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NATIONAL AFFORESTATION & ECO-DEVELOPMENT BOARD

GRANTS-IN-AID FOR GREENING INDIA SCHEME (CENTRAL SECTOR SCHEME)

OPERATIONAL GUIDELINES FOR THE TENTH FIVE-YEAR PLAN

Increasing forest and tree cover (FTC) of the country to one third of its geographical area, as envisaged in the National Forest Policy 1988, is essential for economic and ecological security of the country, especially the rural poor. Achieving the target of one third of forest and tree cover, however, stipulates fourfold increase in current annual tree planting mostly on lands outside recorded forest area (RFA). Tree plantation on lands outside RFA, however, has been very slow mainly due to poor returns to the growers. This is largely attributed to the low volume and poor quality yield of tree products, mainly for the reason that the tree growers do not have easy access to quality planting material (QPM) due to both paucity of QPM production facilities in the rural areas of the country and low awareness about gains of using QPM. Recognizing these constraints, it has been decided to restructure the existing Grants –in –Aid Scheme providing assistance to Voluntary agencies for tree planting by incorporating the additional components of QPM production facilities and creation of mass awareness about QPM. The restructured Scheme named “Grants in aid for Greening India” will broadly focus on three aspects of the tree planting namely

- a) Raising mass awareness about QPM and tree planting
- b) Enhancing the capacity for QPM production
- c) Tree planting with people’s participation

1. Objectives of the Scheme

The main objectives are:

- i) To create an enabling environment through capacity building at various levels for tree planting, and production and use of quality planting material.
- ii) To make available quality planting material by establishment of high tech nurseries
- iii) To create awareness amongst people for improved technology for tree planting and use of quality planting material
- iv) To develop and facilitate linkages between production systems of quality planting material and user groups
- v) To contribute towards increase in tree cover in the country by focusing on non-forest lands

2. People’s participation

The theme of people’s participation will be central to the Scheme. State Forest departments (SFDs) and other implementing/collaborating agencies and departments are expected to plan all the activities relating to production of QPM and tree planting with this theme in view. Selection of species, nursery site, planting site, individual level beneficiaries etc. should be done in consultation with the people. The Implementing /Collaborating agency (as mentioned under 4.3.1) may work as a catalyst and motivator to facilitate people’s participation in the programme

The beneficiaries under the Scheme such as the local people, farmers below Poverty line should preferably be chosen in consultation with the Village Panchayat/Gram sabha /JFMC/Local body concerned. The species for planting on project land and mechanism for sharing of usufruct and benefits from plantation should be decided in consultation with the Village Panchayat/Gram sabha / JFMC/Local Body concerned, and the deliberations and decisions concretized in the shape of a microplan for implementation in the field. The proposal should contain the list of identified beneficiaries and the microplan prepared involving the beneficiaries. Microplan should contain the species to be planted, aftercare mechanism, the year of accrual of the benefits and the benefit sharing mechanism.

3. Harvesting and Benefit sharing mechanism

The main objective of the scheme is to increase the green cover and also to involve the local people in protection. To ensure involvement of people, it is essential to devise a system wherein the people get the tangible and intangible benefits in a sustained manner. Once the species to be planted are identified and year of harvesting or the gestation period is fixed, on maturity, one third of the area covered by plantation may be harvested as per the silvicultural principles and replanted, and same may be repeated for subsequent two years so that the entire area is replanted and people also get benefits in shape of the extracted material. For intermediate and final yields, benefit-sharing mechanism needs to be prescribed as part of microplan. The aforesaid is applicable to community land. In case of private land, 100% benefits will go to the owners of the land. In case of forestland, such mechanism needs to be finalized in consultation with the local forest authorities as per the State JFM resolution. It will be responsibility of the implementing agency to ensure that the above procedure is followed.

4. Components under the Scheme :

Main components of the Scheme are :

- 4.1 Awareness generation, extension and training
- 4.2 Production of quality planting material
- 4.3 Tree planting

4.1 Awareness Generation, Extension and Training

Financial assistance will be provided to the State Forest Department (SFD) through a central FDA located in the State capital or FDA constituted in the place of location of Principal Chief Conservator of Forests (PCCF) office for

4.1.1 Creating awareness through printing and circulation of:

- Pamphlets on nursery/planting technique, economics and marketing of important tree species
- Guides on establishment of Hi-tech/Satellite nurseries, assessment of species (type and quantum), and land availability

4.1.2 Training on production of QPM, tree planting, micro planning

4.1.3 Survey - Estimation survey to ascertain extent of availability of non-forest and forest land, the kind of species and their quantity required, to be carried out by each SFD to work out the number and location of central high tech/satellite nurseries

4.2 Production of Quality planting material

4.2.1 Financial assistance under the scheme will be available to the SFD through a central FDA located in the State capital or the place of location of PCCF office for facilitating production and availability of QPM. Central FDA will further release the funds on authorization by the PCCF.

