

Annual Report 2016-17



Rajasthan Forestry and Biodiversity Project (Phase-2)



शं नो देवीरभिष्टय आपो भवन्तु पीतये ।
शं योरभि स्रवन्तु नः । ।

*O Water, may the auspicious divinity which is wished for be present in you when we drink (water)
May the auspiciousness which supports you, flow to us.*



Rajasthan Forestry and Biodiversity Project (Phase-2)

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Forest Department, Rajasthan

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GAJENDRA SINGH

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Message

Sustainable forest management for protection and restoration of degraded forests is necessary to mitigate the effects of climate change and biodiversity conservation. This assumes more importance for a state like Rajasthan which has extreme climate variations.

Rajasthan Forestry and Biodiversity Project (Phase-2) being implemented in 650 selected villages across 15 districts and 7 WLS envisages increasing the area under forest, conserving biodiversity and providing alternate income generation opportunities for sustainable livelihood improvement of forest dependent communities. The project milestones so far are a good indication of its objectives being achieved.

I compliment the department for implementing the project and hope for more projects in future making a valuable contribution towards overall growth and development of the state.

With best wishes,

Sincerely,

(Gajendra Singh)



NIHAL CHAND GOEL
ADDITIONAL CHIEF SECRETARY

**FOREST & ENVIRONMENT,
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MESSAGE

Forests are world's second largest storehouse of carbon, after oceans. They absorb harmful greenhouse gases, provide clean air, protect watershed, provide life sustaining resources, serve as buffer in natural disasters and are home to more than half of the world's land based species. Hence, we need to work ceaselessly to protect and sustain our forests.

Rajasthan Government has implemented many projects in the state for protection and enhancement of forests. Rajasthan Forestry and Biodiversity Project (Phase-2) is one such project being implemented with loan from JICA. This 8-year duration project has completed its preparatory and implementation phases and is now entering upon its exit phase of last two years.

I am confident that best practices and achievements of the project will be consolidated in the next two years so that they inform all forestry work in Rajasthan for the years to come.

With best wishes,

(Nihal Chand Goel)

Jaipur, 16th May, 2017

From the Project Director's desk...

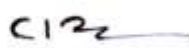


**“When you wish good for others, good things come back to you.
This is the law of nature.”
... Sri Sri Ravishankar.**

Rajasthan Forestry and Biodiversity Project (Phase-2), being implemented with loan from JICA and financial assistance from Rajasthan government, is striving to restore the degraded ecosystem through afforestation, soil & moisture conservation activities and protection of existing forests. The project also helps forest dependent marginal communities by undertaking poverty alleviation and livelihood improvement activities.

The project enters into its penultimate year with most of the targets already achieved. The focus now shifts to consolidation of ground level institutes like Village Forest Protection and Management Committees (VFPMCs) and Eco Development Committees (EDCs) so that they are self sustainable and capable of maintaining assets created under the project. The income generation activities (IGA) of the Self Help Groups (SHGs) need a boost to achieve the goal of poverty alleviation in letter and spirit.

I congratulate all those involved in execution of project activities for the accomplishments and wish them good luck for future.


(R.K. Goyal)

Prologue

Rajasthan Forestry and Biodiversity Project -Phase 2 is being implemented in 20 districts of Rajasthan with the loan from Japan International Cooperation Agency (JICA), and financial assistance from the state government. The project activities are being undertaken in 650 selected villages (363 villages in desert districts, 225 villages in non desert districts and 62 villages within 2 km fringe area of 7 Wild Life sanctuaries).

Objective

“To enhance forest area and livelihood opportunities of the forest dependent people and to conserve biodiversity by undertaking afforestation and biodiversity conservation measures through JFM approach, thereby contributing to environmental conservation and socio-economic development of Rajasthan.”

Project outlay

Period	Cost (INR)		
	JICA's share (Loan)	State government assistance	Total Cost
2011-12 to 2018-19	884.77 crores	267.76 crores	1152.53 crores

Salient features of the project:

- For the implementation of project activities Rajasthan Vaniki Evam Jaiv Vividhata Sanrakshan Society was registered under Rajasthan Societies Registration Act 1958. The Society forms the State level Project Management Unit (PMU).
- A High Power Committee headed by minister in charge of Forest Department is the highest decision making body for the project.
- For the supervision of activities executed under the project, Governing Body has been created under the Chairmanship of Additional Chief Secretary (Forests and Environment).
- All the members of society constitute the General Body.
- International and National consultants have been engaged for technical inputs and assistance to PMU on different subject matter.
- A Resource Organisation is also contracted for providing various services and support to PMU.

- The entire project area is divided under 27 Divisional Management Units (DMUs) and 83 Field Management Units (FMUs).
- The basic unit for implementation of project activities is Village.

The project has made significant progress in its preparation phase and half of the implementation phase. An account of financial progress is given below:

Financial Progress from 2011-12 to 2015-16

(Fin. : ₹ in lacs)

S. No.	Item	2011-12	2012-13	2013-14	2014-15	2015-16
1	Afforestation		1701.30	7599.07	10147.71	16080.26
2	Agro Forestry Activities		-	1.55	0.05	3.39
3	Water Conservation Structures		166.01	459.03	463.21	959.88
4	Biodiversity Conservation		1060.81	2963.95	3464.10	1559.75
5	Poverty Alleviation and Livelihood Improvement		-	105.76	156.86	99.04
6	Capacity Building Training & Research	4.24	5.60	36.51	58.35	62.91
7	Community Mobilization	1.21	167.30	1086.49	1460.17	1104.24
8	Project Management	26.56	390.05	485.09	314.62	355.06
9	Monitoring & Evaluation		11.20	36.00	64.63	36.86
10	Contractual Personnel for PMU	8.35	16.66	195.86	267.45	254.27
	Total	40.36	3518.93	12969.31	16397.15	20515.66
11	Administrative Cost (State Share)	45.06	98.45	116.59	102.30	104.74



Annual Performance 2016-17

The financial year 2016-17 was sixth year for the project. This was also the last year of four year duration implementation phase. The project has by now achieved more than 90% of its physical targets in almost all the components. For the second consecutive year the project achieved more than 98% of its financial targets.

