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2014 - 2015

FORRAD
FOUNDATION FOR RURAL
RECOVERY AND DEVELOPMENT



CONTENTS

ORGANISATION OVERVIEW	3
CURRENT WORK	4
PROJECT PROFILES	5
Rajasthan	5
Watershed Development	5
Uttar Pradesh	14
Construction of Check Dam	15
Deepening of wells.....	15
Rain water harvesting.....	15
Plantation.....	16
Training for farmers	16
Tamil Nadu	18
Repair and cleaning of water storage tanks in schools.....	19
Restoration of Chinna Vannankuppam.....	20
Restoration of feeder channel from sluice no. 1 and 2 of Mukarampakkam Eri....	21
Educational tour to Odisha.....	22
Promotion of organic farming practices - panchakavya and herbal mix	22
Water testing.....	22
Visit to Michelin's manufacturing plant	26
Back to Basics – Direct Assistance to vulnerable families	28
Construction of water storage tanks	28
Providing warm cover	28
Construction and repair of toilets in schools and health facilities.....	30
OUR COMMUNITY BASED PARTNERS	31
DONORS, TRUSTEES, FINANCIALS.....	32-35

Figure I : Students drinking water from cleaned tank in Kakavakkam School

Organisation Overview

The Foundation for Rural Recovery and Development (FORRAD), established in 1980, is a public charitable trust working in the field of natural resource management, sustainable agriculture and community health. FORRAD facilitates and supports grass root initiatives that address issues of natural resource management, human resources development and sustainability. FORRAD's work intersects with issues of social justice, empowerment, public health and employment generation.

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

FORRAD's work focus in the recent years is increasingly on the social dynamics governing water security including harvesting, conservation and de-contamination, and sustainable agriculture. This is accompanied by a strong commitment to participatory, transparent and sustainable processes. FORRAD has, in the past five years, begun engaging 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 and other vulnerable sections voice and visibility. FORRAD strives for inclusiveness and ensures that women's opinions are prioritised; and that women, and other vulnerable sections 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 partners in the implementation of projects. In Tamil Nadu however, 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 to implementation. FORRAD is responsible for the overall implementation and accountability to its donors. It receives reports from its partner organisations, reports to donors and manages the relationship

with them. It also raises resources for projects.

CURRENT WORK

FORRAD currently works in three states in India – Rajasthan, Uttar Pradesh, and Tamil Nadu. Its projects are summarised as follows:

PROJECT	GEOGRAPHICAL AREA
1. Watershed Development around Sambhar Salt Lake	Rajasthan, Ajmer, Nagaur and Jaipur districts
2. Watershed Development in Bundelkhand	Uttar Pradesh, Mahoba district
3. Ethical industrialisation – water management, agriculture intensification, community facilitation	Tamil Nadu, Tiruvallur district
4. Direct Aid – to disadvantaged families, including distribution of warm clothes, construction of water storage tanks, shelters and toilets.	Rajasthan and Delhi

PROJECT PROFILES

RAJASTHAN

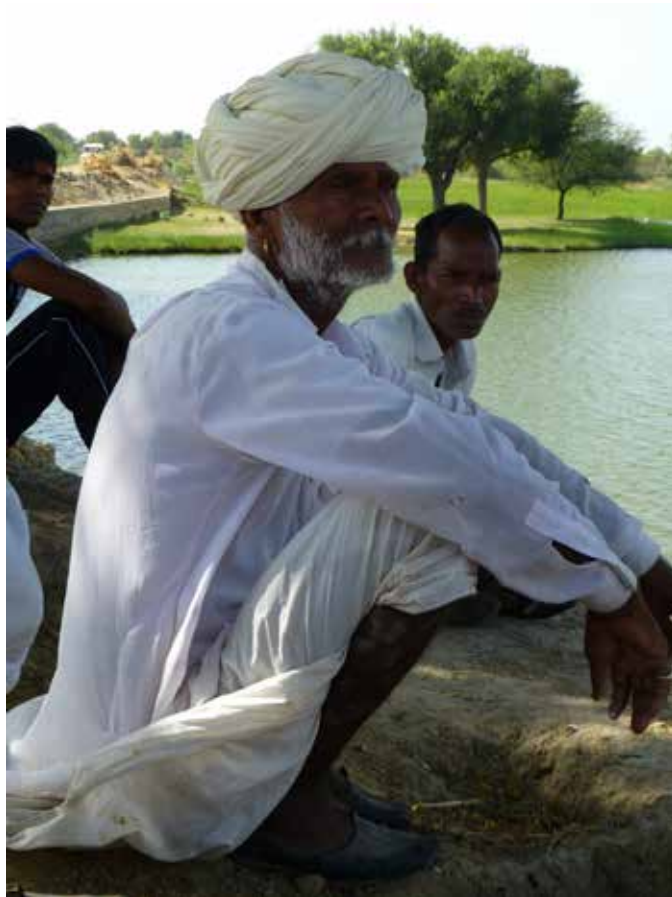


Figure 2 : Jagdish, Jhakholai

Watershed Development

Since 2012, FORRAD has been working in the state of Rajasthan, towards sustainable watershed development in the catchment area around the Sambhar Salt Lake.

Excessive salt production and minimal rain has led to the near complete drying of the surface of the Sambhar Lake. Tube wells are now used to pump water to flood the surface and produce salt. Only a negligible volume of the extracted water goes back into the ground, as most of it is lost in evaporation. The water table is dropping at an alarming rate; once-fertile agricultural land has turned arid and barren because of the lack of ground water.



Figure 3 : Bala ji ki Dhani, Kund on July 2014

The project, supported by Coca-Cola Foundation, aimed to create pockets of fresh water around the Lake. The project, up to March 2015, has created a total water storage capacity of 1,41,85,16,163 litres and a cumulative volume of 2,516,271,910 litres of water has been collected in the past three monsoons.