4.2.2 The State Forest Department will be the nodal agency for enabling production and availability of QPM. It will either produce the QPM on its own or through collaborative arrangements with forestry/agricultural research organizations/Forest Development Agencies/farmers below poverty line /tree growers' cooperatives and Panchayats. Individuals/private entrepreneurs including farmers below poverty line / interested in setting up their own nurseries will be encouraged to set up satellite nurseries. Such individuals/entrepreneurs/farmers should be registered under provisions of relevant local acts and rules at the time of application.

The profit generated on sale of QPM will be ploughed back to nodal FDA for creation of revolving fund for future sustenance of the nurseries. Illustrative guidelines for establishment of satellite/high-tech nurseries are given at **Annexure VI**

4.2.3 Activities for production of QPM will comprise

- a) Production of QPM through establishment of hi-tech nursery by upgrading available hi- tech facilities, satellite nurseries of 1 ha area each with a production capacity of 1 lakh seedlings per annum (minimum size permissible will be 500 sq m for a satellite nursery)
- b) Certification of QPM

While planning, location and potential of QPM nurseries, SFD will keep in view the demand of agencies/government departments being provided/likely to be provided financial assistance for tree planting under the scheme.

4.2.4 Eligibility criteria for production of QPM

- a) Already existing nurseries with capacity of 1 lakh seedlings in the State preferably at the State headquarter may be preferred for establishment of Central high-tech nurseries.
- b) Applicant for establishing a satellite nursery should produce the details of infrastructure such as land, water source etc that should be adequate for operating the nursery on a long term basis. The applicant should also have at least three years' experience in raising nursery, having knowledge and awareness about sources of procuring QPM. Such individuals/entrepreneurs/farmers should be registered under provisions of relevant local acts and rules at the time of application.
- c) For setting up of hi-tech /satellite nurseries public, private or individual land can be used.

Note: (Functions and responsibilities of Forest Development Agency are given in **Annexure-I**)

4.2.5 Quality planting material (QPM) certification:

Planting material of authentic vegetative or seed origin produced in hi-tech nurseries or tissue culture labs, with proven track record of high survival percentage in the field, faster growth, higher yield, resistance to pest and diseases, adaptability to local bio-physical, climatic and socio-economic conditions, and with high market demand, will be eligible to qualify as QPM. QPM should originate from properly established seed orchards, clonal orchards, Plus trees, hi-tech nurseries, etc. The mother stock used for production of QPM in hi-tech and satellite nurseries should be of diverse genetic origin. State Forest Department will be responsible for certification of QPM. It may authorize territorial/social forestry DFOs for the purpose to be called as Certification Authority. The authority

will register seed orchards/clonal orchards/plus trees/hi-tech nurseries/tissue culture facilities/satellite nurseries of government departments/ private organizations/individuals as production source of QPM. The authority will carry out frequent inspections/checks to ensure that planting material being produced in the nursery/lab is of high quality. It will be within the power of the Certification Authority to certify planting material coming from sources other than registered nurseries, to be QPM.

SFDs will notify the Certification Authority, and the procedure to be followed for certification of QPM.

4.3 Tree Planting

For tree planting, financial assistance will be directly provided to voluntary agencies, farmers' societies, tree growers' cooperatives, PSUs, recognised educational institutions, trusts etc. For planting by government departments, money will be routed through the SFD.

