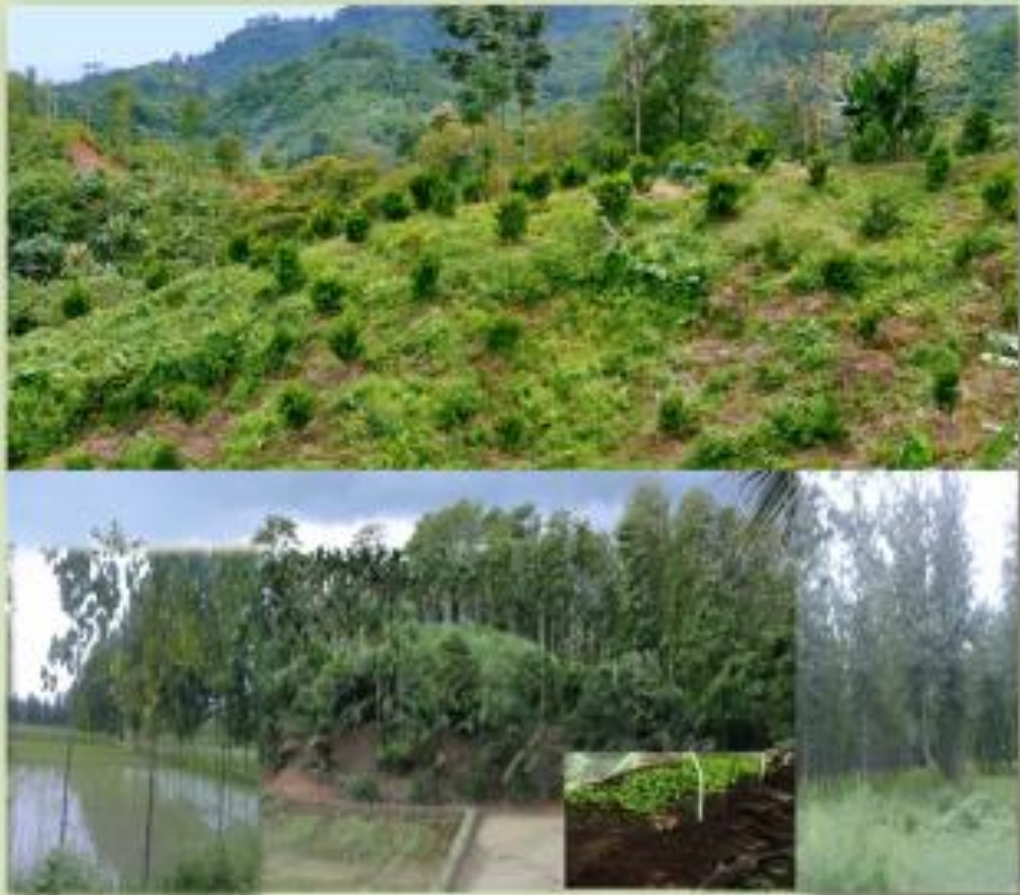


# **SUB-MISSION ON AGROFORESTRY OPERATIONAL GUIDELINES**



**Department of Agriculture, Cooperation & Farmers Welfare  
Ministry of Agriculture & Farmers Welfare  
Government of India  
2016**

## Operational Guidelines

### Sub-Mission on Agroforestry (SMAF)

#### Under National Mission for Sustainable Agriculture (NMSA)

#### 1. Introduction

- 1.1 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, becoming increasingly difficult for the majority of the Indian farmers to sustain their farm production, productivity and income. Agroforestry 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 Agroforestry Policy in 2014. The policy recommends for setting up of a Mission or Board to address development of agroforestry sector in an organised manner. The Sub-Mission on Agroforestry (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.
- 1.2 Agroforestry not only provides environmental services, but also economic gains, as about 65 % of the country's timber requirement is met from the trees grown outside forests. The Agroforestry Policy has identified various factors those have impeded the growth of the sector like non availability of quality planting material, prohibitive legal frame work particularly for felling and transit regulations, inadequate extension mechanism, lack of proper institutional support and focused programme for its development etc.
- 1.3 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. Mission Objectives

Sub-Mission on Agroforestry will have following objectives:

- 2.1 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.

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

### **3. Mission Strategy**

To achieve these objectives for stimulating the growth of agroforestry in India, SMAF will have following multi-pronged strategy:

- 3.1 Expanding the coverage under tree plantation in arable land suitable to local agro climatic and land use conditions to provide livelihood, environmental and bio diversity protection by encouraging farmers to grow trees in their farmland along with crops/cropping systems and/or livestock as an integral component of farming system.
- 3.2 Promoting setting up of new small nurseries and hi-tech big nurseries for producing quality planting materials like seeds, seedlings, clones, improved varieties to meet the requirement of quality planting material /seeds for the farmers.
- 3.3 Promoting various Agroforestry practices/models suitable to different agro ecological regions and land use conditions that will support adaptation and mitigation efforts in climate change. Promoting sustainable Agrisilvicultural systems, Silvipastoral systems, Agrisilvopastoral system, other systems of agroforestry viz. Apiculture with Trees, Aqua forestry etc.
- 3.4 Promoting Peripheral and Boundary Plantation on farms will serve as fencing of farm, demarcation of farm boundary, stabilizing farm bonds, protecting from soil erosion, improving soil moisture, enrichment of soil organic matter without affecting coverage under crops.