Over the last four years, the project has created 25 rainwater harvesting structures spread across 14 villages in Ajmer, Jaipur and Nagaur districts. An important factor while constructing these structures was their location; with a focus on collecting the largest amount of rainwater in the shortest period of time. Details of these structures are provided in the following table:

Table I: Harvesting structures and water storage capacity completed during this reporting period

S. No	Type	Location in village	Geographical Coordinates	Village	Date of completion	Total storage capacity (L)
1.	Banda	Moriya naka	Lat: 26.8712 Long: 74.8908	Ujoli	31-07-2014	60,605,700
2.	Kund	Jeevan pujari ki ghati	Lat: 26.9897 Long: 74.8652	Bawali	28-02-2015	50,100,000
3.	Nadi	Tal ki nadi	Lat: 26.8923 Long: 74.8898	Jhakholai	30-06-2014	106,532,200
4.	Nadi	Charagah nadi	Lat: 26.8435 Long: 74.8584	Jajota	30-04-2014	86,532,000
5.	Kund	Balaji ki dhani	Lat: 26.9938 Long: 74.9044	Balaji ki dhani	30-10-2014	2,400,000
6.	Anicut	Sewako ki dhani	Lat: 26.5849 Long: 74.5150	Sewako ki dhani	30-06-2014	7,050,000
7.	Nadi	Bhagatji ka gulla	Lat: 26.9721 Long: 74.8581	Gudda	02-20-2015	4,464,900
8.	Nadi	Jogi baba	Lat: 27.0023 Long: 74.9333	Mohanpura	28-02-2015	9,207,000
9.	Nadi	Mordikala	Lat: 26.7878 Long: 75.1648	Mordikala	14-03-2014	34,776,000
10.	Nadi	Gochar	Lat: 26.7647 Long: 75.0375	Pingoon	28-12-2014	31,050,000
11.	Banda	Naal ka banda	Lat: 26.9552 Long: 74.8587	Gudda	30-10-2014	51,537,640
						444,255,440

Total water storage capacity created by the project, over the last 3 years is given the table below

Table 2: Approximate volumes of water harvested to till March 2014

S. No	Type	Location within vil-lage	Village	2012	2013	2014	Total amount harvested (L)
				(approx.)	(approx.)	(approx.)	
1	<i>Banda</i>	Charagah	Nosal	252,792,674	252,792,674	202,234,150	707,819,498
2	<i>Nadi</i>	Kumariya Nadi	Bawali	19,748,632	19,748,632	1,97,48,632	59,245,896
3	<i>Banda</i>	Balaji Banda	Kotri	60,547,862	60,547,862	60,547,862	181,643,586
4	<i>Nadi</i>	<i>Charagah</i>	Kotri	58,173,500	23,269,400	23,269,400	104,712,300
5	<i>Banda</i>	Khedi ka Banda	Jhag	232,910,899	232,910,899	186,328,719	652,150,517
6	<i>Nadi</i>	Charagah	Ringi	54,936,344	36,624,230	36,624,230	128,184,804
7	<i>Nadi</i>	Charagah	Habaspura	3,95,37,268	3,95,37,268	3,95,37,268	118,611,804
8	<i>Nadi</i>	<i>Abas ki nadi</i>	Sinodiya		9,900,000	19,844,474	29,744,474
9	<i>Nadi</i>	<i>Bausi tiba</i>	Sinodiya		1,05,00,000	21,040,000	31,540,000
10	<i>Channel</i>	<i>Dheera ta-laab (feeder channel)</i>	Jhag		67,500,000	67,504,500	135,004,500
11	<i>Nadi</i>	<i>Charagah</i>	Srirampura		14,000,000	25,200,000	39,200,000
12	<i>Nadi</i>	<i>Charagah</i>	Bawali		25,00,000	50,81,526	75,81,526
13	<i>Banda</i>	<i>Moriya naka</i>	Ujoli		2,40,00,000	4,54,54,275	6,94,54,275
14	<i>Kund</i>	<i>Jeevan pu-jari ki ghati</i>	Bawali		50,00,000	1,25,25,000	1,75,25,000
15	<i>Nadi</i>	Solawata	Solawata		1,70,00,000	1,76,70,000	3,46,70,000
16	<i>Anicut</i>	<i>Dungri naka</i>	Kotri			36,18,000	36,18,000
17	<i>Nadi</i>	<i>Tal ki nadi</i>	Jhakhulai		2,70,00,000	5,32,66,100	8,02,66,100
18	<i>Nadi</i>	<i>Charagah nadi</i>	Jajota			6,48,99,000	6,48,99,000
19	<i>Banda</i>	<i>Ghasi baba ka banda</i>	Gudda			75,84,630	75,84,630
20	<i>Kund</i>	<i>Balaji ki dhani</i>	<i>Balaji ki dhani</i>			24,00,000	24,00,000
21	<i>Anicut</i>	<i>Sewako ki dhani</i>	<i>Sewako ki dhani</i>			56,40,000	56,40,000
22	<i>Nadi</i>	Mordikala	Mordikala			3,47,76,000	3,47,76,000
			Total:	718,647,179	842,830,965	954,793,766	2,516,271,910



Figure 4 : Meeting in Jajota Nadi on April 2014

Community engagement through *Pani samitis*

Pani samitis have been formed in each of the 13 project villages to manage and maintain all watershed structures. *Pani samitis* comprise approximately 180 people and represent all the community groups within the village. Women are represented in all the *samitis*. *Pani samitis* are actively involved in the decision making regarding site selection, sourcing material, providing manual labour and maintenance of the structure.

The *samitis* have enabled a participatory approach to working and have brought together communities in villages. Faced with common challenges and with a common goal; the *samitis* have once again taught villages to think and work collectively for the benefit of the community. A sense of collective responsibility seems to have set in. The gratification of seeing large water bodies and structures, full of water in arid lands has transformed an environment of cynicism and indifference to one of engagement. Working with the *pani samitis*, FORRAD also ensured transparency and accountability in the processes. The fact that all the accounts were publicly displayed, and budgets and expenditure was open to scrutiny was much appreciated by the community at large.

Role of women in *pani samitis*

FORRAD in its efforts has always ensured that women have a voice in the decision making related to the planning and execution of structures as a part of the project. Women are also active members of the *pani samitis*; of the total 187 representatives, 78 are women. To the extent possible, active participation and perspectives of women are sought as a part of all meetings and decisions.

