

SUB-MISSION ON AGRO-FORESTRY (SMAF) OPERATIONAL GUIDELINES UNDER NATIONAL MISSION FOR SUSTAINABLE AGRICULTURE (NMSA)

Substantial area in the country is still dependant on rainfall for farming. Due to the changing climatic pattern, rainfall is becoming more erratic, making cultivation a high risk and less productive profession over the years. It has therefore, become increasingly difficult for the majority of the Indian farmers to sustain their farm production, productivity and income. Agro forestry is known to have the potential to mitigate the climate change effects through microclimate moderation, conservation of natural resources and creation of additional source of livelihood and income opportunities.

In order to make agriculture less vulnerable to climatic aberrations, Government of India formulated the National Agro forestry Policy in 2014. The policy recommends for setting up of a Mission or Board to address development of agro forestry sector in an organised manner. The Sub-Mission on Agro forestry (SMAF) under NMSA is an initiative to this end. The aim of the submission is to expand the tree coverage on farmland in complementary with agricultural crops.

MISSION OBJECTIVES:

1. The mission is focused to achieve the quantifiable benefits such as increase tree cover to enhance carbon sequestration, enrichment of soil organic matter, availability of quality planting material, improvement in livelihood, productivity enhancement of crop and cropping systems, development of an information system etc.
2. To encourage and expand tree plantation in complementary and integrated manner with crops and livestock to improve productivity, employment opportunities, income generation and livelihoods of rural households, especially the small farmers.

3. To ensure availability of quality planting material like seeds, seedlings, clones, hybrids, improved varieties, etc.
4. To popularise various Agroforestry practices/models suitable to different agro ecological regions and land use conditions.
5. To create database, information and knowledge support in the area of agroforestry.
6. To provide extension and capacity building support to agroforestry sector.

MISSION INTERVENTION:

The Sub-Mission has following broad interventions:

1. Nursery Development for quality planting material (NDQPM): Assistance shall be given for nurseries (small-0.5ha, big-1.0ha & hi-tech nurseries) for producing quality planting material to meet the requirement of planting material.
2. Peripheral and Boundary Plantation (PBP): To make potential use of the area occupied by these bunds around the periphery of the farmers fields, tree species can be grown as peripheral/boundary plantations to add more income to the farmers' basket. This will not only make effective use of the precious land for livelihood support but also for generating additional income opportunities to the farmers. It will also help in stabilising the bunds and reducing soil erosion.
3. Low Density Plantation on Farm Lands (LDPFL): Low Density Block Plantation (LDBP) ranging from more than 100 plants/ha to more than 500 plant per hectare without sacrificing the yield of the existing crops/cropping systems, shall be incentivized at the proportionate rates as applicable to per plant expenditure.
4. High Density Block Plantation (HDBP): High Density Block Plantations on farm lands (HDBP) will be supported as a

complementary source of income to the farmers. Differential planting densities ranging from more than 500 plants/ha to 1500 plants per hectare as intermediate blocks /strip plantations /wind breaks would be supported. Farmers can take up block plantation in waste and degraded land not suitable for growing crops to make productive use of this land in creating livelihood and income opportunities for them. In addition, the trees will help in enriching the soil and making it fertile & more productive thereby bringing land under crops in times to come.

5. Demonstration of Agroforestry Models: Specific projects for demonstration to bridge the yield gap and for extension purposes on area specific innovative agroforestry models by SAUs / ICAR Institutes/ CAUs/CSIR/ICFRE institutes / State Government/ other National & International level agencies/ organizations will be supported particularly in the field of climate resilient agroforestry system & studies on carbon foot print, carbon sequestration, nitrogen fixation etc., with the approval of Project Sanctioning Committee on case to case basis.
6. Capacity Building & Trainings: Capacity Building and Training will be one of the important interventions of the sub-mission. Activities like training of farmers/field workers with a view to ensure growing quality planting material, skill development, awareness campaign, Publications, Information sharing, Exposure visits at national and international levels, Seminars/workshops at national/international levels etc. would be supported under this. States can utilise up to 5% of the allocated funds for capacity building and training activities.

PROJECT ACTIVITIES:

The Sub-Mission will have the following five broad components:

1. Nursery Development for quality planting material(NDQPM)
2. Peripheral and Boundary Plantation (PBP)

3. Low Density Plantation on Farm Lands(LDPFL)
4. High Density Block Plantation(HDBP)
5. Demonstration of Agroforestry Models
6. Capacity Building & Trainings.

PATTERN OF ASSISTANCE:

Farmers would be supported financial assistance to the extent of 50% of the cost of intervention. Farmers groups/ Cooperatives/ Farmer Producers Organization (FPO) can also avail the benefit of the programme but the assistance can be accessed as per norms and provisions applicable to the individual farmers.

At least 50% of the allocation is to be utilized for small, marginal farmers of which at least 30% are women beneficiaries/farmers.

Farmers' Participatory Approach will be involved actively while selecting the beneficiaries as well as location specific activities of specific nature, if felt necessary.