- 3.5 Low Density Plantation on Farm Lands including intermediate/strip plantation, High Density Block Plantation will also be supported in complementarily with crops/cropping system as agroforestry system.
- 3.6 Creating database on area under agorforestry, status of soil organic carbon, information and knowledge support etc. with use of ICT.
- 3.7 Capacity building / training for Development officials/workers, scientists and farmers under National & International exchange programmes; extension activities including Demonstration of suitable Agrisilvicultural, Silvipastoral, agrisilvopastoral system etc., Seminars/workshops / conferences/fairs & exhibitions and exposure visits at National and International level.
- 3.8 Implementation of the scheme only in the states having liberalized transit regulations for transport of timber and will be extended to other states as and when such relaxations are notified by them. Liberal transit rules will be a precondition for availing the benefit of the programme.
- 3.9 The state Govt has to decide the Department / Agency for implementation of the programme. Institutional mechanism as envisaged in the NMSA Guidelines would be adopted for the sub-mission being a submission of NMSA with the change that the implementing department / agency will be designated as Member Secretary.
- 3.10 Endemic and other species including trees of medicinal value suitable to the agroclimatic conditions will be promoted under the programme. Any species which are exotic, not suitable to the agro-ecology and not part of approved afforestation programme will not be supported.
- 3.11 Soil Health Cards will be made a pre-requisite for farmers getting the benefit under the programme to indicate the soil carbon status and facilitating assessment of Soil Carbon improvement from time to time.
- 3.12 The choice of stock type (bare-root or container or poly bags) used may depend on species, local availability, planting method preferred or cost. It is important that the seedlings for plantation should be of the highest quality possible. The shoot and root systems of the stock must be large enough and in balance so that the seedlings have a good probability of establishing and competing

successfully in the field. A good fibrous/tape root system is desirable for most species. Seedlings should be free from diseases, and appear healthy. In particular, checking the quality of the roots system will be emphasised. It is important to be satisfied that the plants conform to Forest/Horticulture Department's regulations or, any other National/State regulations on quality. An indicative list of quantitative standards of seedlings issued by the Forest Department, Madhya Pradesh is at **Annexure-VIII**. Other states may issue such notifications suitable to the local conditions.

- 3.13 Physical verification of the plantation will be done by the competent authority of State Government and a verification certificate as per **Annexure-IX** needs to be obtained by each beneficiary

#### 4. Mission Interventions

The Sub-Mission has following broad interventions:

- 4.1 **Nursery Development for quality planting material (NDQPM)** : Assistance shall be given for nurseries (small, big & hi-tech nurseries) for producing quality planting material to meet the requirement of planting material. Eligible components and pattern of assistance for NDQPM is given at **Annexure-I**
- 4.2 **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. Eligible components and pattern of assistance for PBP is given at **Annexure-II**.
- 4.3 **Low Density Plantation on Farm Lands(LDPFL)** : Low Density Block Plantation(HDBP) ranging from more than 100 plants/ha to more than 500 plants/ha without sacrificing the yield of the existing crops/cropping systems, shall be incentivized at the proportionate rates as applicable to per plant expenditure. Eligible components and pattern of assistance for LDPFL is given at **Annexure-III**

- 4.4 **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/ha 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 these land in creating livelihood and income opportunities for them. In addition, the tress will help in enriching the soil and making it fertile & more productive thereby bringing land under crops in times to come. Eligible components and pattern of assistance for HDBP is given at **Annexure-IV**
- 4.5 **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 upto 5% of the allocated funds for capacity building and training activities.
- 4.6 **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.

## 5. Convergence with other schemes

- 5.1 Since trees as part of farming system are to be converged with Crops & Cropping system, therefore, to make SMAF a system approach; crop/cropping system/livestock development programmes like NFSM, RKVY, NMOOP, NMSA and various other state funded agriculture programmes related to crop demonstration etc., to be converged. Oilpalm and TBOs are being promoted under NMOOP. Intercropping these oilseed crops with other trees & crops will make it more sustainable. Specific activities like nursery development for

quality seeds/planting material, land & water management, reclamation of waste land/problem soils, precision irrigation, value addition and processing, conservation agriculture etc. shall be converged with the ongoing programmes like MIDH, RKVY, MGNREGA, PMKSY, NMSA through a process of resource mapping during planning process.