As a part of the project, women were given equal pay for equal work, as that of men; something that women all over the world are yet to be accustomed to. This saw more women working in the project sites (855) as compared to men (341). Some women learnt masonry skills and can now find employment as semi-skilled labour.



Figure 5: Balaji ki Dhani, Kund on August 2014

When the staff of Manthan Sanstha approached them, the community was indifferent towards the restoration of the Jajota nadi. Ganga ma was the only one who showed interest in this initiative. She, along with 7 friends demarcated the land and started the digging manually. Village members laughed at her and discouraged her saying that she would not be paid for her work and all her efforts would be futile.

Pay for the work was decided at the start itself. Manthan Sanstha and Ganga ma set up a local account in a bank in a neighbouring village where the cash could be deposited. At the end of the first two weeks, the first instalment of funds was transferred to this account and Ganga ma withdrew cash and paid her friends for their work.

This motivated other women in the village and many joined the work. Towards the end of the earth works, there were 146 women and 15 men who reported daily for the restoration of the *nadi*.



Figure 6: Naal ka Banda, Gudda on Aug 2014

While there was significant resistance at first, to such an inclusion of women; it has ultimately led to a slight shift in attitude towards women, among those involved. Now, women also feel that they are active participants in water harvesting and conservation and own greater responsibility and commitment in developing and managing surface water harvesting in their own villages.

The impact of the project has already been felt by an estimated 60,000 people in 43 villages.

- **Improved availability of water:**

The primary goal of the project was to contribute to water security. This goal is being accomplished. This year has been that of drought in western India, including Rajasthan. However, villages covered under this project have a different story to tell. Many farmers now have access to irrigation; and no family will be forced into distress sale of their animals for lack of water or fodder.

60% of the rain water harvesting structures created were filled to at least 80% of their capacity during the monsoon and a few got filled more than once. A total of 667 million litres of rain water was harvested this year. All households in the intervention areas had access to clean water for themselves as well as their livestock. The water structures, have not only enabled greater surface water, but have also had a huge impact in recharging ground water.

- **Improvement in overall water quality:**

Water samples tested from different sources reveal a gradual decline in the salt content over the project period (2012-2015). While the water is still not within the recommended limits, most of the water sources tested now are well within the permissible limits as defined by the Bureau of Indian Standards (BIS) and evident from the table below. There has been a significant improvement in the taste of drinking water as reported by people in the project villages.

Table 3: Total Dissolved Salts readings in water across 100 sources during the project phase

Range of results	Monsoon 2012 900 - 4900	Monsoon 2013 1400 - 4000	Monsoon 2014 460 - 2500
Samples within "Desirable" limit (0-500 ppm)	0	0	2
Samples within "Permissible" limit (501-2000 ppm)	10	17	88
Samples above "Permissible" limit (> 2000 ppm)	85	81	10

- Improvement in soil quality:

With improved availability of water, the soil has been able to retain moisture resulting in an improvement in soil quality. This year has seen the growth of fodder grass Lucerne (rajka) and other new grasses. Vegetables like onions, radish, spinach, aubergines, coriander and crops like groundnut and mustard that were never cultivated in these villages are now grown and have yielded higher productivity.

- Improved agricultural productivity and thereby enhanced livelihood options:

Surface water retention has replenished the ground water levels and this has enabled farmers to sink wells in their land. The availability of water in most project villages has yielded two harvests of grains or cash crops in a year and a harvest of vegetables during summer. This has enabled greater income levels for the farmers, ensured food security and improved nutritional status among the population.

Prior to the creation of these structures, farmers had to wait for the monsoon to grow crops. The choice of crops that they could cultivate was also limited due to scarcity of water. Farmers had to leave villages along with their families in search of livelihood options. This scenario has been completely reversed with water harvesting structures.

Figure 7: Jajota, Nadi on Aug 2014



Jagdish, a farmer from Jhakolai village, district Ajmer owns 10 bighas (approximately 3 acres) of land. Before the construction of Taal ki nadi, his farming was entirely dependent on the monsoon; he hardly had one harvest a year. Noticing that Taal ki Nadi had filled, last year he bored a well 215 ft. deep on his land. They struck water at 100 ft. Last year he had two harvests, and a summer harvest of vegetables and fodder (Lucerne). His winter harvest included 4000 kg of wheat that he had harvested for the first time in 35 years. His winter harvest also included mustard, barley and chickpeas. The monsoon crop had pearl millet, mung, sesame, moth (Turkish gram/vigna aconitifolia). His agriculture is entirely organic and dependent on animal dung for fertiliser.



Figure 8: Raghunath, Pingoan

Raghunath who hails from Pingoan village, district Jaipur owns 2 acres of land. He used to have a bore well on his land that yielded saline water for less than an hour a day. This same bore well now provides fresh water for 4 hours at a stretch and enables him to farm more intensively. This year he expects 3000 kilos of bajra from his land. He says the quality of the soil is now good enough to grow fodder for the next 3 years. Before the creation of the nadi, the fodder, if at all he attempted to grow it, would not last for more than 3 months. He owns 12 buffalos for which he says he has adequate supplies of fresh and dry fodder for the year. He now sells 200 litres of milk per day, making himself a decent living

Sukharam from Nosal village owns 40 bighas of land close to the Nosal watershed. He used to depend on rain for agriculture; however, now, after construction of the nadi, he bored a well and sweet water is available at 150 feet. The bore well gives 4-5 hours of water per day. He has harvested mustard, wheat and grams this year and harvested 1000 quintals of wheat and 30 quintals of wheat and grams worth Rs. 4,00,000.

- **Enhancement of green cover:**

A number of trees have grown naturally (approximately 615) and 705 trees have been planted by local community in the periphery of the watershed structures. The trees planted include *Neem*, *Kejri* (*Prosopis Cineraria*), *Bad* (*Banyan*), *Pipal* (*Ficus Religiosa*), *Ardu* (*Ailanthus Excelsa*), *Babool* (*Acacia Nilotica*), *Ker* (*Capparis Decidua*), *Karanja* (*Pongamia Pinnata*) and *Sisam* (*Dalbergia Sisoo*).