Financial Progres

(Fin. : ₹ in lacs)

S. No.	Item	Project Budget	Achievement upto 2015-16	2016-17			Cummulative Achievement
				BE	RE	Achievement	
1	Afforestation	42328	35528.34	12326.31	12334.27	12030.25	47558.59
2	Agro Forestry Activities	163	4.99	42.60	55.97	35.75	40.74
3	Water Conservation Structures	4692	2048.13	3689.55	1759.58	2714.52	4762.65
4	Biodiversity Conservation	8436	9048.61	1556.04	1244.92	1178.55	10227.16
5	Poverty Alleviation and Livelihood Improvement	1689	361.66	312.00	167.00	88.60	450.26
6	Capacity Building Training & Research	634	167.61	258.12	125.82	64.61	232.22
7	Community Mobilization	6542	3819.41	815.30	1363.99	1017.17	4836.58
8	Project Management	2982	1571.37	505.70	492.25	260.48	1831.85
9	Monitoring & Evaluation	590	148.69	78.00	44.50	13.08	161.77
10	Contractual Personnel for PMU	1496	742.58	282.00	281.70	245.96	988.54
11	Price Escalation, Contingency, Consulting services	18926					
	Total	88477	53441.39	19865.62	17870.00	17648.97	71090.38
	Administrative Cost (State Share)	21917	467.15	134.38	130.00	111.14	578.29

The project activities are divided under various packages. A detailed account of component wise physical progress and financial achievement of the project in FY 2016-17 is presented in subsequent pages :

Package 1 : Afforestation

In FY 2016-17, plantation work was carried out in 26407 Ha. At the end of sixth year of project, the total plantation work has been completed in 77918 Ha out of project target of 83650 Ha (93% achievement). In the remaining area, advance action has been completed and planting will be done during next monsoon.

Physical progress and Financial achievement

(Fin. : ₹ in lacs)

ITEM	Year 2016-17			
	Physical		Financial	
	Allot	Achi.	Allot	Achi.
Advance Action	5608	5578	1658.55	1591.00
Planting	26407	26407	6504.95	6410.41
Maintenance I	18381	18381	2916.40	2815.41
Maintenance II	19077	19077	860.57	839.81
Maintenance III	10680	10680	353.72	333.75
Maintenance IV	873	873	40.08	39.87
Total			12334.27	12030.25

The cumulative model wise progress of afforestation is given below:

S. No.	Plantation Model	Project Target (Ha)	Plantation Upto 2015-16	Plantation 2016-17	Cumulative Achievement 2016-17	Cumulative %
1	CSP- D	1056	515	378	893	85%
2	CSP- M	1394	810	558	1368	98%
3	SDS	25000	18149	6701	24850	99%
4	SP	17000	8880	6743	15623	92%
5	BP	7800	4000	3800	7800	100%
6	RDF I	8000	5598	2150	7748	97%
7	RDF II	13000	6000	4060	10060	77%
8	ANR	4200	2246	1254	3500	83%
9	PEO	3000	2500	450	2950	98%
10	FWP	3200	2812	313	3125	98%
		83650	51511	26407	77918	93%



Package 2 : Agro Forestry

This component which was reworked upon in last financial year after a lot of deliberations and approval from the competent authorities registered significant progress. 95 new SHGs were formed and training was imparted to 66 SHGs on nursery raising techniques. The component's financial achievement in this FY was almost 7 times of its first five years total financial achievement.

Physical progress and Financial achievement

(Fin. : ₹ in lacs)

ITEM	Year 2016-17			
	Physical		Financial	
	Allot	Achi.	Allot	Achi.
Raising of Seedlings by SHGs	122	95	36.72	26.38
Trainings to SHGs	125	66	19.25	9.37
Total			55.97	35.75

The cumulative status of physical progress of activities under this component is given below:

S. No.	Item	Project Target	Achievement upto 2015-16	Achievement 2016-17	Cummulative Achievement	Achievement %
1	Raising of Seedlings by SHGs	130	8	95	103	79%
2	Trainings to SHGs	130	8	66	74	57%



Package 3: Development of Water Conservation Structures (WCS)

In this component, the significant achievement was construction of Anicuts. The Technical Approval Committee (TAC) gave its approval to 575 proposal of constructing anicuts. Besides this, other activities in this component have achieved almost 100% of its project targets.

Physical progress and Financial achievement

(Fin. : ₹ in lacs)

ITEM	Year 2016-17			
	Physical		Financial	
	Allot	Achi.	Allot	Achi.
Anicut-I	265	274	596.25	611.61
Anicut-II	56	209	364.00	1344.12
Check Dams (Cumt)	61000	65111	179.34	161.68
Contour Bunding (Rmt)	145000	150967	255.78	244.42
Percolation Tank	266	264	128.74	126.95
Renovation restoration of traditional water harvesting structures	70	70	70.00	70.38
Silt Detention structure	87	83	105.27	98.05
Gabion Structures	172	167	60.20	57.31
Total			1759.58	2714.52

The status of WCS component is listed below:

Model	Project Target	Achievement upto FY 2015-16	Achievement in FY 2016-17	Cumulative Achievement	Cumulative %
Anicut-I	600	30	274	304	51%
Anicut-II	400	63	209	272	68%
Check Dams (Cumt)	200000	134670	65111	199781	100%
Contour Bunding (Rmt)	500000	340311	150967	491278	98%
Percolation Tank	700	434	264	698	100%
Renovation/restoration of TWHS	200	130	70	200	100%
Silt Detention structure	300	213	83	296	99%
Gabion Structures	500	331	167	498	100%



Package 4 : Biodiversity Conservation

The activities in this component are being executed in 62 villages situated in the 2km fringe area of 7 wildlife sanctuaries. In all the villages, eco development committees have been formed and they are engaged in various activities of eco tourism.

Physical progress and Financial achievement

(Fin. : ₹ in lacs)

ITEM	Year 2016-17			
	Physical		Financial	
	Allot	Achi.	Allot	Achi.
DLT Works (Ha)	1835	1835	323.69	323.22
In-situ Conservation of Germplasm				
Four Horned Antelope (Kumbhalgarh & Bassi)			160.00	134.87
Great Indian Bustard			35.00	44.79
Development of Water Points (Nos)				
Closure for Biodiversity Conservation (Ha)				
New Work	795	795	248.29	239.68
Maintenance I	1305	1305	82.18	77.67
Maintenance II	1500	1500	32.15	30.27
Maintenance III				
Machia Biological Park				
Sajjagarh Biological Park			63.61	54.34
Nahargarh Biological Park			300.00	273.71
Total			1244.92	1178.55

The Nahargarh Biological Park at Jaipur was inaugurated by Hon'ble Chief Minister on 4th June 2016. Like other two biological parks, this is also attracting a lot of visitors and EDCs are involved in the operational activities at the park.

