TERRE Policy Centre

Technology, Education, Research and Rehabilitation for the Environment

Leading platform for development through Alternate Path

MILLION TREE PLANTATION PROGRAMME

Report 2018-19

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1. BACKGROUND

TERRE Policy Centre, Pune is a certified not-for-profit organization working in the field of environment since 2008. It is diversely active in the projects of urban forestry, environment education, solid waste management & assessment, watershed management and various programs in the awareness as well as outreach level.

In 2017-18, ***TERRE Policy Centre*** initiated the '**Million Tree Plantation Programme**' under 'tri-party agreement' with ***Maharashtra Forest Department (MFD)*** and ***JSW Dolvi*** to transform open forest land into thick green cover on the hills of Pen taluka in Raigad district of Maharashtra state.

The two sites of forest land in Dolvi and Karav were mutually selected by TERRE Policy Centre, JSW and MFD for tree plantation. These sites are in close proximity to JSW steel plants and adjacent to Mumbai-Goa Highway. Both the sites are highly elevated and difficult to access.

2. OBJECTIVES:

- ✓ Increase in the forest cover
- ✓ Biodiversity growth
- ✓ Rise in Oxygen level
- ✓ Absorptions of CO2 and other toxic gases
- ✓ Reduction of soil erosion
- ✓ Increase in the groundwater level
- ✓ Providing livelihood to local villagers

3. DOLVI SITE

Dolvi site has total area of about 28.00 Hectares (Ha.) and its survey number is 43A. Different tribes have made their settlements around the hill and have been living there since decades. Most of the hill area has seasonal vegetation especially during monsoon, but in summer, the hill looks totally barren. Rainfall of the region is around 2200mm – 2500mm annually as location is situated in Konkan region and it is also very close to the coastal line. In monsoon, the runoff gets easily channeled to the seawater due to sharp slope and lack of any natural or artificial barrier. Therefore, tree plantation will work as natural barriers, reducing soil erosion and increasing groundwater level. The water scarcity can thus be resolved at a potential level.

Panoramic view of Dolvi plantation site

4. KARAV SITE

Karav site is situated 2 km away from Dolvi having the same geographic and climatic conditions. Total tree plantation area in Karav site is 11.00 Ha and the survey number is 236/2. Both the sites are adjacent to reserved forest area.

Karav Site

5. SPECIFICATION OF TREES PLANTED

Total 26,555 indigenous trees have been planted at both sites - Dolvi (22,220) and Karav (4335) with the help of scientific methods like baseline and grid line surveys. The trees planted are specifically forest trees including Kadamb, Neem, Karanj, Jamun, Jackfruit, Tamhan, Banyan, Pipal, Mahogani, Forest almond, Singapore cherry and Spanish cherry. The main purpose of the tree plantation is to provide carbon sink for the pollution produced by JSW plant and to maintain healthy air. Additionally, most of the trees will also be helpful for local community as non-timber forest product in future.

The trees which have been selected are around 30 months old with an average height of 12-15 ft in 18*18-inch bag full of organic fertilizers and soil. All the trees were brought from the nursery of Rajahmundry district in Andhra Pradesh.

Actual tree size

Actual pit size

6. PREPARATION OF THE SITE FOR PLANTATION

At the onset of the project, TERRE Policy Centre and JSW with MFD surveyed the proposed areas and the land acquisition process was successfully completed in January 2018. Actual groundwork was started in the month of March 2018 with the marking of Base & Grid lines and digging of pits. The distance between the two pits are maintained to 3 meters from each other with 2 ft dimensions. In the end of May 2018, the total number of required pits was dug at both the sites. The pits were kept open in the scrouching heat for some periods to kill the harmful insects in the soil. After that the first dose of complex fertilizer, neem cake and cow dung were added in the pits and covered the manures with some soil.

Dolvi site (After pits digging)

On 6th June after the first rainfall, the plantation was started at both the sites till 10th August 2018.