The trees to be planted were selected by the community, with support from FORRAD; the trees are native species, good for the soil; some useful as fodder and some for shade or both. These trees would enhance the green cover. The fact that the community has decided to plant trees such as *Banyan* and *Pipal*, which take long to grow, is a testimony that they intend to preserve these water bodies for a long period of time.

- **Involvement of communities and women:**

Through its projects, FORRAD and its partners have always ensured that local communities are the ultimate owners and beneficiaries of the water structures created. Participatory planning processes, including *Pani samitis*, have ensured that communities are actively involved in the planning and maintenance of all water structures created. The project also ensured that local human resource was used in the construction work, generating employment at the village level. Priority was given to those who did not own land and would not directly benefit from the improved agricultural productivity and animal husbandry. In the reporting period 32,351 person days of employment were generated, through the project. An important aspects of the employment generation, was that fair and equal wages were given to both men and women.

A small hamlet of 25 people (7 families), *Bagariyon ki dhani*; benefited greatly from the FORRAD projects. Each of the community members earned Rs. 166 per day for the work they did. They were also actively involved in the planning and decision making process relating to the construction work. This enabled significant confidence among the community members and a spirit of team work and togetherness.

Santosh, from the hamlet, spent Rs. 10,000 from what his family earned to improve his house.

Not only the community; but also FORRADs implementing partners, *Manthan Sanstha* and *Prayatna Sansthan* have gained greatly from the project. It has improved their relationship with local communities; given them great energy and strength; and put into action some of the principals they are committed to.

PROJECT PROFILES

UTTAR PRADESH



Figure 9: Sita Rani group's check-dam, Tola Swayam

The Bundelkhand region of Uttar Pradesh is faced with unpredictable rainfall and severe drought, adversely affecting agriculture and livelihoods. Often entire villages and communities in the region have migrated to cities and other locations during summers in search of alternate livelihoods. Against this backdrop, FORRAD along with its partner Gramonnati Sansthan have been working towards community designed watershed development in Bilkhi and Tola Swayam villages of Mahoba district, Uttar Pradesh.

The project has been operational since January 2010. Following have been the activities undertaken the last year:

Construction of Check Dam

Darshan Singh Samooh's check dam has been constructed in Tola Swayam village. With a storage capacity of 5420 cubic meters, the dam enables irrigation for 8.43 hectares of land and benefits 5 farmers.

Check Dam	Storage capacity	Catchment area	Land irrigated	No of Farmers
Darshan Singh	5420 m3	28Ha	8.43 Ha	05

Deepening of wells

One well in Bilkhi and three wells in Tola Swayam were cleaned and deepened by one meter.

Rain water harvesting

137,500,000 liters of water has been harvested in the last year through various watershed structures created over the period of the project.

Table 4: Water harvested through various watershed structures in Mahoba district

S.No	Structure	Water harvested in 2014-15
I.	Checkdams	
1.	Sita Rani samooh	80,000
2.	Chandrashekhar samooh	165,000
3.	Kashi samooh	142,000
4.	Kishori Samooh	123,000
5.	Chandrapal samooh/Mardan singh	265,000
II.	Farmponds	
1.	Darshan Singh	40,000
2.	Mangi	135,000
3.	Kamta	20,000
4.	Hardas	24,000
5.	Prem Pal	25,000
6.	Kashi Ram	20,000
7.	Jag Prasad	15,000
8.	Lakshmi Shankar	20,000
III.	Farmbundung	
1.	Water Capacity	124,616,000
IV.	Outlets and gully plugs	
1.	Water Capacity	7,000,000
2.	Roof water harvesting in schools	
	School A	2,400,000
	School B	2,400,000
	Total	137,490,000



Figure 10: Wheat cultivation, Bilkhi on February 2015



Figure 11: Mustard cultivation near Chandrashekar group's check –dam



Figure 12 : Pea cultivation ,Tola Swayam on February 2015

Plantation

1000 plant saplings including 600 teak trees (*Tectona grandis*), 100 lemon trees (*Citrus limon*), 100 amla (*Phyllanthus emblica*) and 100 karonda (*Carissa carandas*) were planted around the various watershed structures during the last year. These plants were distributed among and planted by 10 farmers.

Training for farmers

25 farmers were trained in zero budget farming for plantation of kharif and rabi crops. Practical training and demonstrations were done. The training also included preparation of bheejamrit, jeevamrit and ghanjeevamrit; organic mixtures for treatment of seeds and crops. 10 farmers also attended a one day training programme on Nadep composting.

Community engagement and participatory planning

At all stages of the project, the community has been the key stakeholder at the centre of all planning and implementation. The planning process was also undertaken primarily by the community with facilitation support from Gramonnati sansthan.

Watershed committees were formed in both villages, which led the planning, implementation and monitoring of activities, including recruitment and payment of labour. An initially resistant community, over the years, seeing the success of the project; has led to more number of people volunteering time and resources to be part of the project.

IMPACT OF THE PROJECT

The improved water availability has resulted in improved agricultural productivity, generating local livelihoods and has greatly reduced migration to cities. In the last year, FORRAD made a short documentary outlining the work and its impact in Mahoba, Bundelkhand. Excerpts from the video are presented below, which highlight the impact the project has made:

“50 years ago, times were terrible; there was nothing here - no food, no water; we used to leave the village and go in search of food, water and work. We would take our animals with us and stop where there were water sources. We would try and find some work and tend to our animals. If it rained, we used to come back, try and do some farming and then go into the jungles to find some fruits and flowers. Sell it in the market and live out of whatever we managed to get” – Dhulichand Bilkhi.*



Figure 13: Well filled in a year of drought , September 2014



Figure 14 : Chandrapal group's check- dam ,September 2014

Development of watershed structures has not only improved the surface water availability, but also ground water levels and soil quality.