The cumulative status of physical progress of other activities under this component is given below:

Activity	Project Target	Achievement upto FY 2015-16	Achievement in FY 2016-17	Cumulative Achievement	Cumulative %
DLT Works (Ha)	12000	9161	1835	10996	92%
Development of water points	100	100	0	100	100%
Biodiversity Closures (Ha)	5000	4205	795	5000	100%



Package 5 : Poverty Alleviation and Income Generation Activities

The extra focus on soft skills activities resulted in formation of 681 new SHGs in the FY 2016-17, taking the total tally to 1841 SHGs against the project target of 1950 SHGs. More institutional capacity building and skill enhancing technical trainings were organized for these SHGs to start their income generation activity.

Physical progress and Financial achievement

(Fin. : ₹ in lacs)

ITEM	Year 2016-17			
	Physical		Financial	
	Allot	Achi.	Allot	Achi.
Livelihood improvement Activities	150	160	148.00	79.38
Mobilization of SHG	300	255	9.00	7.60
Technical Training to SHG Members	5	2	5.00	0.78
Support for Marketing & Value Addition			5.00	0.84
Total			167.00	88.60

In this year also, the focus was more on qualitative aspect of all the activities without compromising on the quantitative aspect. The products prepared by these SHGs were put on display at the 7th Van Mahotsav at Jhalawar, where they were appreciated by everyone.

The cumulative status of activities under this component is presented below:

Project Target

1950 SHGs

Details	Achievement upto FY 2015-16	Achievement in FY 2016-17	Cumulative Achievement
Total No. of SHG Formed	1160	681	1841
No. of Saving Bank A/C opened	731	428	1159
Income Generation Activities selected by SHGs (Nos)	328	722	1050
Categories of Self-Help Groups formed			
Male	335	105	440
Female	825	576	1401
Total No. of members involved	12596	7295	19891
Total Amount of saving (Lakhs)	151.54	51.79	203.33
Total Amount of Revolving Fund released (Lakhs)	162.74	79.38	242.12



Package 6 : Capacity Building, Training and Research

This year also, the main focus was on enhancing the capacity of VFPMC, EDC and SHG members. Expertise of partner NGOs were also utilized in the training of SHGs like training on Nursery Raising Technique was imparted by FES, Udaipur.

Exposure visits to other JICA assisted forestry projects in other states were also organized for VFPMC members to gain more information about the new technologies & best practices which can be adapted in this project also.



Physical progress and Financial achievement

(Fin. : ₹ in lacs)

ITEM	Year 2016-17			
	Physical		Financial	
	Allot	Achi.	Allot	Achi.
No of Trainings for VFPMC Members	297	166	14.85	8.21
Range Officers / ACFs	3		0.84	0.00
Exposure visit / study tours				
i) Project Personnel	2	2	3.00	2.85
ii) VFPMC Members	4	4	8.50	8.85
Research Activities			29.00	0.00
Research & Propagation of : Rohida and Khejri				
Advance Action	150	65	26.59	9.84
Planting	50	50	7.14	6.99
Training to Officers / Field Visits in GIS (No. of Officers)	1 (for 25 officers)	1 (30 Officers)	5.00	1.54
Technology Extn. & Adoption, Extension Camps/Field Visits	309	272	30.90	26.33
Total			125.82	64.61

The major achievements so far have been:

S. No.	Type of Training / Activity	Unit	Project Target	Achievement upto FY 2015-16	Achievement in FY 2016-17	Cumulative Achievement	Cumulative %
1	VFPMC training by NGO	Nos.	1300	1003	166	1169	90%
2	NGOs training	Nos.	6	7		7	117%
3	Forest & Cattle Guards	Nos.	54	64		64	119%
4	Range Officers/ ACFs	Nos.	6	6		6	100%
5	DCFs and Equivalent	Nos.	2	2		2	100%
6	Exposure Visit						
(i)	Project Personnel	Nos.	6	4	2	6	100%
(ii)	VFPMC Members	Nos.	12	4	4	8	67%
7	Research: Rohida and Khejri (Advance Action/Planting/Maintenance)	Ha. (AA)	200	50	65	115	
		Ha.(PL)			50		
8	Extension camps/Field Visits by DMUs	Nos.	1400	882	272	1154	82%
9	Training in GIS/GPS*	Persons	200	22/1032	30/0	52/1032	

*The target was to impart GIS training to 200 persons. However we have trained 1032 persons in GPS also besides training 52 in GIS.

Package 7: Community Mobilisation

The VFPMC /EDC formation and microplan preparation in the remaining villages was completed in the early part of this FY. The component registered good progress in achievement of EPA and Meeting Center targets.

Physical progress and Financial achievement

(Fin. : ₹ in lacs)

ITEM	Year 2016-17			
	Physical		Financial	
	Allot	Achi.	Allot	Achi.
VFPMC/EDC Formation & Strengthening	37	16	1.11	0.48
Microplanning	28	15	2.80	1.50
Entry Point Activities	650	365	787.21	562.25
Meeting Center for VFPMC	137	127	205.50	188.95
NGO Support for Admin.& Exp. Overheads			173.61	137.41
CET Activities				
Workshop and Seminars of DMU Level	1	1	0.25	0.25
Awareness camp	117	92	3.51	2.74
General publicity and documentation			15.00	10.24
Corpus Fund			175.00	113.35
Total			1363.99	1017.17



The cumulative status of physical progress of activities under this component is given below:

S. No.	Item	Project Target	Achievement upto 2015-16	Achievement 2016-17	Cummulative Achievement	Achievement %
1	VFPMC/EDC Formation & Strengthening	650	613	37	650	100%
2	Microplanning	650	622	28	650	100%
3	Entry Point Activities First Year	650	554	69	623	96%
	Second Year	650	403	181	584	90%
4	Meeting Center for VFPMC	650	391	127	518	80%
5	CET Activities					
(i)	Awareness camp	650	443	92	535	82%
(ii)	Workshop and Seminars at DMU Level	135	110	1	111	82%

Package 8 : Project Management

This package deal and have provisions for augmentation of office infrastructure, conveyance, purchasing of equipments & supplies for PMU and at DMU level. Besides this all the logistics of Project Management Consultants (hired for technical support to PMU in the field of Afforestation, Biodiversity Conservation, Monitoring & Evaluation and Capacity Building & Training) are being dealt with in this package. The package also organizes regular meetings of High Power Committee, General Body and Governing Body besides DMU review meetings.

