

Offsetting Carbon Footprints in Southern Rajasthan

Quarter3 Report

July to September 2023



MAKEMYTRIP
FOUNDATION



Seva Mandir

Executive Summary

Seva Mandir has partnered with MakeMyTrip Foundation to undertake the plantation of 1 lakh saplings from January to December'23. Physical works and capacity building initiatives were undertaken during this reporting period. The key highlights of this quarter are as follows:

- Plantation work was undertaken at 15 sites- 14 common pastureland and 1 private land.
- Physical work– loose-stone protection wall repairing/construction, planting saplings, and soil-water/soil-moisture conservation measures were completed at all the sites.
- Plantation of 96,695 saplings and other vegetative measures were completed covering an area of 314 hectare.
- Re-plantation of 17,530 saplings was undertaken at 24 sites.
- Encroachment was removed from Oвра and Nichali suberi village pastures by the Gram Samooh.
- A total of 9,898 person days (Female 7,290 & Male 2,593) of employment was generated through plantation works.

Progress

1. Plantation:

The common pastureland sites were protected by construction of loose-stone wall and through bio-fencing of *Thor and Jatropa*. The Gram Samooh was actively involved in management of the sites through regular meetings involving village with the community members. Apart from common pastureland sites, 1 individual site belonging to 11 farmers was also restored.

A total of 96,695 saplings of native species were planted at 15 sites during the reporting period. The saplings were procured from forest department nurseries and other private nursery growers. A proper landscape plan was followed at each site for ecological plantation of species. Besides plantation, associated vegetative measures were undertaken such as tree seeding and planting vegetative branch/stump cuttings, to increase vegetative cover at the sites. The details of 15 plantation site are as below:

Table 1: Plantation Details

District	Block	No. of Sites	Area (in Ha)	Outreach (HHs)	Saplings planted (in nos.)
Udaipur	Kherwara/Nayagaon /Rishabhdeo	4	77	626	27,495
	Jhadol / Phalasia	1	24	390	13,150
	Kotra	2	31	415	12,130
	Girwa / Badgaon / Gogunda	1	20	150	5,050
	Sarada	2	41	155	8,895
Rajsamand	Kankroli	1	43	250	10,265
	Kumbhalgarh	4	78	595	19,710
Total		15	314	2,581	96,695

The re-plantation of 17,530 saplings (as a gap filling of previous year mortality) at 24 common pastureland sites was also completed during the period.

**Table2: List of species planted:**

S. No.	Vernacular Name	Scientific Name
1	बहेड़ा	<i>Terminalia belerica</i>
2	कीकर	<i>Pithecellobium dulce</i>
3	बांस	<i>Dendroclamus strictus</i>
4	सीताफल	<i>Annona squamosa</i>
5	बिल्व	<i>Aegle marmelos</i>
6	हवन	<i>Gmelina arborea</i>

7	बेर	<i>Zizyphus mauritiana</i>
8	खिरनी	<i>Wrightia tinctoria</i>
9	इमली /ईख	<i>Tamarindus indica</i>
10	जामुन	<i>Syzygium cumini</i>
11	सिरस	<i>Albizia odoratissima</i>
12	कंजडी/चुरेल/बन्दरबाटी	<i>Holoptelea intergrifolia</i>
13	करंज	<i>Pongamia pinnata</i>
14	करमाला /अमलतास	<i>Cassia fistula</i>
15	खेर	<i>Acacia catechu</i>
16	महुवा	<i>Madhua indica</i>
17	नीम	<i>Azadirachta indica</i>
18	सहजन/हरेगवो	<i>Moringa oleifera</i>
19	सागवान	<i>Tectona grandis</i>
20	अरीठा	<i>Sapindus trifoliatus</i>

2. Protection of the Site:

All the 15 sites were protected by loose-stone protection wall, covering an area of 314 ha. The protection wall was strengthened through vegetative fencing of *Jatropha and Thoor*. The Gram Vikas Samooh made many efforts towards protection and management through traditional system like "Suiya"¹ at village Chikalwas of previous year site.

Reclaiming Village Pasture: A peaceful victory in Ovra

In Ovra, a tribal village of Jhadol block, a peaceful social dialogue successfully resolved encroachment issues over the village pasture.