“Since the check dams have been made in our village, the water level has risen by 3 meters; we are able to farm without problems. Our family that used to live away in the cities has come back and now we are all able to make a living with agriculture. Even though there was a drought last year, thanks to the check dam, the water level is the same”. Kastouri, Tola Swayam. *

“For 3 years we did not have any rains and then it rained; and this time, we were able to collect water in the ponds and dams. People came back home and till today there is water in our wells. We have 3 check dams and farm bunds in our village now; people have come back as there is work for them to do now” – Laxmi Shankar, Bilkhi*

Improvement in crop yield due to contour bunding

Contour bunding undertaken in the villages has resulted in an increased crop yield and enabled growing several types of crops.

Table 5: Crop yields before and after the project

Per acre	Before project (Quintals)	On date (Quintals)
Wheat (kathiya)	2 to 3	3 to 4.5
Masoor	1 to 1.5	1.5 to 3.5
Matar	2 to 3	4 to 6
Chana	1 to 1.5	1.5 to 3.5
Urad	0.75 to 1.5	1.5 to 3
Mung	0.60 to 1.5	1 to 3

The project over the last five years has changed lives of over 4000 people. Communities have not only benefitted from agricultural produce and sustained livelihoods; but also from the livelihoods generated by the project work. Both men and women have earned equal wages and over 22972 person days of employment have been generated as a part of the project. Farmers have also benefited from the trainings they have attended; enabling them to grow more sturdy crops in an efficient manner, enhancing produce.

PROJECT PROFILES

TAMIL NADU



Figure 15: Mukkarampakkam Eri Sluice No 1, June 2014

Michelin India Tamil Nadu Tyres Private Limited (MITTPL) has an allotment of 290 acres in the State Industries Promotion Corporation of Tamil Nadu (SIPCOT) industrial park. This land, which formerly belonged to the Panchayat of Thervoy-Kandigai, is now being developed as an industrial site.

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 CSR extends to 31 villages and hamlets surrounding the site and covers a population of approximately 30,000 people.

An overview of the activities undertaken as a part of this project in the last year is given in the table below:

Table 6: Activities undertaken in Tamil Nadu in year 2014-15

S.No	Activities	Dates
1.	Cleaning and repairs of 6 water tanks in schools	Feb 2015
2.	Restoration of Chinna Vannankuppam kulam	Jan 2015
3.	Restoration of feeder channel from sluice no. 1 of Mukarampakkam Eri	June 2014
4.	Restoration of feeder channel from sluice no. 2 of Mukarampakkam Eri	Dec 2014
5.	Exposure trip to Orissa	Nov 2014
6.	Promotion of organic farming practices - panchakavya and herbal mix	Through the year
7.	Dry and monsoon water testing	April & December 2014
8.	Exposure Visit to Michelin's factory	June 2014
9.	Applications and sanctions	December 2014

Repair and cleaning of water storage tanks in schools

In 2012, FORRAD had tested the water in 26 Government school tanks. It was found that 13 were contaminated. The tanks were cleaned and re-tested in 2014; and 5 tanks were still found to have bacterial contamination. Survey results recommended that the tanks and fittings be repaired to decontaminate them. Of the 5 schools, repair work in 4 schools has been completed and the last one is in progress.

Salient features of the work undertaken include:

- Fixing of vitrified tiles on the sides and bottom of inside walls of the tanks to curtail water seepage
- Re-fixing of slabs after completion of works on the inner side
- Scraping of algae on the exterior walls of the tanks
- Machine cutting of covering slabs for provision of manhole to enable periodic cleaning
- Placing of manhole cover to tanks
- Replacing broken pipes and taps
- Raising the levels of the taps which were previously at a very low level
- Extending the length of waste water PVC pipe outlets
- Smoothing and setting right the cracks on the walls of tanks
- White washing the outer area of the tanks

The work was undertaken through consultations with the school administration and PTA and due permissions were obtained. Details of the work undertaken are given in the table below.

Table 7: Details of tank repair and cleaning works

Name of school	Village and taluk	Water storage capacity of tanks (in litres)
Periya Vannagkuppam Primary School	Periya Vannagkuppam, Uthukottai	6000
Kizhkarumanur Primary School	Kizhkarmanur, Uthukottai	5000
Kakavakkam Primary School	Kakavakkam, Uthukottai	2000
Palavakkam Primary School	Palavakkam, Uthukottai	7000

The tank at Palavakkam primary school was completed at a cost, slightly under the estimated budget; and some materials used for repair of the tank were left over. These materials and funds were used to undertake minor repairs in the storage tank for the girls' toilet at the Palavakkam high school.

Restoration of Chinna Vannankuppam

Following activities were undertaken to restore the pond in Chinna Vannankuppam village of Uthukottai

- Cleaning scrub jungle of around 1900 m².
- Earthwork excavation for foundation
- Removing and repacking old stone revetment on all sides
- Rough stone dry packing for revetment
- Pointing with cement mortar 1:4 for revetment
- Plain cement concrete 1:4:8 using 40 mm Jelly
- Brick work in cement mortar 1:5 using country bricks (ground molded kiln burnt)
- Plastering with cement mortar 1:5, 12 mm thick
- Supplying and fixing 450 mm dia. NP III type R.C.C hume pipes

Figure I 6 Chinna Vannankuppam, before restoration



The area of the pond is 0.33 hectares and a holding capacity of 10 million liters of water has been created by restoring this pond.



Figure I 7 : Chinna Vannankuppam, after restoration

Restoration of feeder channel from sluice no. 1 and 2 of Mukarampakkam Eri

The Mukkarampakkam tank has a command area of 600 acres and receives supply from several other tanks, as well as its own free catchment. This tank has remained silted for decades, making the bed level of the channel much higher than its actual bed level with shrubs and bushes grown in volumes. Farmers of the village, requested FORRAD to de-silt the two channels supplying from the tank.

Key restoration activities undertaken include – clearing 400 square meters of shrub jungles; excavation of earth using earth moving machines; manually breaking clods and sectioning them and, clearing obstructions in the road culvert.