In FY 2016-17, meetings of HPC & General Body were held under the chairmanship of Hon'ble minister for Forest & Environment. The meeting of Governing body was chaired by Additional Chief Secretary, Forest, Govt. of Rajasthan.

Financial achievement

(Fin. : ₹ in lacs)

ITEM	Year 2016-17	
	Allot.	Achi.
Augmentation of Office Infrastructure		
Maintenance	15.00	10.75
Provision for Conveyance		
PMU Office		
Running and Maintenance of vehicles	3.00	2.56
Hiring of Vehicles	3.00	2.04
DMU Office		
Hiring of Vehicles	27.00	26.98
Hiring of Vehicles for Range Office	20.00	19.15
Office Equipment (Laptops, Computers & Heavy Duty		
Regular Office Expenses		
PMU Office		
Office Expenses	15.00	7.15
Travelling Expenses	2.00	0.06
DMU Office		
Office Expenses	27.00	26.84
VFPMC Expenses	65.00	43.88
PMC & Other Consultancies	260.00	98.30
Audit by chartered Accountant		
PMU Office	0.10	0.82
DMU Office	1.40	0.00
VFPMC	52.00	21.42
Review Meeting		
Review meeting	1.00	0.43
Annual General meeting of PMU	0.25	0.00
High power Committee meeting	0.10	0.06
Governing Body Meeting	0.40	0.04
Total	492.25	260.48

Package 9 : Monitoring and Evaluation

The last year of implementation phase saw monitoring and evaluation activities gaining momentum. The change in forest cover analysis with the help of satellite imagery started in FY 2016-17.

Financial achievement

(Fin. : ₹ in lacs)

ITEM	Year 2016-17	
	Allot.	Achi.
Development of Customized GIS / MIS based Monitoring Tools		
Establishment of GIS Center at regional Level with essential GIS hardware, GIS software and other accessories.	11.00	0.00
Procurement of Satellite Imageries	10.00	0.34
Procurement of Additional Data from other Resources		
Development and maintenance of customized GIS/MIS application to monitoring the project area	2.00	1.39
Expenses of GIS Related outputs	0.50	0.06
Reports and Publications	1.00	0.48
Monitoring and Evaluation Works		
PMU Level	10.00	3.67
DMU Level	10.00	7.14
Total	44.50	13.08



Google images of same site showing change in tree cover as a result of SDS plantation under project at site : 243-245 RD LS GSB Lunar, Jaisalmer.

Package 10 : Contractual personnel for PMU

The project has contracted services of a Resource Organization (RO) to provide various services & support to the PMU. The resource organization has provided the services of subject matter specialists in the field of Afforestation, Biodiversity Conservation, Business Planning & Marketing, Monitoring & Evaluation; IT enabled services, Capacity Building & Training, Public Relation and Administration besides support staff. Apart from that one office executive has been hired in each DMU on contractual basis to provide support in the management of MIS & other documentation work.

Financial achievement

(Fin. : ₹ in lacs)

ITEM	Year 2016-17	
	Allot.	Achi.
PMU/DMU Level		
Contractual Personnel through Service Provider	281.70	245.96
Total	281.70	245.96



Water Conservation : A Responsibility and Need of the Hour

आपो हिष्ठा मयोभुवस्था न ऊर्जे दधातन ।

महेरणाय चक्षसे ।।१।।

(Apah Suktam: Rig Veda 10.9)

O Water, because of your presence, the Atmosphere is so refreshing, and imparts us with vigour and strength. We revere you who gladdens us by your pure essence.

These lines from Rig Veda written thousands of years ago enlighten us about the importance of water and its role in conserving life. Since the beginning of the civilization people knew about its significance. All the major civilizations around the world have flourished beside the river banks and at the same time we have examples of massive ancient civilizations e.g. Khmer, Indus valley, etc. perishing due to absence of water and destruction of natural ecosystem in particular.

Today when we look around, it seems that history of destruction is being rewritten. The source of rivers are being deforested, perennial rivers are becoming seasonal, some dry down just after monsoon, ground water level is depleting day by day, wetlands are being destroyed for the sake of reckless development

and if this is not enough all the surviving water bodies are suffering pollution. All these destruction is taking place because major lessons from history have been forgotten by people and due to apathetic attitude of all sections of society.

The age old shloka is still relevant and when we look at Rajasthan's geography importance of water and its conservation becomes visible. Rajasthan, the largest state of the country has various edapho-climatic conditions impacting all forms of life. Its average rainfall varies from 1000 mm to 100 mm and maximum area lies under arid region with sandy soil. Being arid region, soil and moisture conservation becomes a priority of each and every individual of the state in whatever way it is possible. Further changing climate and global warming makes it



imperative to conserve water and soil.

Water conservation is an integral part of all the major activities of the Rajasthan Forestry and Biodiversity Project (Phase-2), be it afforestation or biodiversity conservation. The project area has been divided into desert districts and non-desert districts. The water conservation activities are being implemented according to the need of the area. During the FY 2016-17 various water conservation works were undertaken under the project to achieve the project targets and combat water scarcity in forest and villages.

There is an underlying principle which guides us in conserving water and it says if water runs make it walk, if it is walking make it crawl and if it is crawling direct it to halt. This principle focuses on percolating the water till it reaches its saturation point and oozes out in the form of rivulets or rivers. The source of water on land is rain and in an undisturbed pristine ecosystem rain water is received by the forest to be stored in its thick bed of leaves, percolated down by roots and channels created by soil bio-diversity. This percolated rain water is visible in aquifers, ponds, wetlands and is available to civilization in the form river. The land can conserve water only if it is full of diverse flora and fauna.

If we look at the project closely, it is functioning to create an eco-system full of diverse species of plants which in turn will become habitat for diverse life forms. Plantation models like RDF, PEO and ANR aim to create an ecosystem full of bio-diversity. Other than afforestation, closures are being created to augment the biodiversity of the area. This improved bio-diversity helps in increasing the water holding capability of the land. Along with RDF, PEO and ANR other planation models like SP, CSP, SDS and BP also create biomass in desert areas to prepare it for

becoming a land capable of storing water. These afforestation models make running water to walk so that land gets more time to hold it and absorb it.

