



# NEWSLETTER

## SUSTAINABLE CATCHMENT FOREST MANAGEMENT (SCATFORM) PROJECT



### MESSAGE FROM CEO & PD

In the previous Newsletters we have made effort to share about some of the components of SCATFORM Project. This issue of the newsletter is expected to explain to the readers about Soil and Moisture Conservation component of the project. Soil and water/ moisture are the basic building blocks of plant life almost everywhere, be it farm crops, orchards, grasses, plantations or forests. Conservation of soil and moisture through various mechanisms not only paves the way for better vegetation cover but also directly helps in improving surface and sub-surface water flows. Given the importance of soil and moisture conservation, watershed and springshed programmes in our country lay a lot of emphasis on such works.

I hope you will like this issue and appreciate the work project is undertaking. I will reiterate that we would like to receive your feedback and suggestions on things related to projects and about this newsletter. Do write to us.

**Dr. Avinash M Kanfode, IFS**

*Chief Executive Officer & Project Director*

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### SOIL AND MOISTURE CONSERVATION COMPONENT IN THE PROJECT

In the earlier newsletters, different components of SCATFORM project were described briefly. These four

components were, 1) Sustainable Forest Management, 2) Soil and Moisture Conservation, 3) Livelihood Development, and 4) Institutional Strengthening. In this newsletter, Soil and Moisture Conservation component (SMC) will be described in detail and the progress made

by the project till now in SMC component will be shared.

Soil erosion is deemed as one of the most contributing factors of forest degradation and sediment disasters in the streams and rivers. Tripura has extremely erosive soil with intensive rainfall, therefore, intensive countermeasures for the soil and moisture conservation are required in addition to the sustainable forest management activities in the project.

During earlier phase of JICA project (Tripura Forest Improvement and Poverty Alleviation Project), soil and moisture conservation works, which included construction of check dams along the valleys combined with soil erosion prevention works in hillside, were implemented to improve the livelihoods of the local communities, and to maintain the water regime and soil fertility of the area. The stored water of the check dam enhanced the soil moisture conditions of vegetation, helped in ground water recharge capacity raising the water table in the area, and was used for irrigation and pisciculture. Availability of water ensured the increase of agricultural yield by multi-cropping and income generation through pisciculture. As the result of SMC works, sediment discharge from the area decreased, and disaster risks related to the sediment in the downstream

stretches were reduced.

Within SMC component of SCATFORM, various activities are planned to be carried out. These activities are:

1. Construction of check dams
  - a. Model I
  - b. Model II
  - c. Model III
2. Erosion prevention works combined with check dams
  - a. Brushwood check dam for gully plugging
  - b. Contour trench
  - c. Mulching and plantation around SMC structure
3. Assessment of soil and moisture conservation model

SMC facilities are located within management areas of JFM project areas. The actual locations of the facilities are largely decided by JFMCs for their purposes described in the micro plan. Use of water in check dams for purposes such as fishery and irrigation are closely linked with the other activities of JFMCs.

The average quantum of SMC works planned per JFMC is given in the table below

*Table: Average quantities of SMC Works*

Item	Purpose	Quantity/JFMC
Check dam	Water conservation, domestic water use, fishery, and irrigation	Model I: 3 dams Model 2: 2 dams Model 3: 0.2 dams
Brushwood check dam	Erosion protection in gullies	3 dams on average
Contour trench	Erosion protection on hillsides	2 hectares per Model I and brushwood check dam
Mulching and plantation the SMC structures	Erosion protection around SMC structures	2 hectares per check dam and around brushwood check dam

## CONSTRUCTION OF CHECK DAMS

In SCATFORM, three models of check dams are being built in the valleys related to the sustainable forest management activities in the target catchment areas/beats. These are earthen (Model I and Model II) and concrete core embankment or reinforced concrete structures (Model III). The selection of which model will be built where is based on site condition and purpose of the structure.

Earthen check dams of Model I and II which can be built and maintained by local farmers are the most cost-effective measures in the long run under Tripura conditions. The concrete core embankment or reinforced concrete check dams of Model III require some degree of construction skills and larger investment. Therefore, construction and maintenance of Model 3 is being done by TFD.



## EROSION PREVENTION WORKS COMBINED WITH CHECK DAMS

Combined with construction of the check dams, the erosion sediment prevention works, consisting of brushwood check dam for gully plugging, development of contour trench and mulching and plantation around soil moisture conservation structure, are being installed.

### *Brushwood Check-dam for gully plugging*

Brushwood check dam for gully plugging is the combination of the timbered trees as a fence and functions as gully plugging when assembled like a box and situated in the gully. Soil and/or Stones and/or fallen tree leaves are put into the box so as to arrest the sediment from flow downstream in the gully valley. The local bamboo can be used for lattice bars of the brushwood fences.