4.3.1 Type of Agencies that can be supported for tree planting:

The project proposals for financial assistance under the Grants-in-aid for Greening India Scheme of the National Afforestation and Eco-development Board (NAEB), hereinafter referred to as the Board, shall be entertained from:

- a) Government Departments, Urban Local Bodies, Panchayati Raj Institutions
- b) Public Sector Undertakings, Autonomous Bodies.
- c) Registered Societies, Non-Profit Organisations, Cooperatives, Charitable Trusts, Voluntary agencies.
- d) Registered Schools, Colleges, Universities
- e) State Forest Department

4.3.1.2. Only those agencies who have been registered at least for last five years, and who have requisite experience (at least 3 years) in the field of environment or working with people in other related social sectors, will be considered for financial assistance. In case of agencies other than government departments, it will be obligatory to furnish audited statement of accounts for the last three successive years. Till such time QPM¹ becomes available from high-tech/ satellite nursery funded under this Scheme, the agencies should use certified quality planting material obtained from any other source certified by the SFD

4.3.1.2 The Agency other than government departments should have a properly constituted Managing Body with its powers, duties and responsibilities clearly defined and laid down in a written constitution/ bye-laws.

4.3.1.4 The financial position of the Agency should be sound for the type of project to be taken up. It should not be run for profit of any individual or body of individuals. It should have the facilities, resources, experience and personnel for successful implementation of the proposed project.

1 The high tech /Satellite Nurseries will supply QPM for tree planting to the organizations funded under this scheme at the cost not exceeding Rs.10 per plant.

Production and availability of QPM is likely to take two years depending on level of awareness and facilities available in the state. Till the time QPM is not available, best available planting material certified by the SFD will be used for planting under the scheme.

4.3.1.5 Tree planting will be carried out by implementing agency in the manner given below:

- Non profit organizations /Voluntary agencies (private land, community land, forest land in collaboration with State Forest Department)
- Educational institutions/trusts/Public Sector Undertakings/Autonomous bodies (own/ community/ public land, abandoned mines/ quarries land affected by industrial waste
- Societies, other than JFMCs/ local bodies (public parks, avenue plantation, abandoned mines /quarries, land affected by industrial waste)
- Government departments, Panchayati Raj Institutions (own institutional land, roadsides, waterways, railway tracks, abandoned mines/ quarries, land affected by industrial waste)
- State Forest Department (forest areas through JFMCs)
- PSUs / (public/ private land, abandoned mines/ quarries, land affected by industrial waste)
- Panchayats (Panchayat land)

5. After-care and advisory services

A provision has been made for maintenance of the already existing clonal orchards and evaluation of the scheme.

6. Sequencing of activities

The SFDs shall provide technical back-up for successful implementation of the programme. During the 10th FYP, focus will be on awareness raising for use of QPM acquainting people with nursery/ planting techniques, cost/benefit analysis of raising different species of plants/trees, identifying catchments and species to be planted. SFDs will establish hi-tech nurseries on their own or through collaborative arrangements with appropriate organizations. Satellite nurseries shall be encouraged to be set up by private entrepreneurs including farmers. SFDs can avail of this opportunity to upgrade and rehabilitate their nurseries by entering into working arrangements with private parties. While planning the location and potential of QPM nurseries, SFD will keep in view the demand of agencies/ government departments being provided/likely to be provided financial assistance for tree planting under the scheme.

A broad outline of activities to be undertaken year-wise during the 10th FYP (2005-06 to 2006-07) is given below:

First Year: Literature in local language on package and practices of economically and socially important plant/tree species with cost/benefit analysis thereof, will be made available free of cost to the target groups. Electronic media will be effectively used to disseminate economic, environmental and social importance of trees/plants. Estimation survey to ascertain extent of availability of non-forest land, the kind of species and their quantity required, will be carried out by each SFD to work out the number and location of central/satellite nurseries. The SFDs will thoroughly acquaint themselves with material input requirements and other civil and mechanical construction details connected with the actual setting up of hi-tech central and satellite nurseries so that the work of establishment of hi-tech central nurseries and satellite nurseries could be taken up in first year itself. Training in the form of a workshop or seminars will also be provided to private entrepreneurs/nursery workers/farmers and other implementing agencies on QPM production and voluntary agencies on tree planting by SFD. As regards tree planting, proposals will be invited by the SFD from agencies/government

departments, and the same after scrutiny, appraisal, short listing and recommendations shall be forwarded to the NAEB. The SFDs while recommending proposals for tree planting, will ensure that the agencies provide in their projects use of quality planting material¹

Second Year: More number of central hi-tech nurseries will be set up in States/UTs with production capacity of at least 1 lakh plants per annum. These nurseries will be model nurseries and will serve as a source of genetically diverse quality planting material for satellite nurseries planned to cover each district of the country. These will also serve as information centres for dissemination of printed, oral and electronic material relating to all aspects of nursery raising, planting, tending and marketing of locally important tree/plant species and their derivatives. Satellite nurseries utilizing locally available technology will be set up near the potential planting catchments/areas of the district. More proposals for tree planting using quality planting material¹ produced by the high-tech/satellite nurseries, will be referred by the SFD to the NAEB.