Along with afforestation, water conservation measures like contour trenches, staggered trenches, etc, make walking water to crawl and percolate in the landscape. Then there are other water conservation structures like check dams, gabions, anicuts, percolation tanks, silt detention structures, etc. to stop water from crawling, which in turn help water to percolate down in the soil. All these measures in long run will help in rejuvenating rivers, water bodies and will help civilization by making more water available. Under the project ancient and tradition water harvesting structures are also being renovated so that they become functional for rain water harvesting. These soil and moisture conservation works are also very effective in controlling forest fires and man-animal conflict.

All the measures taken under the project will go in vain if there is general ignorance towards water conservation. In order to combat such ignorance and sensitize communities towards water conservation, awareness camps and workshops are also being organized.

In order to save our present and future we should take all the steps required to conserve every drop of water.



Involvement of NGOs for Community Mobilisation and Livelihood promotion activities

For many years, government and private sector organisations have been implementing various schemes and programs for poverty alleviation and livelihood improvement for rural poor / marginalised communities. One of the major challenges in implementation of such schemes has been ensuring community participation. Traditional society, low level of education, weak economic conditions, and many other such factors have hampered the community mobilisation for such schemes.

One of the most significant tools to adopt participatory approach for the economic empowerment of women has been formation of Self Help Groups (SHGs). The SHG is a group of rural poor who have volunteered to organise themselves into a group for eradication of poverty of the members. It is a small voluntary association of people, preferably from the same

socio-economic background. They come together for the purpose of solving their common problems through self-help and mutual help.

Rajasthan Forestry and Biodiversity Project (Phase-2) also envisages improving the quality of life of 20 thousand forest dependent families under its component 'Poverty Alleviation and Livelihood Improvement' through formation of Self-Help Groups and promotion of alternate income generation activities in selected 650 villages in the project area.

All the Divisional Management Units (DMUs) have contracted the services of NGOs for executing the community mobilisation and livelihood promotion activities. These NGOs have been involved in formation of VFPMCs / EDCs /SHGs, building their capacity and ensuring community participation in the project activities.





Need for involvement of NGOs:

In earlier projects all the project activities were carried out directly by the Rajasthan Forest Department (RFD), but establishing rapport with the communities was a big challenge. The local communities seldom trusted government schemes / officials and were apprehensive of real motives. Besides these, Rajasthan being the largest state in India having two third of its geographical area under desert, scattered settlements and variation in local languages & customs further complicated the issue of ensuring community involvement. The project is strictly adhering to guidelines as prescribed by JFM resolution 2002 and with the project's objective - "Contribute to environment conservation and socio-economic development of state" - it was felt appropriate that involving Non Governmental Organisations (NGOs) in project will facilitate Ice-Breaking with local communities and achievement of envisaged objectives. Therefore, field based selected NGOs were involved for Divisional Management Units in the project.

Eligibility Criteria for NGOs:

The selection of these NGOs was done with strict adherence to "Guideline for involving NGO in Government programmes" under Rural Development Department, Government of Rajasthan. The NGOs were required to fulfil following criteria also:

- **Registration-** Should be registered under Indian Societies Registration Act/ Indian Trust Act/ Company Act for a minimum five years with annual report and audit reports.
- **Experience-** Proven experience of working for two years in forestry sector for desert and non-desert areas and for two years in the field of wild life management and BC with forest dependents and in social sector.
- Scale of operation during the previous two years should be reasonable.
- Field presence for at least two years in the district.
- Experience in capacity building, preparation of micro plans, organizing trainings/ workshops, formation of self-help Groups and Income generating activities.
- Minimum turn over of Rs 5 lakhs in each of the previous three years.

In all, a total of 20 NGOs were selected under the project by QCBS (Quality and Cost Based Selection) method, in which 80% weight age was given to Quality and 20% weight age was given to Cost.

Tasks assigned to the NGOs under Project:

All the selected NGOs were required to complete following tasks related to community mobilisation and livelihood improvement component:

- Formation, nurturing and strengthening of grass-root organisations likes- VFPMCs/EDCs, WSCs and SHGs.
- Organizing VFPMCs/EDCs/ SHGs trainings, awareness & extension camps and exposure visits.
- Organizing trainings for executive members of VFPMCs/EDCs/SHGs on roles and responsibilities.
- Support VFPMCs/EDCs in conducting PRAs & preparation of Microplans of selected villages.
- Support VFPMCs/EDCs in preparation of Annual plans.
- Extending support to these institutions in planning, implementation and monitoring of project activities besides ensuring proper sharing of forest produce and creation of corpus.
- Support members of Self-help Groups in establishing institutional mechanism and selection of income generating activities.
- Promotion of micro financing and banking among members of Self-help Groups.
- Establish backward and forward linkages for SHG activities.
- Record keeping, preparation of business plans and establishment of IGAs.
- Establish coordination between VFPMCs/EDCs , FMU and DMU.
- Help in establishing inter-sectoral linkage

for convergence of various schemes to fulfil those community needs that could not be directly addressed by the project.

- Promote innovations and community harmony in the villages.

NGO field staff structure and their capacity building:

At the DMU Level, the selected NGO was required to have one NGO Coordinator to participate and coordinate the activities in various FMUs and liaison with the DMU and other agencies.

At FMU level, the NGO team was to consist of a team leader (Micro Enterprise Specialist) and two development officers (one each for micro finance and community development).

Before the start of field activities, in the preparatory phase, a Training Need Analysis was done by Project Management Consultants and accordingly 04 Training of Trainers (ToTs) were conducted. Major participants were partner NGOs, DFOs and support staff.

Performance appraisal and Remuneration to NGOs:

Remuneration to NGOs is being done strictly on the basis of performance of NGO against the task



assigned. Suitable time bound milestones have been developed for this purpose. The remuneration is on per village basis. The NGOs were expected to identify output level indicators while submitting its proposal.

NGOs are required to submit monthly/quarterly reports (financial and physical performance) to the concerned Officials at DMU or as decided from time to time. Monthly monitoring visits to the Project site are being done by appropriate authority.

The payment for project activities like formation of VFPMCs/EDCs/SHGs, preparation of Microplan and organising awareness camps, extension camps and trainings have been done on fixed unit costs as per MOD. Whereas, quarterly payments of NGO support for administrative and overhead expenses have been done as per the negotiated year wise and village wise rates. The performance of the NGO has been the basis for retention of grant and funds release.

Significant Achievements through NGOs in Project:

This was the first project in which department partnered with NGOs for implementation and execution of project activities. The results achieved have more or less justified the initiative. A brief summary of achievements is given below:

- Formation of 650 VFPMCs / EDCs and preparation of 650 Microplans.
- Formation of 1841 IGA SHGs consisting of 19892 members with a combined saving of Rs 196.57 Lacs
- 1018 SHGs have selected income generation activity and Revolving Fund amounting to Rs 205.74 Lacs has been released.
- A total of 1066 VFPMC trainings have been organised.