7. COMMUNITY ENGAGEMENT

In this mammoth work, the terrain and accessibility have been the biggest challenge to affect the pace of implementation. However, the active participation of the local tribes was very instrumental to achieve the targets. The Million tree plantation project has been of a symbiotic importance to the local tribes and the stakeholders. The employment opportunities that came out of this project boosted the enthusiasm of people to work and simultaneously, the growth and achievement of the project was enhanced significantly.

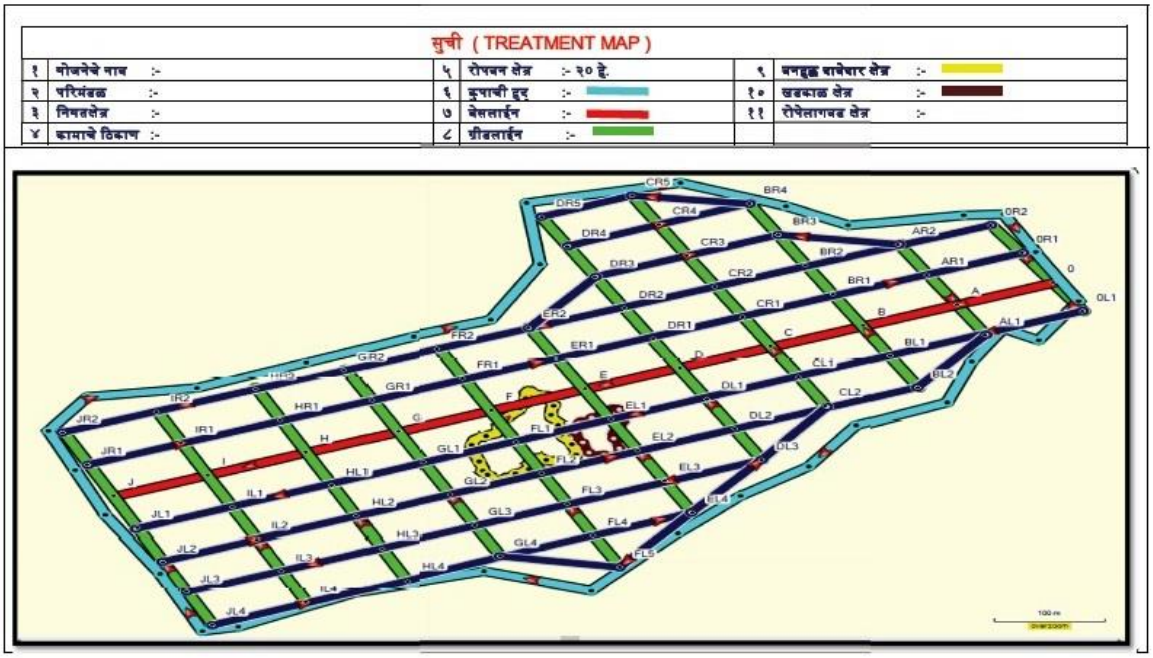
Initially during the site observation, TERRE interacted with the local villagers as Participatory Rural Appraisal (PRA) accompanied by MFD and JSW officials. Henceforth, the locals were actively involved in all the meetings regarding the tree plantation project.

TERRE Policy Centre has been focussed to its aim of promoting community engagement in the project directly and indirectly, and also to create incentives for them during and after the completion of the project. The Sarpanch (village head) and the people were very proactive to be a part of this project. Despite 'Sarpanch' as an official post, the leaders of the villages are basically the big contractors of the area. These contractors' way of working here is based majorly on monopoly, and therefore the local villages work reluctantly under them as labours. On getting accustomed with the idea of project, the locals could imagine the level of difficulty that would come along during the initiation and implementation of the project. The working condition in the month of March was unfavourable with the temperature rising beyond 38 degree celsius and extreme humidity. Cleaning of the hill, making the base line-grid line and digging of pits on top of the hill in such scroching heat was a great hurdle in this project.