This being also the last year of 10th FYP, will be utilized for evaluating the activities implemented so far. Detailed field level studies will be commissioned by at least seven representative States by engaging independent evaluators.

7. Project area and size

Degraded government (including forest) and private lands, abandoned mines/quarries, land affected by industrial waste, community lands, road sides, canal banks and railway lands, institutional lands can be taken up for plantation. Areas having compact blocks shall be preferred for tree planting activity following the watershed approach. For setting up of hi-tech/satellite nurseries, public, private and/or individual land can be used. The land on which activities are proposed should be properly and fully identified. Details of the land such as survey numbers, area, and names of owners should be given location-wise along with totals for the project. These details should be verified and authenticated by the concerned landowner or land owning body/authority.

Project land identified should be suitable for construction of satellite nursery/tree plantation, and could be located anywhere except notified forest areas wherein only SFD is eligible. For others while selecting the project area, preference may be given to lands adjacent to forest areas.

In respect of agencies other than government departments, PSUs, the plantation area should normally not exceed 50 ha. **For government departments, PSUs, there will be no upper limit of plantation area. As regards satellite nursery, minimum size permissible will be 500 sq m.**

8. Funding pattern

The scheme would be implemented as a Central Sector Scheme with 100% central funding for which projects would be sanctioned directly by National Afforestation and Eco-development Board.

¹The high tech /Satellite Nurseries will supply QPM for tree planting to the organizations funded under this scheme at the cost not exceeding Rs.10 per plant.

Production and availability of QPM is likely to take two years depending on level of awareness and facilities available in the state. Till the time QPM is not available, best available planting material certified by the SFD will be used for planting under the scheme.

9. Cost norms

(a) QPM Production

i) Awareness, appraisal, extension and training	Rs 8.00 lakh (lumpsum for SFD only)
ii) Hi-tech central nurseries with mist chambers sprinkler irrigation, root trainers, other improved technologies using genetically diverse plant material of vegetative or seed origin obtained from properly established seed orchards, clonal orchards, plus trees	Rs 10.00 lakh per 1 ha nursery (one time grant) for producing at least 1 lakh plants per annum . This is a grant for promotion of production of quality planting material.
iii) Satellite nurseries using local technologies such as, thatch shades, can sprinklers etc.	Rs1.00 lakh per 1 ha nursery (one time grant) with production capacity of 1 lakh plants/annum² .

b) Planting

i) Government/community land (1100 plants /ha)

Rs. 25- per plant inclusive of all costs comprising cost of plant, transportation, advance work, plantation, SMC, casualty replacement, protection, awareness and overheads

ii) Private land (1100 plants /ha)

Rs. 18/ per plant inclusive of all costs comprising cost of plant, transportation, advance work, plantation, SMC, casualty replacement, protection, awareness and overheads

iii) Abandoned mines/quarries, land affected by industrial waste, special problem lands like laterite Kankar pan, perpetual bouldery wastelands, steep slopes etc.³ (1100 plants /ha) Rs. 30/- per plant, inclusive of all costs comprising amelioration of soil, cost of plant, transportation, advance work, plantation, SMC, casualty replacement, protection, awareness and overheads

² For smaller nurseries with lesser area and lower production capacity, financial assistance will be admissible @ Re 1.00 per plant raised. Normally, the area of the nursery should not be less than 1/20th of a ha. The assistance will also be available for old nurseries made functional by way of up gradation and renovation. This assistance is only a grant for promotion of production of quality planting material. Care will be taken to disburse the assistance in such cases after properly verifying the actual work executed in connection with the up gradation /renovation of old nurseries

³this kind of land requires specialized treatment and improved technology for afforestation and, therefore, cost norms are higher.

c) Maintenance / improvement of clonal orchards

Rs. 5,000 per ha (one time grant) to be released through Central FDA in two equal instalments

10. Proportion of species

For planting, the type (species) of plants and their proportion should be carefully decided in consultation with the beneficiaries and local representatives or persons who have knowledge about the subject. The number of plants per hectare will depend on the silvicultural requirements of each type of plant and should be decided in consultation with persons who have technical knowledge of the subject. Species covered under planting/afforestation on forestlands, community lands and private lands should include local fast growing fuel wood, fodder, small timber, fruit, and other species with similar gestation periods, which provide food and income to the local people besides improving the status of the land, e.g., arjun, mulberry etc. This should be part of the microplan submitted along with the proposal.