- A total of 968 extension camps and 501 awareness camps have been organised.

Experience of involving NGOs in project:

There have been both positive and not so positive aspects of involving NGOs in implementation of project activities. On the positive side , NGOs have facilitated the rapport between local communities and department. The mere presence of NGO staff in field has motivated the members of VFPMCs/EDCs in management of forest protection and reintroduction of traditional forest protection measures like "Keshar Chhanta". NGOs have also facilitated the project functionaries in establishing the livelihood promotional activities and liasion with other schemes & departments likes NABARD, MPOWER, RGAVP etc.

On other side, it was observed that few NGOs have very indifferent attitude towards government implemented development projects. The inadequate, insensitive, incapable and frequently changing field staff has also affected the performance and progress. They have weak and improper communication with stake-holders and focus on merely quantities accomplishments rather quality aspects.



Extension Camps and Exposure Visits : effective tools of learning

Capacity building of all stakeholders is an important component of RFBP-2. This includes capacity building of VFPMC/EDC/SHG members, field staff, NGO representatives and department officials. There are adequate provisions for organising different types of trainings as per the requirement. However the main focus is on building the capacity of VFPMC / EDC members as most of the project activities at village level are being implemented through VFPMCs/EDCs under JFM.

The two important and very effective activities under capacity building component are Extension Camps and Exposure Visits. These activities enable participants from different

regions to interact with and learn from each other, allowing them to view practical examples of successful integration of sustainable practices in communities like their own.

The broad objectives of Extension Camps and Exposure Visits are:

- a) To provide a cohesive environment of learning to the VFPMCs/EDCs and SHGs.
- b) To adapt new technology and good practices of other VFPMCs.
- c) To implement new techniques in project activities related to IGA, Forestry Management, Nursery Management,



A trainer explaining Nursery Techniques during an Extension Camp.



VFPMC members during Gujarat Exposure Visit, conducted during 2016

Animal Husbandry, Marketing Linkages, Community Development, Agriculture and Eco-Tourism etc.

- d) To gain information and exposure on best practices being adopted in other states in various JICA assisted other Forestry Projects for use in RFBP2.

Under Extension Camps VFPMC/ EDC/ SHG members from one DMU visit some other DMU for gaining knowledge and experience. The project

has provision for conducting a total of 1400 extension camps.

For Exposure Visits to JICA assisted forestry projects in other states, there is a provision of conducting 12 such visits during the project duration. In Exposure Visits VFPMC members, department officials and NGO representatives visit JICA assisted forestry project in other states to gain more information about the new technologies & best practices which can be adapted in this project also.



VFPMC members visiting IGA activity during UP Exposure Visit.

By the end of current financial year, the project has conducted a total of 1248 Extension Camps benefitting 0000 participants and 14 Exposure Visits to Utrakhand, Gujarat, West Bengal, Uttar Pradesh, Odisha, Karnataka and Sikkim benefitting 318 participants. The efforts made in organising these activities have yielded good results as reflected in their practices of IGA, Animal Husbandry, Vegetable Cultivation, Forestry and Nursery Management practices.

GPS as a Navigation and Monitoring Tool in Forestry Operations

Forest management activities have an inherent and important locational component which requires spatial tools. Traditional tools, like a chain and compass, have been used for decades and will continue to be used in the future. But as the demand for forest monitoring increases, the need to improve ability to capture more reliable data for monitoring purpose also increases. For this reason, geospatial tools that computer technologies can offer are now being considered. The Global Positioning System (GPS) is one of them.

Compatible field-based GIS software can be easily customized for field forestry tasks. In conjunction with a GPS, such a system can bring greater locational accuracy and give analyst the capability to edit polygons while in the field or in the lab.

Enhanced GPS units with high locational accuracy allow forest officials to quickly determine their location in the field. Together, these new technologies can minimize three important limitations that forest resource managers face in their daily efforts - time, labour and error. A field GIS computing system connected to a GPS unit can decrease time in the field by speeding travel to sample plots and more efficiently collecting data. There are several good reasons. GPS surveying is becoming the preferred method for forest boundaries determination. With real-time GPS, up to 75%

time and cost reductions can be obtained.

It can reduce the amount of labour needed by equipping fewer people with more user friendly, capable tools for data collection, analysis and interpretation. Field staff can reduce the likelihood of data collection error by creating customized data input tables that contain only correct entry options and by avoiding the task of manually transferring data from the field to the office. While many forest resource managers will continue to use traditional forest management tools and techniques, others will choose to incorporate these new spatially advanced tools into their daily activities. This information serves to answer some of the basic questions that interested forestry professionals may have when considering a field-based GIS approach to forest management.

Instead of using imagery that is in hard-copy format, analyst can now use imagery that is in a digital format, such as a high-resolution satellite image or digital Orthophoto (e.g., DOQ). The high resolution satellite imagery can be particularly useful for identifying and mapping damage or areas under stress.

Method of GPS data collection and analysis:

In RFBP-2, primarily Garmin e-Trax GPS instrument are being used for survey and Garmin Base camp software for importing data from GPS device & preparing map of the site.

The Two methods which are used for site survey are :

- a. Boundary demarcation from waypoints.
- b. Boundary demarcation through track/ area calculation.

For effective and accurate GPS survey, following should be ensured during data collection:

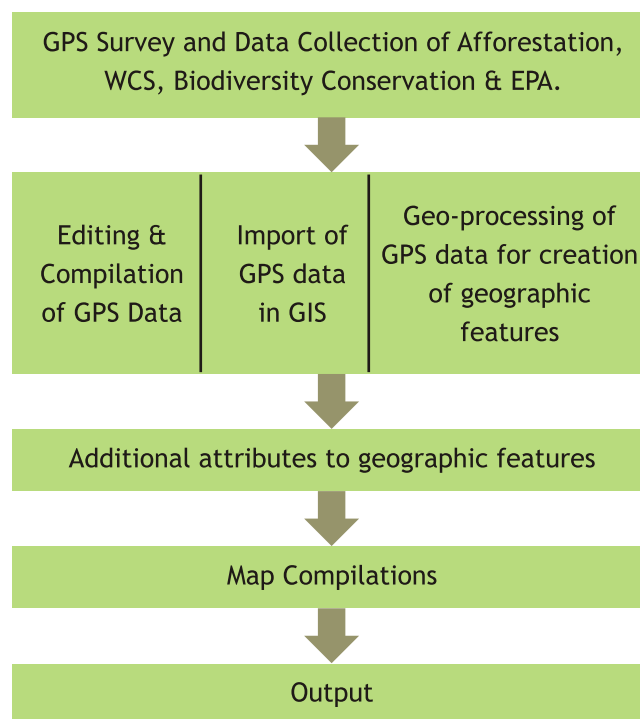
1. GPS device should be connected with more than 5 satellites before capturing the data in the field.
2. For track / area calculation, no deviation from the boundary line should happen.
3. More points should be captured at the edge of the site with sharp curve in order to validate the accurate area and shape of the site.
4. For SMC works, coordinates should be recorded at the centre of the structure, if possible.
5. For plantation sites, always capture periphery points or track.