- 5.2 Plantation measures of MoEF&CC, MoRD, Min of Commerce & Industries, Ayush, DONER etc. to be mapped in the cluster development plan of SMAF
- 5.3 Research findings of various institutes of ICAR/SAUs/ National / International Institutes in order to avoid any overlap on promising varieties, good practices, farming system models, identified suitable plant species for particular agro-climatic conditions, new technologies in nursery development etc. will be used for effective implementation of the programme.
- 5.4 Neeranchal project is being implemented in selected districts of nine states viz., Andhra Pradesh (Chittoor, Ananthapuram), Chhattisgarh (Jashpur, Kanker), Gujarat (Kachh, Surendranagar), Jharkhand (Dhanbad, Ranchi), Madhya Pradesh (Jabalpur, Dewas), Maharashtra (Amravati, Ahmednagar), Odisha (Mayurbhanj, Kandhamal), Rajasthan (Jodhpur, Udaipur) and Telangana (Nalgonda, Mahabubnagar). Convergence of the project interventions will be ensured while implementing the sub-mission in these districts. Hydro-geologic tools and decision support system of Neeranchal project will be used in the planning process.
- 5.5 District level committee to map the activities of other programmes during preparation of action plan.
- 5.6 Wherever possible, plantation of medicinal plants (subject to exemption under Felling and Transit rules of the state) out of list of species provided by AYUSH Department as given at **Annexure-VII** will also be promoted for plantation.

## 6. Mission Structure

- 6.1 To promote agroforestry, a dedicated National Agroforestry Policy was approved by Government in 2014. To take forward the policy recommendations, an Inter Ministerial Committee (IMC) has already been constituted under the Chairmanship of Secretary (AC&FW). Since establishment of a mission / board for agroforestry was one of the major

recommendations of the policy, the idea of sub-mission on agroforestry was conceived under the ambit of NMSA. Inter-ministerial committee constituted for taking forward the policy recommendation will also oversee the implementation of SMAF. However, the institutional system already established for NMSA to be made use for implementation of SMAF. Any restructuring or inclusion of additional members to the existing committees of NMSA at State/District level, if required to accommodate the change in implementing agency, may be made by the State Government.

6.2 State Forest Department, if they are not implementing department, will be actively associated in planning & implementation of the programme. Additional area taken up under plantation would be periodically intimated to State Forest Department to appropriately accommodate in their Wood Development Plan for issue of licenses to processing industries.

## **7. Mission Implementation Plan**

7.1 States will prepare Action Plan for development on cluster basis indicating the year wise activities and corresponding fund requirement spread across four years. Every year the project proposals for plantation measures in selected clusters, nursery development and other activities need to be developed involving district and state level committees as envisaged in NMSA Guidelines and submitted to the Government of India for approval of Project Sanctioning Committee. Since the project proposals of each year will have residual activities for the remaining three years, the annual action plan for a specific year need to be planned in such a manner that the year wise phased activities of the approved projects are properly provisioned during assessment of fund requirement.

7.2 Soil Health Cards is to be made a pre-requisite for farmers in getting the benefit of the programme. The plantation measures would be planned based on the soil health parameters and also this will help in monitoring soil carbon improvement from time to time.

7.3 In order to motivate the farmers to take up tree plantation on farm land, relaxation of existing policy and regulatory frame work need to be finalized by the states concerned. At the first instance the programme will only be implemented in the states those have liberalized the transit regulations for



transport of timber. Liberal transit rules will be a precondition for availing the benefit of the programme. As and when such relaxations are notified by other states they will also become eligible to get funding support from the programme. The list of states having notified the transit relaxation for selected species and eligible for implementing the programme would be indicated on the NMSA website. New inclusion in the state list as and when notified by specific state, would be updated in the eligible state list.

- 7.4 States are given the flexibility to implement the programme at field level by using the services of existing extension system. However, states may engage additional human resources like consultants, extension personnel and other supporting staff for specific tasks purely on contractual basis as per Guidelines of NMSA. The expenditure for hiring of consultants etc. will be met from the administrative provisions of the scheme.
- 7.5 Any procurement / purchases / auctions etc will strictly be through e-procurement process following General Financial Rules. Wherever feasible, during transfer of assistance particularly for farmer centric activities, Direct Benefit Transfer (DBT) may be adopted. Farmers benefitted under the programme may be linked with the AADHAR based information system.
- 7.6 Villages covered under Sansad Adarsh Gram Yojana and reward villages that have become free from open defecation may be given additional weightage in selection of clusters.

## **8. Project Activities**

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

- (i) Nursery Development for quality planting material(NDQPM)
- (ii) Peripheral and Boundary Plantation (PBP)
- (iii ) Low Density Plantation on Farm Lands(LDPFL)
- (iv) High Density Block Plantation(HDBP)
- (v) Demonstration of Agroforestry Models
- (vi) Capacity Building & Trainings.