11. Project planning

The project for production of QPM / tree planting should be location specific and as far as possible in compact block. Project dealing with plantation should normally not be spread over a large area covering several Districts.

The agency should plan the physical and financial targets for each activity and the time schedule for the various operations included in the project for which financial support is required.

Microplan should be prepared for the project area in consultation with the local community/beneficiaries as far as possible. Microplan should include:

- List of beneficiaries who participated in preparation of microplan;
- Site demarcation and management map preparation;
- The planting programme with temporal targets;
- Site preparation;
- Choice of species, and method of establishment/procurement of QPM, the techniques for raising QPM and planting, maintenance etc. should be explicitly given;
- Harvesting of fodder;
- Gestation period of the plantation and Year-wise schedule of harvesting fuel wood, fodder, small timber ,timber etc;
- Protection and aftercare; the village community should work out a mechanism best suited to the local conditions;
- Benefit sharing mechanism;

12. Documentation

The following documents wherever applicable, shall be submitted with the application form (Format of the application for tree planting and establishment of satellite/high-tech nursery are at **Annexures II&III** respectively)

- (i) Attested copy of registration certificate and articles and memorandum of association of the agency.
- (ii) Attested copies of audited statements of accounts for last three successive years

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- undertaken by an auditor on the panel of CAG.
- (iii) A note on past activities, especially those related to development of forestry or related social service sectors and three years experience in raising QPM and knowledge and awareness about sources of procuring QPM.
 - (iv) A list of beneficiaries giving details of land for nursery raising/tree planting, viz, survey/khasra numbers, area in ha. and names of owners, village-wise.
 - (v) Written consent of owners of land that they have no objection to nursery/afforestation activities being taken up on their lands. In case of private lands, the details at (iv) above along with the consent will have to be provided with the application form. These details should be verified and authenticated by the concerned Revenue officials/ Village Councils (for the Autonomous hill districts of the N.E region) and countersigned by the Member-Secretary of the concerned JFMC/EDC or the concerned Forester/ Block Forest Officer. However, the agency will have to certify on the list of beneficiaries that the agency has obtained the consent of the beneficiaries concerned for nursery, planting and maintenance/after care activities and the same is available in the agency's office for verification.
 - (vi) A certificate from the agency that at least 50% of the beneficiaries are SC/ST or from disadvantaged sections of society. This may not be insisted upon where the SC/ST population is not sufficient to fulfil this stipulation. However, at least 50% of the total beneficiaries should be women. This should be countersigned by the concerned village Panchayat /village council/local body.
 - (vii) A detailed note on its organizational structure, Bank account number etc, to implement the project at the field level.
 - (viii) The micro plan prepared in consultation with the people /beneficiaries.

13. Submission of proposals

The project proposals for production of Quality Planting Material shall be submitted by the agencies to the respective State Forest Departments. State Forest Departments after due scrutiny will consolidate the proposals for QPM production and forward the same to NAEB for consideration. Likewise, the project proposal for Voluntary Tree Planting, complete in all respects, should be submitted in duplicate in the prescribed format directly to the Principal Chief Conservator of Forests of the concerned State Government/UT Administration. The completed proposals as per the scheme guidelines shall be received by the State/UT Forest Department and forwarded to NAEB after scrutiny as per the dates prescribed in the advertisement issued by NAEB. However, in exceptional circumstances, NAEB may vary the schedule, or receive projects from State PCCF beyond the last date. The NAEB shall not receive/entertain any proposal under the component 'Voluntary Tree Planting' or 'Production of QPM' sent directly by any agency to the Board.

14. Scrutiny of applications

14.1 Tree planting

The proposals received by the PCCFs shall be screened and scrutinized for their suitability, technical feasibility and credibility of information/documents pertaining to the proposals before recommending 10-15 proposals in order of merit to the NAEB for further consideration along with their pre-appraisal report in the prescribed format (Format for preappraisal of proposals is given at **Annexure –IV**). The respective PCCFs may decide on the modality/mechanism for screening and

scrutiny of the proposals. State Forest Department shall constitute a broad based committee headed by the PCCF having representation of NGO sector/non official and line departments for screening the proposals.