COSTS NORMS:

Annexure-I (A)

Cost Norms and for Nursery Development for Production of Quality Planting Material (NDQPM)

Sl. No	Nursery area (ha)	Indicative field of expenditure	Indicative Unit cost (Lakhs)
1	Small Nursery (0.5ha)**	Land preparation etc., nursery equipments, seed/mother	10.00
2	Big Nursery (1.0 ha)	scion production/root stock production etc.,	16.00

3	Hi-tech** Nursery	infrastructure and other essential operational costs etc. as per norms as existed in case of MIDH	40.00
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** Cost norms as already approved under National Bamboo Mission (NBM)

Note: The different types of Nurseries are Small Nursery (0.5ha), Big Nursery (1.0ha) & High Tech Nursery

- The Small Nursery will have a minimum capacity to produce 25,000 plants per year.
- The Big Nursery will have a minimum capacity to produce 50,000 plants per year.
- The High-Tech Nurseries will have a minimum capacity to produce 100,000 propagules per year

Annexure-II

Cost Norms and Pattern of Assistance for Peripheral and Boundary Plantation (PBP)

Sl. No	Type of Interventions	Indicative Unit cost per plant (Rs.)
1	Pre-Plant activities/Land clearing/maintenance etc.	10.00
2	Digging /Planting etc	6.00
3	Single unit Planting material etc	15.00
4	Transportation charges	1.00
5	Critical inputs viz., FYM, Fertilizers, Seed treatment, PP chemicals etc.	10.00
6	Planting cost	2.00
7	Fencing	10.00

8	Maintenance (weeding+ watering etc.)	16.00
9	Total	70.00

Note:

(i) *The activity wise cost indicated above are tentative and states have the flexibility to formulate their own estimate based on local requirements subject to a maximum of Rs. 70/- per plant*

(ii) *The assistance will be given in the year wise proportion of 40:20:20:20 for four years.*

Annexure-III

Cost Norms and Pattern of Assistance for Low Density Plantation on Farm Lands (LDPFL)

Sl. No	Type of plantations' magnitude (no of plants/ha)	Indicative total cost (Rs)
1	Less than 100	As per actual no of plants @ Rs.70/- per plant
2	>100 upto 500	28000 (or in proportion to planting intensity)

Note:

- The cost will be calculated on proportionate basis as per the no of plants/trees per block*
- The assistance will be given in the year-wise proportion of 40:20:20:20 for four years.*

Annexure-IV

Cost Norms and Pattern of Assistance for High Density Block Plantation (HDBP)

Sl. No	Magnitude of block Plantations (no of plants/block of 1 ha)	Indicative total cost (Rs) for the block
1	500 to 1000 (spacing 3.5mX3.5m)	30000

2	>1000 to 1200 (spacing 3mX3m)	35000
3	>1200 to 1500 (spacing 2.5mX2.5m)	45000
4	>1500 (spacing less than 2.5mX2.5m)	50000

Note:

(i) The cost will be calculated on proportionate basis as per the no of plants per block with a spacing indicated above;

(ii) The assistance will be given in the year wise proportion of 40:20:20:20 basis for four years

SPACING REQUIREMENT:

Spacing required for different block plantations for HDBP is as follows:

Sl. No.	Magnitude of block Plantations (no of plants/block of 1 ha)
1	500 to 1000 (spacing 3.5mX3.5m)
2	>1000 to 1200 (spacing 3mX3m)
3	>1200 to 1500 (spacing 2.5mX2.5m)
4	>1500 (spacing less than 2.5mX2.5m)

LIST OF MEDICINAL PLANTS FOR PLANTATION IN THE NORTH-EAST INDIA

STATES	TREES	CLIMBERS/ SHRUBS
NE States viz., Arunachal Pradesh, Assam, Sikkim, Nagaland, Meghalaya, Manipur, Mizoram, and Tripura	Jackfruit, Arecanut, Agar, Soft Bollygum, Chinese Yew, Bedda Nut tree, Black Chebulic Myrobalan	Climbing asparagus, Potato yam, False black pepper, Long pepper

EXPECTED OUTCOME:

The implementation of the sub-mission will result in the following quantifiable benefits:

- Agroforestry will provide additional income/savings opportunities for farmers and will also serve as a cushion to crop damage.
- Increase in tree cover through Agroforestry will lead to higher carbon sequestration and compliment the National initiatives on climate change adaptation and mitigation efforts.
- Trees grown in farm land will help in enriching soil organic matter and will enhance nutrient uptake of the crops measurable under different time interval (mid & end of the programme). This can be periodically assessed from the soil health status depicted on the soil health card to be issued to the farmers from time to time.
- Contribute in availability of agroforestry produce to meet the increasing demand of raw materials for wood based industries which will result in saving of foreign exchange being used for impost of wood and wood based products.
- Development of information system and database on agroforestry.
- Income & livelihood generation of the farmers.

For More Information about the Scheme, Please contact:

1. The District Horticulture Officer of your concerned district
2. Agriculture Marketing Officer, Directorate of Horticulture

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