Apart from above, Monitoring & Evaluation, Project Management and other miscellaneous administrative expense are admissible under the project subject to a maximum of 4% of the annual allocation.

- 8.1 Nursery Development for quality seeds/planting material (NDQPM):** The sub-mission will give more emphasis on production of good quality planting material. The details of various types of nursery and their specific requirements are given at **Annexure I(A) & I(B)**. The nurseries will also be regulated under existing legislation/act. Nursery development will be an integral part of the project proposal for the sub-mission. State Governments may assign Govt agencies, public sector enterprises, national/international agencies, private agencies etc. for development of nurseries. Endemic and other species including trees of medicinal value suitable to the agroclimatic conditions may only be promoted under the programme. Any species which are exotic and not suitable to local agroecology will not be supported for production under the programme.
- 8.2 Peripheral boundary plantation (PBP):** Peripheral boundary plantation (PBP) with provision for maintenance for a period of four years including gap filling will be supported. The coverage of plantation would be assessed in terms of running meter with number of plants. Incentives/assistance will be given @ 50% of the total cost per plantation and the cost will be segregated for a period of four years in a proportion of 40:20:20:20. The indicative cost of plantation per plant is given at **Annexure-II**.
- 8.3 Low Density Plantations on Farmlands (LDPFL):** Low Density Plantations on Farm Land (LDPFL) with Intermediate/Strip/Isolated Plantation will be one of the interventions to attract mostly the small and marginal farmers. For sustaining the plantation activities, the assistance will be provided in a phased manner spread across four years in the proportion of 40:20:20:20. The indicative cost of plantation for different planting intensity is given at **Annexure-III**.
- 8.4 High Density Block Plantations (HDBP):** Block plantations of agroforestry species starting from 1 ha block to higher areas with varying number of plants per block under different spacing shall be supported under the programme. For sustaining the plantation activities, the assistance will be provided in a phased

manner spread across four years in the proportion of 40:20:20:20. The indicative cost of plantation for different planting intensity is given at **Annexure-IV**

- 8.5 Demonstration of Agroforestry Models:** Specific projects for demonstration and 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.
- 8.6 Capacity Building and Extension:** Capacity Building and Training will be one of the important interventions of the sub-mission. Activities like training of farmers/field workers, skill development, awareness campaign, publications, documentation, exposure visits, seminars/workshops, conferences etc. would be supported. States can utilise upto 5% of the allocated funds for capacity building and training activities.

## 9. Monitoring & Evaluation:

- 9.1 Monitoring & Evaluation will be the vital and integral part of the sub-mission to assess the implementation and progress of the programme in accordance with the set norms and guidelines. Apart from coverage of area under plantation, the performance of the scheme will be monitored based on a few quantifiable success indicators viz., Number of plants in area/ periphery, Soil carbon sequestration, soil organic matter, improvement in livelihood, productivity enhancement of crop and cropping systems etc. Mechanism for monitoring information system (MIS) and periodical assessment using GIS technologies would be adopted for ensuring effective implementation of the programme. The digital location of the cluster with the attributes of interventions like plantation area, number of plants, name of beneficiaries, details of nurseries, project cost etc need to be uploaded in the Bhuvan Platform.
- 9.2 States are required to furnish quarterly and annual progress report as per formats given at **Annexure-VI**. Coordination and convergence will be ensured at the field level through comprehensive planning process to avoid duplication

of efforts. For reporting, monitoring and impact assessment at state level, Information & communication tools like Personal Computers, printer, GPS devices, internet facility etc. may be met from the project.

- 9.3 Besides, mid-term & end-term evaluation of the scheme in terms of socio-economic impact, sustainability, environmental benefits like increase in soil organic carbon, carbon sequestration etc. will be carried out engaging independent third party or professional agencies like ICAR/ ICFRE institutes/ SAUs / Central & State Government organizations / National / International Institutions, adhering due administrative & financial procedures.
- 9.4 A three tier Monitoring System already in place for NMSA will oversee the implementation of SMAF as well. However, in the districts where the NMSA institutional setup is not available, states may establish the same in the line of NMSA. States will submit the detailed Quarterly/ Annual Progress Reports as prescribed format and also update the information in MIS. The monthly/ quarterly progress report needs to be updated within fifteen days of end of each month/ quarter. Similarly, detailed Annual Progress Report (APR) of a particular year shall also be submitted by 30<sup>th</sup> May of the next financial year and the database in the MIS for the preceding year will be frozen after three months from the end of financial year.
- 9.5 Besides above, periodical desk reviews and field visits would be taken up by both Government of India and State Government Officials to supervise effective implementation of the programme.
- 9.6 Once the expenditure is made against the funds released, Utilisation Certificate as per GoI rules and formats (GFR 19 A) be provided indicating separate utilization against central and state share.