The 24.13-hectare pastureland in Ovra Village, identified for restoration by Gram Samooh, was encroached by 22 families from the village. The Samooh held multiple dialogues for 5 months and conducted more than 70 meetings with the encroachers, resulting in 20 families voluntarily vacating the area. Most families were doing farming in the common land but agreed to remove their crops. However, two families remained, insisting on staying as they lived in a pucca house with toilet facilities. Despite filing a complaint with the authorities, the encroachment persisted. Ultimately, the Gram Samooh, decided to address the issue at the village level. A peaceful discussion with the encroaching families led to a mutual agreement to vacate the illegal encroachment, considering the long-term social relationship with the village. The families demolished their house with support of the community. The Gram samooh helped in transporting the usable material such as tin sheds, iron doors, stones etc, to the farms of the encroaching families, and contributed Rs. 25,000 for construction for their houses.

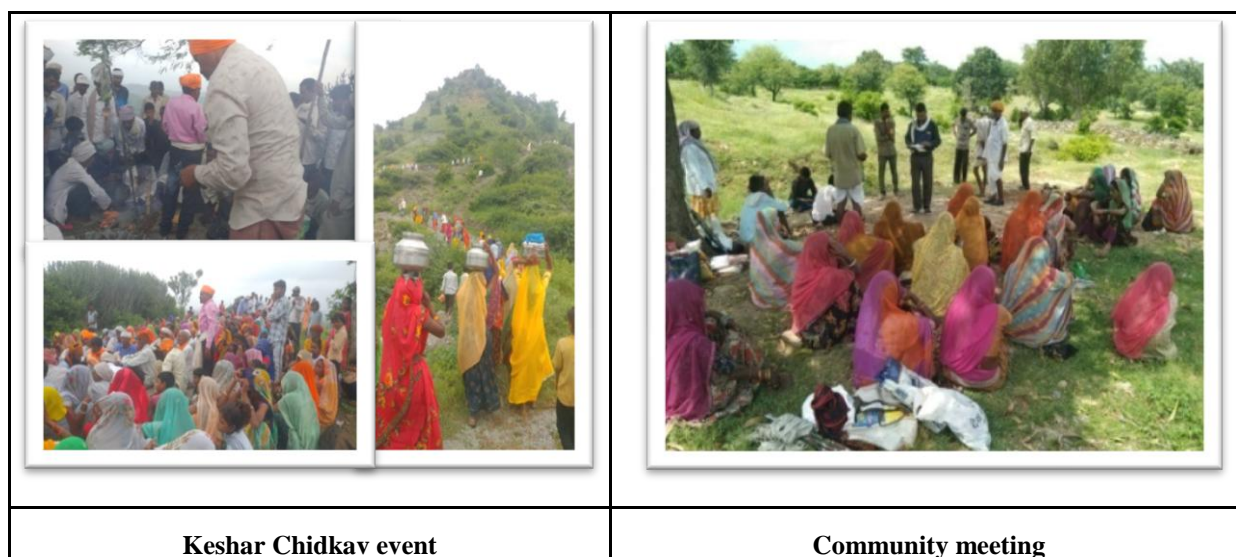
The village pasture is now restored with construction of a boundary wall and plantation of 13,000 saplings.

¹ Suiya a traditional system in village that each household to have contributed voluntary patrolling of such pasture to restrict open grazing and its further watch & ward. A wood stick is moved at one to another household rotationally.

3. Capacity Building Events:

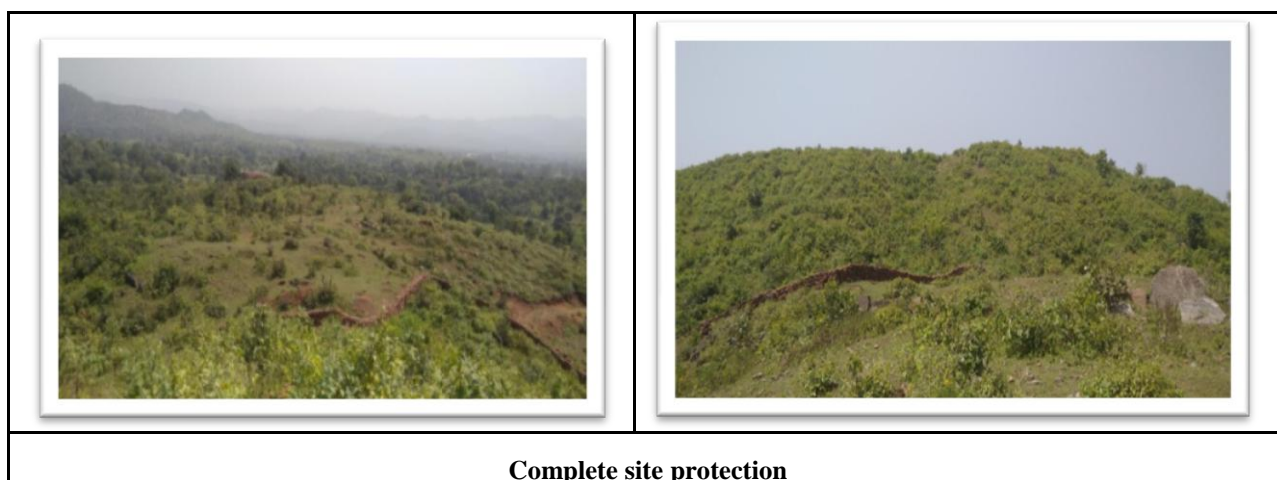
29 capacity building events were conducted for the field team and community members during the reporting period. 633 people – 357 women and 247 men participated in these trainings. Apart from these, on-site orientation cum demonstrations was done with the community members across all the 15 sites.