Brushwood check-dams are being installed in the deteriorated valleys in the target area. Locations of the brushwood check-dams in the sites is determined by RMU in consultation with the members of JFMC.



*Development of Contour Trench*

Contour trenches are dug on the hillside in order to arrest or retain the soil flow for plantation and cropland. Staggered trench method with 1.0 m \* 1.0m \* 1.0m is used in Tripura state. The extent of the contour trench at the site is determined by RMU in consultation with the members of JFMC.



*Mulching and Plantation around SMC structure*

Mulching is a certain kind of cover as to arrest or retain the soil around the plantation adopted in the gardening. Mulching and plantation around the soil moisture conservation structures is conducted within the forest management activities. The cost of the works is also included into the forest management activities. Maintenance of mulching and plantation is conducted at desirable time.

## ASSESSMENT OF SMC MODEL

The monitoring of environmental effects of the forest cover is important in order to clarify effects of the soil moisture conservation. A monitoring plan for assessment of soil moisture conservation with potential for establishment of preliminary forest hydrological model in Tripura is planned in consultation with the Forest Research Directorate of Tripura Forest Department and TSAC. The monitoring results will be used to establish a preliminary forest hydrological model in Tripura. Established model shall be used to formulate the future activities of TFD effectively.

## PROGRESS IN SMC COMPONENT OF THE PROJECT

Along with a number of structures made in the JFMCs during the year, the project has developed a Check Dam Monitoring System (CDMS) to collect information of the check dams built under Phase I project and other schemes of TFD. CDMS captures geo-tagging,

investment and return from livelihood activities in all the check dams.

Besides, the project has also finalized SMC guidelines, prepared process documentation of SMC works and an initial concept of measurement of soil moisture has also been finalized.

Table - Progress in SMC component in SCATFORM Project in 2020-21

Check Dam	Units	Target	Achievement
Model - I	nos	75	71
Model - II	nos	104	97
Model - III	nos	0	0
Brushwood Check Dam			
Constructed	nos	0	175
Contour Trenching			
Area	ha	0	87.8
Bandalling	sites	0	1
Filter Strip	km	21	2.5
River Bank Plantation	km	13.5	11

## FINALIZATION OF WORKING PLAN PRESCRIPTION FOR PREPARATION OF BFBP

The working plan prescription has been finalised for the BFbps of 4th and 5th batches. This intervention was carried out by the in-house team of the project. Under the 4th batch 40 BFbps targeted and remaining 35 BFbps to be covered under 4th batch.

## CIRCULATION OF DIFFERENT PROJECT MANUALS & GUIDELINES

The project has prepared 13 manuals under different component and areas. The following manuals i.e. Nursery Manual, Agroforestry Guideline, ESMS Manual, Gender Action Plan, Teak Plantation Management, DPN,

Eco Development & Microplanning Guideline for Gomti WLS, Training Manual and BFBP Manual circulated from PMU to DMU/SDMU and RMU level. These manuals will guide the front line staffs of the project to carry out the activities as per the MoD of the project.

## MAINTAINING OF COVID PROTOCOL IN WORKPLACE

On the rise of Covid cases in the state, the PMU has maintained all required covid protocols to keep office safe from the epidemic. Being part of that the office is sanitized regularly, all the office staffs are instructed to abide by the covid protocols. Wearing mask is maintained in the office strictly. Online modes of trainings are extensively used to avoid larger gathering for staffs due to pandemic.

## PREPARATION AND CIRCULATING OF BUSINESS PLAN

Preparation of business plan is one of the important activity under SCATFORM Project. As per MoD, Revolving fund will be released to SHG @ Rs. 1 lakh only after approval of viable business plan submitted by SHG to JFMC. In connection to this, a model business plans of Poultry farming, Mushroom cultivation, Candle making, Duck Rearing, Bio-Flock fish farming, Handloom and Piggery for the SHGs to avail revolving fund of SHG from JFMCs has been circulated to all DMU Chiefs. The plan will be further circulated to SHGs for starting up of IGA

## TPM

In Sustainable Forest Management Wing of Tripura SCATFORM Project, one of the important aspects is Teak Plantation Management. Total target of the project is 15,000 ha. Initially 40 ha TPM activities are going on in Khowai District. TPM activity includes gap planting and coppicing at the same time and in the gap planting activity is almost completed in Khowai District. 250 number of plants have been planted in for gap planting in 1 ha area.

### YOUR CONTRIBUTION TO THE NEWSLETTER

We request and encourage you to share your experiences under the Project. You can highlight activities and achievements of the Joint Forest Management Committee. We can also consider inspiring stories of individuals who are doing good work which needs to be shared with other people in the state. This will provide recognition to individuals and provide opportunities for other people to learn from the experiences. You can share your experiences with our field personnel / JFMC.

*You can also write to us at : [tripurajica@gmail.com](mailto:tripurajica@gmail.com)*

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