## 10. Coverage

Liberal transit rules will be a precondition for availing the benefit of the programme. The states /UTs those have liberalized the transit regulations for transport of timber can instantly implement the programme and other states can access the benefit of the programme as and when such relaxations are notified by them.

## 11. Funding Pattern & Pattern of Assistance

11.1 The Sub-Mission on Agroforestry will be operational under the umbrella of NMSA and funding pattern 60:40 as GoI: State Govts basis for all states excepting for 8 states of NE Region, the hilly states of Himachal Pradesh, Uttarakhand and Jammu & Kashmir where it would be 90:10 fund sharing. For UTs, the assistance will be 100% from GoI.

11.2 Farmers would be supported financial assistance to the extent of 50% of the actual cost of the interventions (limited to 50% of the estimated cost as indicated in the Annexure I to IV) for the respective interventions. 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.

## 12. Fund flow mechanism

Department of Agriculture, Cooperation & Farmers Welfare, Government of India will communicate tentative annual outlay to each State/implementing agency, who in turn will prepare respective component-wise allocation for the annual action plan.

12.1 Consequent to approval of Annual Action Plan by the Project Sanctioning Committee, funds will be released to State Nodal Department or designated implementing agency as notified by the State.

12.2 State Level Implementing Agency would ensure implementation in a time bound manner in accordance with their approved Annual Action Plan. Funds will be released in instalments based on physical & financial progress report, submission of utilization certificates and other necessary documents as per provisions of General Financial Rules, specific emergent need etc.

12.3 For programme implementation, monitoring and other contingent and administrative expenses, provision limited to 2% of the annual outlay may be kept at national level.

12.4 At least 50% of the allocation is to be utilized for small, marginal farmers of which atleast 30% are women beneficiaries/ farmers. Further 16% & 8% of the

total allocation or in proportion of SC/ST population in the district will be utilized for Special Component Plan (SCP) and Tribal Sub Plan (TSP) respectively.

- 12.5 Panchyati Raj Institutions as well as Farmers' participatory Approach will be involved actively while selecting the beneficiaries as well as location specific activities of specific nature, if felt necessary.
- 12.6 The names of beneficiaries and assistance given to them will be displayed in the notice boards of the Panchayat/Block office to maintain transparency. Such information will be also put on the departmental website in public domain. The selection and transfer of benefit should be time bound and should be finalized in consultation with the Panchayati Raj Institution, elected representatives like Members of Parliament, Legislative Assembly, Councils etc..

### **13. Expected Outcome**

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

- 13.1 Agroforestry will provide additional income/savings opportunities for farmers and will also serve as a cushion to crop damage.
- 13.2 Increase in tree cover through Agroforestry will lead to higher carbon sequestration and compliment the National initiatives on climate change adaptation and mitigation efforts.
- 13.3 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.
- 13.4 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.
- 13.5 Development of information system and database on agroforestry.
- 13.6 Income & livelihood generation of the farmers.

**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 (Lakh Rs)
1.	Small Nursery (0.5ha)**	Land preparation etc., nursery equipments, seed/mother scion production/root stock production etc., infrastructure and other essential operational costs etc. as per norms as existed in case of MIDH	10.00
2.	Big Nursery (1.0 ha)		16.00
3.	Hi-tech** Nursery		40.00

\*\* Cost norms as already approved under National Bamboo Mission (NBM)

Annexure-I(B)

Mandatory Requirement for availing support for Nursery Development

S.No.	Type of Nursery	Basic Requirement	Infrastructure Requirements
1.	Small Nursery (0.5 ha)	<p><b>Selection of Site</b></p> <p>Nurseries will be established only to produce planting material which are suitable for that agroecology. The nurseries should be well connected to road / rail networks to facilitate transport. Sites exposed to strong winds and with danger of flooding or landslides should be avoided.</p> <p><b>Soil Conditions</b></p> <p>Well drained, light to medium textured fertile soils.</p> <p><b>Source of Irrigation</b></p>	<ul style="list-style-type: none"> <li>• Fencing</li> <li>• Water Source (Irrigation source/ Ponds/ Tanks/ Well/ Tube well)</li> <li>• Energy Source (electricity or Genset)</li> <li>• Water lifting devices</li> <li>• Water distribution system</li> <li>• Farm machineries required for land preparation, bed preparation and other operations</li> <li>• Other equipments &amp; tools for raising seedlings</li> <li>• Composting Unit</li> <li>• Watch &amp; ward</li> </ul>
2.	Big Nursery (1.0 ha)	<p>Availability of good quality assured irrigation source is an essential pre-requisite for setting up of a commercial nursery production unit. For increased water use efficiency, Drip irrigation system, rose cans or micro sprinklers should be used.</p> <p><b>Layout of Nursery</b></p> <p>Generally a good nursery must consist of water tank/pond, water pump/pump house, seed and fertilizer store room, implement shed, germination/main bed area; potting/container filling area, seedling raising area, worker mess/hall, office room, propagation structures, compost</p>	<p>As above.</p> <p>Number of equipments may increase or decrease based on size of nursery</p>
3.	Hi-tech Nursery		<p><b>Office</b></p> <p>An office building, best located near</p>