Two feeder channels were restored. The channel from sluice no.1 has a bed width of about 3.0 meters up to 1500 meters and 2.5 meters from 1500 to 2000 meters. The feeder channel from sluice no.2 has a length of about 1100 metres and a bed width of 2.5 meters. It was de-silted to a depth of 0.3 meters for a length of 1000 meters. Both the channels were cleared of all encroachments, desilted and depth increased to retain adequate water supply.

FORRADs work also motivated the local authorities to pitch in. Once the area around the sluice had been cleared; the old sluice was destroyed and a new one was built by the PWD. Prior to this, the PWD had left it to the farmers to manage the clearance and de-silting.

*Figure 18 : Mukkarampakkam Eri
Sluice No 2, during restoration*



Educational tour to Odisha

Members of the community facilitation cell, field coordinator and project coordinator from Tamil Nadu and FORRADs program associate from Delhi visited Agramee, an organisation situated in Kashipur and Rayagada districts of Odisha. Agramee works with marginalised and underprivileged communities in tribal districts of Odisha.

Agramee undertakes extensive work in sustainable agriculture and the group had an opportunity to understand several techniques and practices, including stone bunding, multiple cropping, grafting of plants and a new technique called zero tillage agriculture. The group visited a NABARD funded 'Wadi' project. Wadi, a Gujarati word, meaning small orchard, is a tree based farming system. Agramee gave the group an overview on their work in reviving the community grain banks; the group also visited a grain bank. Some of the other locations visited by the group included – a micro hydro power project in Pipal Padar village and Mandibhisi, where they learnt about the work of tribal women groups called Mahila Mandal. The women of Mahila Mandal manufacture brooms and sell it themselves, without the help of any middle man.

Promotion of organic farming practices - panchakavya and herbal mix

As a part of the project, FORRAD has been working with farmers every year to introduce a combination of panchakavya and a herbal mix as a pesticide and growth accelerator for vegetables and crops. This year, a total of 70 farmers used the panchakavya and approximately 40 acres of land have been covered so far.

Farmers reported that the use of panchakavya and herbal mix doubles agricultural productivity and improves the quality of the harvest. Farmers using panchakavya have reported a 50% reduction in the chemical pesticides and fertiliser.

WATER TESTING

a. Dry water testing

138 tests were conducted for water quality in 33 villages in the project area. A representative selection of water sources that covered the 33 villages was selected. Some of the key results of the water testing, compared to last time are as follows:

- 47 (33.81 %) sources have bacterial contamination this year whereas last year during the same season 67 sources (48.90 %) had bacterial contamination.
- There is a reduction of 15.09% of bacterial contamination in all sources.
- 11 out of 47 (23.04%) OHT sources are bacterially contaminated this year as compared to 18 out of 45 (40%) in the same season the previous year.
- There is a reduction of 16.96 % of bacterial contamination in OHTs

The following table gives the detailed water testing results, in comparison to the previous year.

Table 8: Comparison of Water Testing Results for the summer season

Characteristic	BIS Acceptable Limit	BIS Permissible Limit	APRIL 2013			MAY 2014		
			Range of Results	Samples above acceptable limit	Samples above 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	6.5 - 8	0	0
Hardness	300	600	50-700	71	1	0-590	66	0
Chloride	250	1000	10-860	29	0	20-1600	21	1
Fluoride	1	1.5	0-1	0	0	0-1.5	2	0
TDS	500	2000	96-1800	86	0	0-2556	81	2
Iron	0.3	1	0-1	21	0	0-2	5	2
Alkalinity	200	600	18-630	52	1	20-800	61	1
Nitrate	45	100	0-45	-	-	0-45	0	0
Nitrite	-	-	0-2	-	-	-	-	-
Phosphate	-	-	0-1	-	-	-	-	-
Ammonia	-	-	0-3	-	-	-	-	-
Residual Chloride	0.2	1	0-0.5	-	-	0-1	4	0
Odour	-	-	None	-	-	None	-	-
Appearance	-	-	Clear-Slightly Brown	-	-	Clear-Light Brown	-	-
Turbidity	-	-	None	-	-	None	-	-
Bacteria	Not Present	Not Present	Present & Not Present	-	67	Present & Not Present	N.A.	47

Figure 19 : Cleaned and repaired tank in Kizhkarumanur Primary school



b. Monsoon water testing

128 tests were conducted for water quality in 32 villages in the project area. A representative selection of water sources that covered the 32 villages was selected. Some of the key results of the water testing, compared to last time are as follows:

- 14 (10.93%) sources have bacterial contamination this year whereas last year during the same season 25 (17.98%) sources had bacterial contamination.
- There is a reduction of 7.05% of bacterial contamination in all sources
- 7 out of 46 (15.21%) OHT sources are bacterially contaminated this year as compared to last year to 8 out of 45 (17.77%) in the same season the previous year.
- There is a reduction of 2% of bacterial contamination in OHTs

The following table gives a detailed water testing results, in comparison to the previous year.

Characteristic	BIS Acceptable Limit	BIS Permissible Limit	2013			2014		
			Range of Results	Samples above acceptable limit	Samples above 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	6.5 -7.5	0	0
Hardness	200	600	50-690	47	2	10-720	52	4
Chloride	200	1000	10-550	19	0	10-1000	10	0
Fluoride	1.0	1.5	0.5-1	0	0	0-2	9	1
TDS	500	2000	156-1962	58	0	44-2160	69	1
Iron	0.3	1.0	0-10	1	3	0-2	3	1
Alkalinity	200	600	20-790	39	1	20-470	52	0
Nitrate	-	-	-	—	—	0-0.2	0	0
Nitrite	45	100	0-25	—	—	0-45	0	0
Phosphate	-	-	0-3	—	—	0-0.5	0	0
Ammonia	-	-	0-3		-	-		
Residual Chloride	0.2	0.2	0-0.5	0	1	0-2	0	2
Odour	-	-	None	-	-	Algae	-	-
Appearance	-	-	Clear-Slightly Brown	-	-	Clear-Light Brown	-	-
Turbidity	-	-	None	-	-	None	-	-
Bacteria	Not Present	Not Present	Present & Not Present	N.A.	25	Present & Not Present	N.A.	14

Visit to Michelin's manufacturing plant

Members of the facilitation cell, FORRADs project coordinator and field coordinator visited MITTPLs manufacturing plant on 18th November 2014. They were given an introduction to Michelin and the work they do. A presentation was made on the various processes of tyre production and water and waste management in the plant. This was followed by a tour of the plant, where the group saw the water treatment plant and trees that were planted as a part of the green belt development for the site.