GIS database management of Activities under RFBP-2:

Creation, updation and maintenance of the GIS database of Afforestation, Biodiversity conservation, Entry Point Activities (EPA), Water Conservation Structures (WCS) etc. using GPS coordinates. In this database, single activity contains attributes of their VFPMC code, VFPMC name, DMU name, FMU name, year (of plantation or other activity), model name, area of plantation site/ other activity, etc.

Satellite image monitoring of forest cover:

The purpose of Satellite image monitoring is to establish cost effective and transparent monitoring of a large area. This is to be used for comparing forest cover of plantation sites of the



project at 4th year (comparison between 0 year and 4th year after tree planting) and 7th year (between 4th year and 7th year).

Digital, high-resolution satellite imagery, which is now approaching the spatial resolution of digital photographs, provides four bands of multispectral imagery in a GIS-compatible format. Generally, it can be acquired within a short time, making it a good option when up-to-date information is needed.

The total plantation work has been completed in 77,918 ha up to March 2017 under the project. The first batch of 830 ha plantation work was completed in 2012-13 at DMU, IGNP Jaisalmer. This plantation has been analysed for change detection between 0 and 4th year of planting by LISS IV imageries. The initial results showed positive response on some sites with slight increase in area of shrub/ grasses and open vegetation in the field. The detail of NDVI analysis is given on figure-1.

IRS LISS IV Satellite based NDVI Analysis

DMU : Jaisalmer Stage II

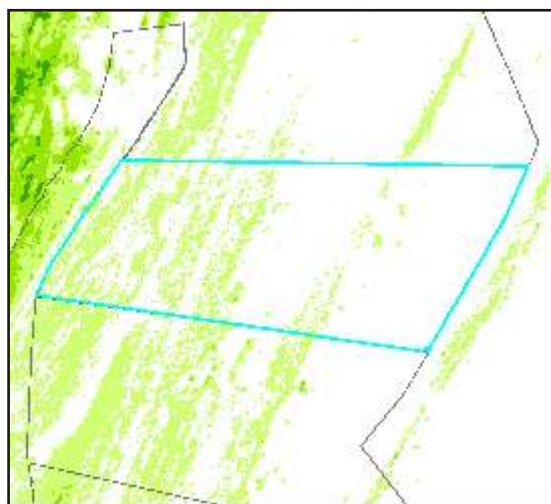
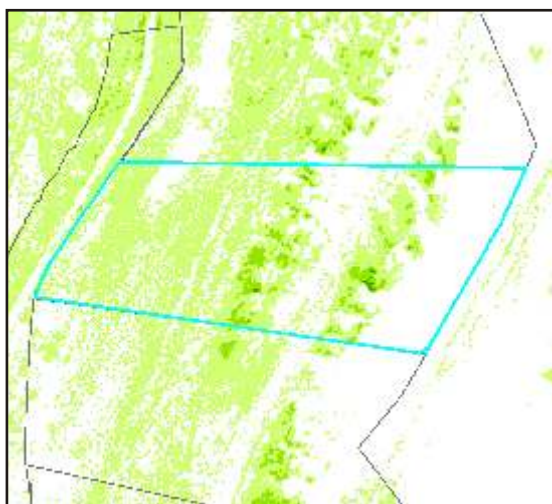
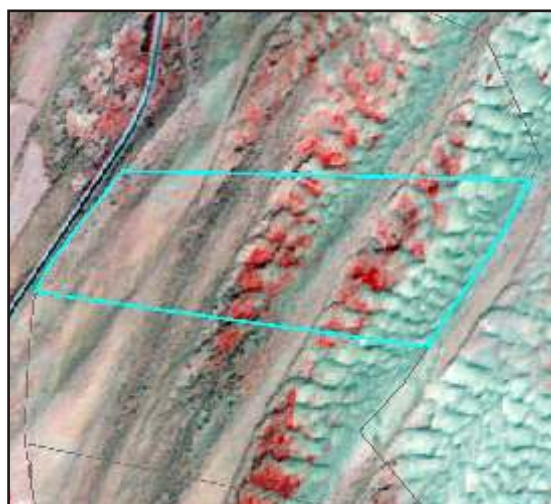
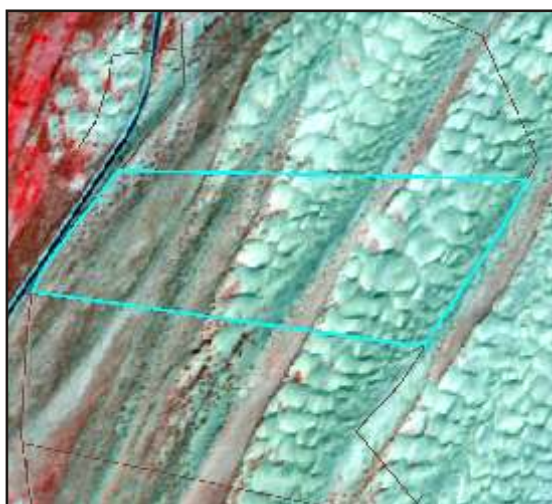
VFPMC : Lunar

14 October 2011

FMU : Unit V

Site : SDS 243-245 RD LS GSB

11 October 2016



Site ID	Site Name	Satellite Image Date	Satellite Path Row	< 0.1	0.1 - 0.2	0.2 - 0.3	0.3 - 0.5	0.5 - 0.7	NDVI Range
				Bare Soil (including Water)	Dry Grass with Bare soil	Shrub/ Grass	Open Veg.	Mod. Dense Veg.	Total Area (Ha.)
A_002	SDS 243-245 RD LS GSB	14-Oct-11	90_53	49.52	11.62	0.02	0.00	0.00	61.16
		11-Oct-16	90_53	31.48	27.23	2.33	0.12	0.00	61.16