	(2.0 ha)	<p>area, etc.</p> <p><b>Inputs</b></p> <p>Availability of nutrients to seedlings, well decomposed farm yard manure (FYM), plant protection chemicals, root hormones etc.</p>	<p>the main entrance and storage area for the nursery records are basic requirements</p> <p><b>Laboratory</b></p> <p>A mini laboratory attached to the nursery for use by the technical/skilled staff for observing/recording the growth and developmental irregularities if any, disease/pest problems, and nutritional deficiencies/imbalance during the nursery growth of the planting stock.</p> <p><b>Composting unit</b></p> <p>Composting unit attached to the nursery is desirable. The unit will consist of a roofed shed with partially open side walls for encouraging very good air-circulation, a shredder machine to chop the plant material, and sieves to clean the final product.</p> <p><b>Media sterilization Area</b></p> <p>For steam sterilization, soil solarization or fumigation of potting media</p> <p><b>Potting shed</b></p> <p>To carry out the work of preparing the containers, mixing the potting mix, filling the bags and potting the planting stock, a spacious shed is required in the nursery</p> <p><b>Net house</b></p> <p>A portion of the nursery should have Net house made of plastic shade nets that can cut the light intensity by 50%</p>
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			<p><b>High-tech green house</b></p> <p>Green-house with automated misting equipments and temperature control is desirable but low cost polytunnels can also be an alternative</p> <p><b>Irrigation systems</b></p> <p>Modern mechanized irrigation systems with sprinklers, misting units, high pressure pumps and filtering equipments for fertigation are essential components to be installed and used in nurseries</p> <p><b>Pump house with overhead water storage tanks</b></p> <p>The tanks should have enough storage capacity to meet at least 2 days irrigation requirements</p> <p>Nursery records</p>
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Note:

- 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
- Assessment of nursery for its quality/standard will be done on the basis of its location, quality of mother plants, techniques for nursery development, infrastructural facilities created, irrigation facilities with water use efficiency, bio-security & disease free conditions and overall management practices. Assessment of nursery for accreditation / certification will be undertaken either through any of the available institutional certification mechanism of Central / State Government or through suitable institutional mechanism to be devised specifically for this purpose in future.

**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, Fert., seed treatment, PP chemicals etc.	10.00
6	Planting cost	2.00
7	Fencing	10.00
9	Maintenance (weeding+ watering etc.)	16.00
<b>12</b>	<b>Total</b>	<b>70.00</b>

**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)
<p>Note: The cost will be calculated on proportionate basis as per the no of plants/trees per block</p>		
<p>Note:</p> <p>(i) The cost will be calculated on proportionate basis as per the no of plants/trees per block ;</p> <p>(ii) The assistance will be given in the year-wise proportion of 40:20:20:20 for four years.</p>		

**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

Honorarium and Basic qualifications/ experience for Advisor / Consultants/ Technical Assistants/MTS etc.

Level/ Designation	Monthly honorarium
<b>National Level</b>	
Advisors/ Consultants	Rs. 70,000/- per month + service charges as applicable.
Technical Assistants	Rs. 30,000/- pm
<b>State Level</b>	
Advisors/Consultants	Rs. 50,000/- pm
Technical Assistants	Rs. 25000/- pm
<b>District Level</b>	
Advisors/Consultants	Rs. 30,000/- pm
Technical Assistants	Rs. 20000/- pm

Note:

Engagement of consultants would be made as per the provisions made in the NMSA Guidelines.

**Annexure-VI**

**Sub-Mission on Agroforestry Progress Reporting Format**

Name of Cluster Village/Beneficiary:

**1. Nursery Development**

Type of Nursery	Area of nursery (ha)	Production capacity (No. of seedlings / propagules)	Name of species raised	Number of actual seedlings / produced
Small Nuresry				
Big Nursery				
Hi-tech Nursery				

**2. Details of Plantation**

Type of Plantation	Area (ha)/ Running Meter covered	Number of Plants Planted	Name of Species Planted
Peripheral and Boundary Plantation			
Low Density Plantation on Farm lands			
High Density Block Plantation			