Community facilitation cell

The community facilitation cell formed in the year 2011 was an effort to create a group of local community members to observe and monitor the industry, government and community behaviour in the area. The facilitation cell assists the local community with various tasks, such as, filing and processing of applications, setting up bank accounts, applying for licences etc. In the last year, a total of 212 applications were filed by the facilitation cell, of which 147 were sanctioned. These included applications for - old age pension, maternity support, education allowance, ration cards, community certificate, bank accounts, age and birth certificates and aadhar cards, among many others.

The community facilitation cell engages with the community, MITTPL and local governments, taking forward the needs of the community to various stakeholders. As in all FORRAD projects, community members are part of the planning, implementation and monitoring of activities undertaken by the project. Community members benefit directly from the employment generated from projects and indirectly from greater water availability and cleaner water sources.

Impact of project activities

- Availability of clean, potable drinking water through cleaning of water tanks. At schools, children use the water from tanks to wash their hands and faces and drink. The tanks repaired and decontaminated in Periya Vannagkuppam Primary School and Kizhkarumanur Primary School, Uthukottai Taluk have benefitted 45 and 60 students respectively. The tank at Kakavakkam primary school which was not in use for 3 years is now being used.

- Greater availability of surface and ground water, aiding agriculture and livelihoods

Restoration of the pond in Chinna Vannankuppam has created a water storage capacity of nearly 10 million litres. 5 million litres is expected to go to the aquifers and mitigate the lowering ground water table. The water available would not only support irrigation and agriculture, but also benefit cattle and other communal processes. The pond will also provide a micro-climate in the area around the pond.

Once the Mukarampakkam tank is replenished during the monsoon, the sluice is expected to irrigate at least 400 acres of land. Approximately 150 families will benefit.

- Government benefits received – FORRAD monitors the monthly receipt of pensions of those persons who applications were facilitated by the team. So far, 273 old age pensions, 99 widow assistance, 10 hearing aid and insurance were sanctioned.

Figure20 : Mukkarampakkam Eri Sluice No 2, after restoration



BACK TO BASICS

– DIRECT ASSISTANCE TO VULNERABLE FAMILIES

Back to Basics, started in 2010 is a FORRAD initiative to assist vulnerable communities with basic necessities such as warm clothing, water, housing, sanitation and home lighting systems. It is funded mostly through monetary and in-kind contributions from a network of individual supporters. Back to Basics primarily provides support in the states of Rajasthan and Delhi.

In 2014-15, Back to Basics largely involved:

- Constructing concrete water storage tanks, which reduces the daily drudgery of fetching water
- Repairing damaged houses
- Providing warm covers and clothing to protect families against the cold
- Constructing & repairing toilets in schools and individual homes

Construction of water storage tanks

The effort is to construct water tanks in hamlets where water supply is extremely erratic. In the last year, 50 families in Rajasthan received assistance from Back to Basics to construct concrete water storage tanks. Families contributed Rs. 3000-9000 towards building their tanks, while FORRAD contributed Rs. 15000 per tank.

Each tank, with a storage capacity of approximately 5000 litres stores enough water to last an average-sized family a couple of weeks during summer.

A lifelong asset

Owning a water storage tank is a life altering event for many families in Rajasthan. For the first time, they have a steady water supply for themselves and their livestock. For those living in the fringes and exploited, these tanks have given them a sense of hope, dignity and empowerment. Many have gained confidence to gradually convert their make-shift homes to permanent ones.

The time saved in fetching water has also helped some people take up other productive livelihoods. Tanks have enabled safer drinking water and improved health and hygiene. More number of children, especially girls, are now able to devote more time to school and studies (rather than fetching water).

The 50 water storage tanks have created a cumulative water storage capacity of over 4 lakh litres of water. While families contributed Rs. 2, 62,700 to construction of tanks, FORRAD contributed Rs. 7, 50,000.



Figure 21 : Items packed and ready for loading and transportation

Every year, thousands of families living in kuccha houses face severe damage to their homes during monsoons. At times, the damage is so severe that houses become inhabitable. In 2014-15, Back to Basics helped 13 families in Rajasthan rebuild their homes, using tin roofs.

The effort is to assist the most vulnerable families; those who are not in a position to rebuild or repair are given priority. Some families, who have been living in damaged houses for years, have finally got a roof. The intervention has also ensured that these families have tin roofs, which they may not have been able to afford otherwise. Providing a warm cover

For the fifth consecutive year, Back to Basics has distributed warm covers (quilts, blankets and shawls) and woollen clothing to families living in difficult circumstances in Rajasthan and Delhi.

FORRAD's partner Manthan Sanstha distributed 200 quilts, 200 blankets, 200 shawls and 25 woollen sweaters to 386 families spread across 31 villages of Ajmer and Nagaur Districts of Rajasthan. Most beneficiaries were those belonging to nomadic communities such as Sansis, Kalbelia and Bagariyas who are socially and physically isolated and living in temporary shelters.

In Delhi, before the onset of winter, FORRAD conducted a house to house survey in Jai Hind camp, Masoodpur. The survey identified families in need of woollen clothes and blankets. 190 blankets, 94 shawls, 50 quilts and 400 assorted garments were distributed to 240 people. Priority was given to children, elderly, widows, ailing persons and those physically challenged.

Old curtains, fabrics, sarees and other materials donated are repurposed into quilt covers; which are then filled with cotton and quilted by artisans. Some blankets were received in kind, while others were purchased with the donations received. Most of the shawls were newly purchased.



Figure 22 : Construction of toilet, Manthan girls' school

Construction and repair of toilets in schools and health facilities

Supported by Essay Kalyan Nidhi, FORRAD in the last year, constructed 6 toilets in three schools in the villages of Kotri and Bhadoon and repaired 2 toilets in a Public Health Centre Sinodiya, in Silora block, Ajmer district, Rajasthan.

