந்தியர்கள் அசுத்தமான குடிநீரை அருந்துவதால் உண்டாகும் நோயினால் பாதிக்கப்படுகின்றனர்
- வயிற்றுப்போக்கு போன்ற நோய்கள் இதில் அடங்கும். 1.5 மில்லியன் இந்திய குழந்தைகளை இது கொல்கிறது
- நீண்ட காலம் அசுத்தமான குடிநீர் பருகுவதினால், சிறுநீரகம் மற்றும் இதய நோய்களுக்கு வழிவகுக்கும்

நுண்கிருமிகளால் மாசுபடுதல்

- மாசுபட்ட குடிநீர் நோய்களை விளைவிக்கும் நுண்கிருமிகளைக் கொண்டிருக்கலாம்.
- மாசுபடுவதற்குக் காரணங்கள் வழக்கமாக, மனித மற்றும் விலங்குக் கழிவுப் பொருட்களுடன் தொடர்பு ஏற்படுவதனால் ஆகும்.
- தமிழ்நாட்டில் உள்ள நீர்நிலைகளில் 82% நுண்கிருமிகளால் மாசடைந்துள்ளது.
- உங்கள் பகுதியில் (உ.ம். வசந்தகோட்டை, கும்மிடிப்பூண்டி), 85% நீர்நிலைகள் நுண்கிருமிகளால் மாசடைந்துள்ளது.

உடல்நல அபாயங்கள்

- பல்வு - நோய் போன்ற அறிகுறிகள் குமட்டல், வாந்தி, காய்ச்சல், வயிற்றுப்போக்கு ஆகியவை
- குழந்தைகள், எளிதில் வயிற்றுப்போக்கு, மற்றும் நுரையீரல் அழற்சி போன்ற தொற்று நோய்களும், மற்றும் புழுக்களின் தாக்குதலுக்கும் ஆளாகின்றனர்

தற்போது பயன்படுத்தும் குடிநீர் நீர்நிலைகள் மட்டுமின்றி அனைத்து நீர்நிலைகளையும் தூய்மையாக வைத்திருக்க வேண்டும்.

நீர்நிலைகளில்இருந்து குறைந்தது 15 மீட்டர் தூரம் குப்பைக்கூளம் மற்றும் திறந்த சாக்கடைகள் இல்லாமல் தூய்மையாக வைத்திருக்க வேண்டும்.

குழாய் கசிவுகளை உடனுக்குடன் சரி செய்ய வேண்டும். நீர் தேங்கியிருப்பதைத் தடுக்க வேண்டும். இது கொசு உற்பத்தியாவதை தடுக்கும்

ஏரி மற்றும் குளங்களில் இருந்து, குறிப்பாக மிருகங்கள் பயன்படுத்தும் நீர்நிலைகளில் இருந்து நீர் அருந்தக்கூடாது

அழுக்கை நீக்க, நீர் சேமிப்புத் தொட்டிகளையும் குழாய்களையும் அவ்வப்போது சுத்தம் செய்யவும் மற்றும் நுண்கிருமிகளை அதிக பிளீச்சை உபயோகிக்கவும்

குடிப்பதற்கு முன் நீரை சுத்தமான பாத்திரத்தில் கொதிக்க வைக்கவும். அவ்வாறு கொதிக்க வைத்த நீரை தூய்மையான மற்றும் மூடிய பாத்திரத்தில் சேமிக்கவும்.

நீர் நிலைகளில் இருந்து குறைந்தது 15 மீட்டர் தூரம் மலசலம் கழிக்காமல் பார்த்துக்கொள்ள வேண்டும்.

சமையலறைக் கழிவுநீரை தேங்க விடுவதற்கு பதிலாக தோட்டங்களுக்கு செல்லும் வகையில் வழியமைக்க வேண்டும்.

திறந்த கிணறுகளை மூடி போட்டு பாதுகாக்க வேண்டும்

FOUNDATION FOR RURAL RECOVERY AND DEVELOPMENT (FORRAD)

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