Annexure-VII

**Region / State - wise priority list of Medicinal Plants species for Plantation**  
**(As suggested by AYUSH)**

Sr. No.	Regions/ States/ UTs	Trees	Climbers / Shrubs
1.	<b>East India:</b> Bihar, Orissa, Jharkhand, West Bengal and Andaman & Nicobar Islands,	<i>Aegle marmelos</i> <i>Albizzialesbeck</i> <i>Azadirachtaindica</i> <i>Caesalpiniasappan</i> <i>Emblica officinalis</i> <i>Eugenia jambolana</i> <i>Garcinia indica</i> <i>Gmelinaarborea</i> <i>Holarrhenaantidysenterica</i> <i>Litsea glutinosa</i> <i>Moringaoleifera</i> <i>Santalum album</i> <i>Saracaasoca</i> <i>Tamarindusindica</i> <i>Terminalia arjuna</i> <i>Terminalia bellirica</i> <i>Terminalia chebula</i>	<i>Adhatodavasica</i> <i>Asparagus racemosus</i> <i>Desmodingangeticum</i> <i>Embeliaribes</i> <i>Gymnemasylvestre</i> <i>Mucunapruriens</i> <i>Piper longum</i> <i>Tinosporacordifolia</i>
	<b>North India:</b> Jammu and Kashmir, Himachal Pradesh, Punjab, Uttarakhand , Uttar Pradesh, Haryana, Chandigarh and Delhi	<i>Aegle marmelos</i> <i>Albizzialesbeck</i> <i>Azadirachtaindica</i> <i>Berberisaristata</i> <i>Caesalpiniasappan</i> <i>Cinnamomumtamala</i> <i>Cinnamomumverum</i> <i>Emblica officinalis</i> <i>Eugenia jambolana</i> <i>Ginkgo biloba</i>	<i>Adhatodavasica</i> <i>Asparagus racemosus</i> <i>Embeliaribes</i> <i>Gymnemasylvestre</i> <i>Mucunapruriens</i> <i>Tinosporacordifolia</i>



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		<p><i>Gmelina arborea</i>  <i>Hippophaerhamnoides</i>  <i>Holarrhena antidysenterica</i>  <i>Litsea glutinosa</i>  <i>Santalum album</i>  <i>Saraca asoca</i>  <i>Stereospermum suaveolens</i>  <i>Tamarindus indica</i>  <i>Taxus wallichiana</i>  <i>Terminalia arjuna</i>  <i>Terminalia bellirica</i>  <i>Zanthoxylum latatum</i></p>	
	<p><b>Central India:</b>  Chhattisgarh, Madhya Pradesh</p>	<p><i>Aegle marmelos</i>  <i>Albizia lebbek</i>  <i>Azadirachta indica</i>  <i>Caesalpinia sappan</i>  <i>Commiphora wightii</i>  <i>Emblica officinalis</i>  <i>Garcinia indica</i>  <i>Holarrhena antidysenterica</i>  <i>Litsea glutinosa</i>  <b>MORINDA CITRIFOLIA</b>  <i>Moringa oleifera</i>  <i>Oroxylum indicum</i>  <i>Pterocarpus marsupium</i>  <i>Santalum album</i>  <i>Saraca asoca</i>  <i>Stereospermum suaveolens</i>  <i>Terminalia arjuna</i>  <i>Terminalia bellirica</i></p>	<p><i>Asparagus racemosus</i>  <i>Embelia ribes</i>  <i>Gymnema sylvestre</i>  <i>Mucuna pruri</i>  <i>Piper longum</i>  <i>Tinospora cordifolia</i></p>
	<p><b>South India:</b>  Andhra Pradesh,</p>	<p><i>Aegle marmelos</i>  <i>Albizia lebbek</i></p>	<p><i>Adhatoda vasica</i>  <i>Desmodium gangeticum</i></p>

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	<p>Karnataka, Kerala, Telangana Tamil Nadu, Lakshadweep and Puducherry</p>	<p><i>Azadirachtaindica</i>  <i>Boswelliaserrata</i>  <i>Caesalpiniasappan</i>  <i>Cinnamomumzeylanicum</i>  <i>Commiphorawightii</i>  <i>Emblica officinalis</i>  <i>Eugenia jambolana</i>  <i>Garcininaindica</i>  <i>Gmelinaarborea</i>  <i>Litsea glutinosa</i>  <b>MORINDACITRIFOLIA</b>  <i>Pterocarpus marsupium</i>  <i>Pterocarpussantalinus</i>  <i>Santalum album</i>  <i>Saracaasoca</i>  <i>Semicarpusanacardium</i>  <i>Stereospermumcolais</i>  <i>Tamarindusindica</i>  <i>Terminalia arjuna</i>  <i>Terminalia bellirica</i>  <i>Terminalia chebula</i>  <i>Vateriaindica</i></p>	<p><i>Gymnemasylvestre</i>  <i>Mucunapruriens</i>  <i>Piper longum</i>  <i>Plumbagozeylanica</i></p>
	<p><b>Western India:</b>  Rajasthan , Gujarat, Goa, Maharashtra and Daman &amp; Diu</p>	<p><i>Aegle marmelos</i>  <i>Albizziallebeck</i>  <i>Azadirachtaindica</i>  <i>Caesalpiniasappan</i>  <i>Cinnamomumzeylanicum</i>  <i>Commiphorawightii</i>  <i>Emblica officinalis</i>  <i>Eugenia jambolana</i>  <i>Garcininaindica</i>  <i>Gmelinaarborea</i>  <i>Holarrhenaantidysenterica</i></p>	<p><i>Adhatodaoasica</i>  <i>Asparagus racemosus</i>  <i>Celastruspaniculatus</i>  <i>Desmodiumgangeticum</i>  <i>Embeliaribes</i>  <i>Gymnemasylvestre</i>  <i>Leptadenia reticulata</i>  <i>Mucunapruriens</i>  <i>Piper longum</i>  <i>Plumbagozeylanica</i>  <i>Tinosporacordifolia</i></p>