NDVI Class

	< 0.1	Bare Soil (including water)
	0.1 - 0.2	Dry Grass with Bare Soil
	0.2 - 0.3	Scrub/ Grass
	0.3 - 0.5	Open Vegetation
	0.5 - 0.7	Mod. Dense Vegetation

Audited Financial Report for FY 2015-16



Gupta Nayar & Co.
CHARTERED ACCOUNTANTS

H. O.: Shop No. 44, Park Plaza Market, C.S.C. No. 6,
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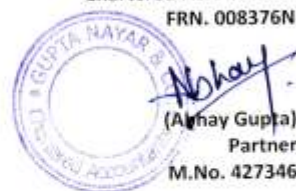
INDEPENDENT AUDIT REPORT

To
Project Director
RFBP II
Aravali Bhawan
Jhalana Institutional Area,
Jaipur (Raj.)

We have audited the accompanying statement of Expenditure (SOEs) of Rajasthan Forestry and Biodiversity Project (Phase II) of RAJASTHAN VANIKI EVAM JAV VIVIDHATA SANRAKSHAN SOCIETY financed under loan agreement No. ID P221 for the year 2015-16. The SOEs are the responsibility of RAJASTHAN VANIKI EVAM JAV VIVIDHATA SANRAKSHAN SOCIETY's management. Our responsibility is to express an opinion on the SOEs based on our audit.

We conducted our audit in accordance with generally accepted auditing standards (or relevant national standards or practices). Those Standards require that we plan and perform the audit to obtain reasonable assurance about whether the SOEs are free of material misstatement. An audit includes verifying the SOEs with accounting records and supporting documentation. We believe that our audit provides a reasonable basis for our opinion subject to notes and observations.

For & on behalf of Gupta Nayar & Co.
Chartered Accountants
FRN. 008376N



Date: 29/12/2016

Place: JAIPUR

e-mail: gncca@yahoo.com gncca611@gmail.com www.guptanayar.com

B.O. : i) Chanduka Bhawan, Swarg Road, Alwar (Raj.) Ph. : 0144-2335733

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Audited Financial Report for FY 2015-16

Rajasthan Forestry and Bio-diversity Project-2

Statement of Expenditure for the year 2015-16

S.No.	ITEM	Expenditure in Rs.
1	AFFORESTATION	1,608,026,108.00
2	AGRO FORESTRY ACTIVITIES	339,073.00
3	WATER CONSERVATION STRUCTURES	95,987,866.00
4	BIO DIVERSITY CONSERVATION	155,974,640.00
5	POVERTY ALLEVIATION AND LIVELIHOOD IMPROVEMENT	9,904,081.00
6	CAPACITY BUILDING TRAINING & RESEARCH	6,291,055.00
7	COMMUNITY MOBILIZATION	110,423,976.00
8	PROJECT MANAGEMENT	35,506,001.00
9	MONITORING & EVALUATION	3,686,214.00
10	CONTRACTUAL PERSONNEL FOR PMU	25,426,981.00
	Total Expenditure(Eligible for Loan)	2,051,565,995.00
	Less:- Taxes etc.	18,082,323.00
	Reimbursable Expenditure	2,033,483,672.00
11	Deputation Staff for PMU(Not Eligible for Loan)	10,474,164
	Grand Total	2,062,040,159.00

For Gupta Nayar & Co.
Chartered Accountants
FRN 08376N


Abhay Gupta
Partner
M.No. 427346

Date: 20/12/2016


Dy. Project Director (Administration)
Rajasthan Forestry & Bio-Diversity Project-2
Jaipur

R. K. Khaliwa
Dy. Project Director (Adm.)
Rajasthan Forestry & Bio-diversity Project-2
Rajasthan, JAIPUR

Project Images

Nahargarh Biological Park



Hon'ble Chief Minister inaugurating
Nahargarh Biological Park



Hon'ble Chief Minister addressing at inauguration
of Nahargarh Biological Park



Hon'ble Chief Minister visiting enclosures
at Nahargarh Biological Park



Hon'ble Chief Minister planting a sapling on inauguration
of Nahargarh Biological Park

Afforestation



Plantation work, Jaipur (North)



Fuel Wood Plantation at Kasuli ki Dhani, Pali



Plantation at Toliysar, DDP Bikaner



Block Plantation at IGNP St-II, Jaisalmer

Van Mahotsav 2016 at Jhalawar



Hon'ble Chief Minister addressing at
67th Van Mahotsav



Hon'ble Chief Minister at exhibition
during 67th Van Mahotsav



Hon'ble Chief Minister inquiring
about products made by SHGs



Hon'ble Chief Minister interacting with
members of SHGs

Capacity Building & Training



Exposure Visit to Gujrat



Exposure Visit to Uttarakhand



QGIS Training Program at Jaipur



Agroforestry training at Rajsamand

Community Mobilization



Entry Point Activity - Shed in the Samsan
Bhaleri VFPMC, Churu



VFPMC meeting at Kushalgarh FMU, Banswara



Meeting with VFPMC and PRI members, Silasan



Meeting Centre in Shyampura, Karauli

Income Generation Activities



Papad making by members of Mother Teresa SHG
Bhaleri VFPMC, Churu



Making of water filter using of electric wheel
by the SHG members, Sri Shiv SHG, Sankhu, Churu



Products made by SHGs on display and sale



Bamboo craft work

Meetings and Workshops



High Power Committee meeting being chaired by Hon'ble Minister for Forest and Environment



DMU Review Meeting at PMU Jaipur



Project Director RFBP-2, making a presentation at 9th JICA Annual National Workshop, Kolkata

असंबाधं बध्यतो मानवानां यस्या उद्वतः प्रवतः समं बहु ।
नानावीर्या ओषधीर्या बिभर्ति पृथिवी नः प्रथतां राध्यतां नः ।।

*(Salutations to Mother Earth) Who extends Unimpeded Freedom (both outer and inner)
to Human Beings through Her Mountains, Slopes and Plains,*

*She bears many Plants and Medicinal Herbs of various Potencies;
May She extend Her Riches to us (and make us healthy).*





Machia Biological Park, Jodhpur

Rajasthan Vaniki Evam Jaiv-Vividhata Sanrakshashan Society

1207/Jaipur, 2010-11

Arawali Bhawan, Jhalana Institutional Area, Jaipur 302004