The work was so carking and physically hard that labours were not willing to work at the site. The contactors were also unable to promise the completion of work in the dedicated time. In such circumstances, TERRE Policy Centre had to keep searching for new contractors but most of the contractors and supervisors showed incompetency. Some of the local contractors were not even able to pay weekly wages to their labours. Hence, the project implementation took place in instalments temporarily. After a long restless search of labours, few tribal groups agreed to work till the end of project but on the condition of timely payment.

In the month of March, Baseline – Gridline work was completed. By the end of March, digging of pits got started with the help of 70 to 80 labors from different settlements. The labours worked tirelessly for 10 hours i.e. from morning 8 AM to evening 6 PM on a daily basis.

Grid & Baseline survey at Karav and Dolvi



Super-imposed Base line & Grid line map of Dolvi

It was observed that though MFD and JSW were important part of this project, their contribution on the field was negligible. It took 58 days to complete the digging of 26555 pits, out of which 22220 pits were dug in Dolvi site and 4335 pits in Karav site. Digging started on 22nd March 2018 and ended on 17th May 2018. The pits were then kept exposed to sun to kill the harmful bacterias in the soil. Following that, the complex fertilizers along with neem cake and cow dung were added to the soil. These tasks were also done by the local villagers.

Pits digging work at Dolvi and Karav site

8. RISING THROUGH THE CHALLENGES

After the completion of applying fertilizers, the next challenge was to carry 18*18 inches big tree bag along with 12 to 15 feet tall tree from the base of the hill to the top, located at 2 kilometers away with more than 50° sharp slope. Each bag had the weight of 25 to 30 kg. The only way to carry the plants to the hill top was by hiring labours to take them manually. It therefore, took total 66 days to shift total trees from base to top. Pickups were arranged to carry the plants from foothills to the middle region of the plateau of smaller hills and from there, more than 80 labours shifted all the trees to the extreme top for plantation. However, the pick up was possible only for 15-20 days as the pathways got damaged due to heavy rains. Shifting of all the trees from base to top eventually took a tedious turn in the project.



At Karav site, the actual location is 2 kilometers from main road but the trail goes through the stream line. During monsoon, rain water runoff flows from the paddy fields casuing the runoff to flow through the trails. The water level rises up to the 2 to 3 feet. Heavy rainfall and clogged water were great hinderance to manually carry the trees weighing 30 kgs from main flat land to hill ranges.

Approachable road towards Karav Plantation site

On 9th July 2018, Mr. Kadam, CCF, Thane division visited Dolvi site with the other officials including, Mr. Manish Kumar, DCF and range officer and JSW officials. He was amazed to witness the efforts of the people and appreciated the team of TERRE Policy Centre for their outstanding dedication to complete the tasks in such inaccessible sites having numerous challenges.

Mr. Rajwade, ACF, Thane division and his teammates provided their guidance and support regularly. His team including RFO, RO and Forest guard helped field staff of TERRE team for making Baseline & grid line.

9. LIST AND DETAILS OF TREES PLANTED IN DOLVI AND KARAV:

Name of Trees	***Number of trees***	
Jack fruit	400	
Jamun	650	
Kadhamb	2085	
Kanchan	1975	
Kauthabam	380	
Legestromiya	450	
Mohagony	1255	
Neem	4466	
Peltophioum	460	
Pimpal	1748	
Rain Tree	180	180 Replaced with Karanj
Rosea	1158	

Silver oak	62	62 Replaced with Karanj
Singapore Cherry	450	
Spathodea	775	
Terminalia arjuna	1084	
Ward	2297	
Cheeri	200	
Bahumiya blalana	1127	
Gulmohar	140	130 Replaced with Karanj
Bhakula	1613	
Cardiya sebstoniya	200	
Karanj	1875	
Badam	1525	
Total	**26,555**	