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		<p><i>Moringaoleifera</i></p> <p><i>Oroxyiumindicum</i></p> <p><i>Santalum album</i></p> <p><i>Stereospermumsuvelens</i></p> <p><i>Tamarindusindica</i></p> <p><i>Terminalia arjuna</i></p> <p><i>Terminalia bellirica</i></p> <p><i>Vateriaindica</i></p>	
	<p><b>North east India:</b></p> <p>Arunachal Pradesh , Assam, Sikkim, Nagaland, Meghalaya, Manipur, Mizoram, and Tripura</p>	<p><i>Aquilariaagullocha</i></p> <p><i>Litsea glutinosa</i></p> <p><i>Taxus wallichiana</i></p> <p><i>Terminalia bellirica</i></p> <p><i>Terminalia chebula</i></p>	<p><i>Asparagus racemosus</i></p> <p><i>Dioscorea bulbifera</i></p> <p><i>Embeliaribes</i></p> <p><i>Mucuna pruriata</i></p> <p><i>Piper longum</i></p> <p><i>Tinospora cordifolia</i></p>

Annexure-VIII

Indicative List as Provided by M.P. Forest Department for Quantitative Standards of Seedlings for Plantation

S.No.	Species	Age	Height (Min.)	Collar radius
1.	Bamboo plant raised by Rhizome	1.5 to 2.0 years	-	3-5 cm.
2.	Teak	1 to 1.3 years	9 inch	4-8 cm.
3.	Sheesham, Chirol, Neem, Safed Sirus, Casia, Saja, Nilgiri, Babool, Kala Cirus, Lendia, Arjun, Jamun, Khamer, Baheda, Kadamb	1 year	45 cm	1.5-2 cm.
4.	Mahua, Chironji, Kher, Anjan, Harra, Kala Sheesham, Haldu, Beeja, Amla, Reujha, Bel, Kaith, Imli, chandan, Bhilma, Kardhai	2 years	45 cm	2-3 cm.
5.	Peltaforum, gulmohar, cassia samia, neem, saptparni, aam, imply jharul, amaltas, spathodia, jakranda, karanj, sheeshu, molshri, putran jeeva, kachnar, kadamb, bougainvelia, kaner, paras peepal, aakash neem	2 years	90 cm	3-5 cm.
6.	Grafted amla	3-4 months	45 cm	2-3 cm.

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		after grafting		
7.	Clonal eucalyptus	3-4 months	30 cm	1.5-2cm
8.	Bamboo (polythene raised)	1.5-2 years		3-5 cm.
9.	Pre-sprout saagon (polythene raised)	1-1.25 years	9 inch	3.5-5 cm.
10.	Khamer	3-6 months	45 cm	1.5-2 cm.
11.	Ashwagandha, sarp Gandha, satavar, kalihari, gulkavali, stevia, tulsi, kaalmegh, safed musli, colius, bel	1 year		
12.	Dahiman, maida, kallai, kunwarin, sonpatha, beeja, garud, padar, udaal, kochila	2 years	45 cm	2-3 cm.

**Annexure-IX**

**Verification Certificate for Plantation under Sub-Mission on Agroforestry**

This is to certify that Sh. /Smt./ M/s..... (Name of beneficiary) son/daughter/ wife of Sh. /Smt..... resident of village.....Block..... District..... State is owner of land with khasra number.....with an area of.....(hectare) offered for plantation under Sub-Mission on Agroforestry.

Inspection of the plantation site has been done by ..... (Name & Designation of Inspecting Officer) on dated..... and it is certified that :

1. Total..... number of plants were planted and ..... number of plants are found alive and average height of the plants is about..... Centimeter / feet.

Signature with stamp of Inspecting Officer/  
Nodal officer