The socio-cultural event like “*Keshar chidkav*”² was also organized at five selected sites of re-plantation for the social protection by community.



District	Block	No. Capacity building event held	Participants			Remarks
			Male	Female	Total	
Udaipur	Kherwara / Nayagaon /Rishabhdeo	5	57	72	134	- On-site orientation cum demonstration of plantation and assisted vegetative measures. - Community meetings cum orientation for planning and implementation of plantation process of saplings stock, transport, planting, etc. - Protection management of sites by village community after plantation completion.
	Jhadol / Phalasia	13	50	67	130	
	Kotra	2	37	33	72	
	Sarada	3	52	21	76	
Rajsamand	Kankroli	3	30	54	87	
	Kumbhalgarh	3	21	110	134	
	Total	29	247	357	633	

² *Keshar Chidkav* (saffron sprinkle) is a bio-cultural and socio-spiritual beliefs/tradition among Adivasi community of the area for conservation and protection of commons mainly village pasture and forest for nature and its living being.



4. Employment Generation:

Local employment was generated through plantation works at pastureland sites. The community members were engaged in labor work, of which 74% were women workers. They were involved in transporting saplings, planting soil-moisture conservation actions, and boundary wall construction during the period.

District	Block	No. of Sites	Mandays Generated		
			Male	Female	Total
Udaipur	Kherwara / Nayagaon /Rishabhdeo	4	633	2,624	3,261
	Jhadol / Phalasia	1	242	68	311
	Kotra	2	1,065	1,310	2,377
	Girwa/Badagaon/ Gogunda	1	79	42	122
	Sarada	2	17	1,034	1,053
Rajsamand	Kankroli	1	124	1,212	1,337
	Kumbhalgarh	4	433	1,000	1,437
Total		15	2,593	7,290	9,898

A total of 9,898 person days (Female 7,290 & Male 2,593) were generated through physical activities during the reporting period.

5. Monitoring:

The monitoring of plantation sites was done by Gram Samooh and the field team to ensure proper implementation of the intervention.

6. Impact study: Carbon Sequestration through plantation

A carbon sequestration study of 1 million trees planted in the last 10 years (2009 to 2018) with support of Make My Trip Foundation was undertaken to estimate the impact of plantation on Carbon sequestration and establish a methodology to calculate Carbon sinks of future plantations. The study was conducted by a technical

agency named Fair Climate Services (FCS). The agency surveyed 58 pasture sites and analyzed data of 200 pasture sites, where plantation work was undertaken. The methodology was as follows

- Estimated CO₂ sequestration of afforested land, both above and below ground by applying approved carbon methodology of United Nations Framework Convention on Climate Change (UNFCCC) and gold standard.
- Land cover mapping of the afforested land through GIS mapping.
- Pilot at 7 sites to assess vegetation types.
- Selected 58 sample sites of plantation (period of 2009 -2018) through random stratification methods based on age and vegetation types.
- Laid-down 3 sample plots sized of 25 by 25 mat each selected sample sites of plantation for counting and measuring woody biomass (tree & shrubs mainly).
- 174 plots surveyed to study slopes and measure height and girth of woody biomass (tree & shrubs mainly).

The key findings are as follows:

- The survival rate of plants was 63%.
- The total carbon sequestration is 104,246 tons in the last 10 years as a result of plantation of 9.74 lac trees of native species, in the area of 3203 hectares.
- Annual Greenhouse gas sequestration is 2.32 tons/ha/year.
- Annual Greenhouse gas sequestration per tree is 7.64 Kg.



Field survey by technical team of FCN for woody biomass measurement

Plan for October to December' 2023

- Community meetings and capacity building events.
- Weeding-hoeing of planted saplings.
- Protection and Conservation management by community.
- Harvesting of Grass fodder.