Each of the toilets has a flush and tap connection. Water is sourced from the village pipeline and enters an underground tank, from where it is pumped into a 500 litre overhead tank.

The new toilets in Shisha Niketan Balika School are used by 95 girls and 5 staff members. In Bhadoon Secondary School these toilets are being used by 63 boys, 30 girls and 7 members of staff. The toilets at the Public Health Centre are used by the patients, doctors and staff.

Both schools and health facilities are key locations, where toilets are a need, and promote good sanitation. At schools, the lack of proper toilets can often be a reason for drop-outs among girls. The availability of toilets provides schools an opportunity to set an example for sanitation and hand washing.

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 Apr 2014 – Mar 2015 Amounts in INR
Anandana (India)	Watershed Development in Bundelkhand	28,97,010
Michelin India Tamil Nadu Tyres Private Limited (India)	Initiatives in agriculture and water and community facilitation	30,64,250
Bekaert Industries Private Limited(India)	Initiatives in agriculture and water and community facilitation	3,00,000
Coca-Cola Foundation (USA)	Watershed development around the Sambhar Salt Lake	Grant carried forward from previous year
Back to Basics	Donations from individuals and institutes	14, 25,397

Individual and Institutional Monetary Donations to Back to Basics

Aarti Anand, Anita Saran, AA - a well-wisher, Anne Mc Intyre, Aruna Mehta, Asha Chopra , Bal Krishna Kochar, Brinda Singh/Tejeshwar Singh Memorial Trust, Chandrika Pathak, Essay Kalyan Nidhi, Geeta & Dieter Reeb, Gitanjali Kamra, John L. Bissell Foundation, Kamla Sood/Durga Devi Memorial Trust, Kanika Satyanand, Mahi Mehra, Monica Poplai, Nalini Khullar, Nandita Parshad, Neeraj Nityanand, Nitya Nand, PP - a well-wisher, Pia Sharma, Rahul Kapur, Shanoor Seervai, Shashi Agarwal, Tanuj Kapur, T.R. Ramakrishnan, The H.M. Seervai Memorial Trust, Urvashi Khosla, Vikram Bajaj, Vimla Manmohan Singh.

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

BALANCE SHEET AS ON MARCH 31, 2015

As on March 31, 2014	Rs.	Rs.	Schedule	Rs.	As on March 31, 2015
Rs.					Rs.
		<u>SOURCES OF FUNDS</u>			
2,04,069		Capital Fund			2,04,069
		- PF Fund			5,70,749
		- Gratuity Fund			4,51,809
		Income & Expenditure A/C			
		Opening balance		11,64,581	
11,64,581	4,79,392	Excess of income over expenditure		9,80,356	21,44,937
	6,85,189				
		Unutilised earmarked fund			
		Opening Balance	A	1,09,39,528.00	
	1,06,49,290	Add; Restricted Fund transferred from Income & Expenditure A/c		62,61,260.00	
	1,75,77,709	Less; Application from Restricted Fund transferred from Income & Expenditure A/c		(1,46,11,977.00)	25,88,811
1,09,39,528	(1,72,87,471)				
		Current Liabilities			
5,79,754		Accounts payable and accrued liabilities	B		28,090
<u>1,28,87,932</u>					<u>59,88,465</u>
		<u>APPLICATION OF FUNDS</u>			
		FIXED ASSETS			
		Gross Block	C		
	1,77,111.00	Less: Depreciation		1,47,081	
1,47,081.00	30,030.00	Net Block		21,356	1,25,725
		<u>CURRENT ASSETS LOANS AND ADVANCES</u>			
1,10,70,867		Cash & Bank Balances	D		44,14,171
16,69,984		Loans & Advances	E		14,48,569
<u>1,28,87,932</u>	(0)				<u>59,88,465</u>

Notes forming part of the Financial Statements-I

As Per our report attached

For SMS & Associates
Chartered Accountants
Firm Registration Number:018687N

For FOUNDATION FOR RURAL RECOVERY & DEVELOPMENT

Sukdev Sadhoo
Partner
Membership No. 84188



S. Ansh
Executive Director

Neelam Singh
Managing Trustee

Place - New Delhi
Date - 18.09.2015



FOUNDATION FOR RURAL RECOVERY & DEVELOPMENT

INCOME AND EXPENDITURE ACCOUNT
AS ON MARCH 31, 2015

<u>As on</u> <u>March 31, 2014</u> <u>Rs.</u>		<u>Schedule</u>	<u>As on</u> <u>March 31, 2015</u> <u>Rs.</u>
	<u>INCOME</u>		
	<u>Restricted Grants</u>		
1,75,77,709	1,75,77,709 Grants and donations (including interest on restricted grant)	62,61,260	62,61,260
	Less : Unspent grant returned	-	-
9,95,137	Unrestricted Grants	G	14,25,397
5,40,378	Interest	F	4,93,794
1,91,13,224			81,80,451
	<u>EXPENDITURE</u>		
1,72,87,471	Expenditure out of Restricted Grant on objects of the Trust	A	1,46,11,977
8,20,296	Expenditure out of Unrestricted Grant on objects of the Trust		9,17,479
30,030	Depreciation	C	21,356
1,81,37,797			1,55,50,812
9,75,427	Surplus for the year		(73,70,361)
(1,75,77,709)	Specific grants transferred to earmarked funds		(62,61,260)
1,72,87,471	Expenses transferred from earmarked funds		1,46,11,977
6,85,189	Balance carried to Balance Sheet		9,80,356

Notes Forming part of the Financial Statements-I

As Per our report attached to the balance sheet

For SMS & Associates
Chartered Accountants
Firm Registration Number:018687N


Shukdev Sadhoo
Partner
Membership No. 84188



Place : New Delhi
Date : 18.09.2015

For FOUNDATION FOR RURAL RECOVERY & DEVELOPMENT


Executive Director


Managing Trustee



**FOUNDATION FOR RURAL RECOVERY
AND DEVELOPMENT (FORRAD)**

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