The following criteria may be adopted for selection of projects for recommendation to NAEB:

- To ensure appropriate regional distribution across the State
- Projects tackling high proportion of community/government revenue lands may be given preference
- Status of project area in terms of:
- Land degradation, soil erosion, drought conditions, human development indices, availability of wastelands, extent of forest/tree cover
- Past performance and credibility of the agency including their financial soundness and non-involvement in the anti-social or anti-national activities

While forwarding the recommendations, the PCCFs should also give a summary of the total proposals received and considered for recommendation to the Board. Board will accept the final recommendations only once, as per the last date mentioned in the advertisement issued by NAEB. The recommendations received from the PCCF in respect of prioritized proposals shall be valid for the relevant financial year only and shall not be carried forward to the next financial year. The recommendations are to be sent only once in a year by the PCCFs.

14.2 Quality planting Material

The proposals received from the SFD will be scrutinized by the Board and considered on merit subject to amount of funds earmarked for the State (Format for preappraisal of proposals is given at **Annexure –V**)

15. Sanction of projects

On receipt of the proposals from the respective PCCFs, NAEB may consider these for further processing for sanction. The following shall be the determinant factors for sanction of new projects in the 10th Plan period under the scheme:

- Distributional equity across the country on the basis of Afforestation potential of the State

(Afforestation potential is calculated on the basis of various factors such as percentage of area under green cover, size of the state, land availability, land degradation, climatic conditions, commitment of State towards increasing green cover)
- Availability of funds under the Scheme
- Relative priorities based on national perspective/contingencies
- Any other criterion adopted by the NAEB

In order to bring more transparency in the system of processing and sanctioning apart from application formats, status of all proposals received by the NAEB and the sanctions issued will be hosted on the web.

16. Monitoring and evaluation

SFD will arrange for monitoring and physical verification of the activities such as raising of nurseries and plantations undertaken by the implementing agencies under the scheme at the time of release of subsequent installments, i.e., in the second and third year of the project for smooth and purposeful delivery of the scheme. The funds required for monitoring and verification will be provided to the State PCCFs through central FDA. SFD will also undertake annual monitoring of the ongoing scheme in the State. Overall Evaluation of the Scheme across the country will be done by the NAEB through independent evaluation agencies, and the parameters for such evaluation will be set by NAEB.

17. Terms and conditions

In case of Agencies other than government departments, the grantee should execute a bond under the General Financial Rules (GFR) in the prescribed format and submit it to the Board with a copy to the respective PCCF before the release of grant, once the proposal is approved by the NAEB for grant of financial assistance under the scheme.

All other usual terms and conditions as applicable under GFR to grantees including government departments, will apply.

18. Penalties in case of misutilization of grants

1. The members of the executive of the Voluntary agency would be liable for recovery of misused grants. The Voluntary agency as well as members of its Managing Committee would also be liable to be blacklisted by the Ministry.
2. Immovable assets created from the funds of the Ministry, if not utilized as envisaged in the scheme, would be taken over by the local body/State Government/ or a body prescribed by NAEB.

19. Cessation of voluntary agency activities

In the case of permanent closure of a project in any area by the Voluntary agency, immovable assets created through assistance of the Ministry would be handed over through the State Government to local body/Panchayat.

20. Ongoing projects under GIA scheme

Projects sanctioned under the GIA Scheme up to the year 2004-05 which are under implementation, shall continue to follow the earlier GIA guidelines. However, these projects are expected to make use of QPM for planting as and when the same becomes available.

**STRUCTURE, COMPOSITION, FUNCTIONS AND ACTIVITIES OF
FOREST DEVELOPMENT AGENCY**

Forest Development Agencies (FDAs): FDAs are to be registered as Federation of all Joint Forest Management Committees (JFMCs) within a territorial /wildlife forest divisions under the Societies' Registration Act, with the following structure:

<u>General Body</u>	<u>Executive Body</u>
Chairperson- Conservator of Forests	Chairperson- Conservator of Forests
Members:	Member Secretary cum Chief Executive Officer – Divisional Forest Officer
Presidents of JFMC General Bodies, not more than 50 at any time, to be nominated by Chairperson on rotational basis for a period of one year ^{2 [2]} , of which 20 would be women representatives. In the event adequate number of women chairpersons are not available, the women representatives will be drawn from the members of the General Bodies of JFMCs.	Members Ex-officio Members (without voting rights) – District Development Officer, District level Officers of Agriculture, Rural Development, Animal husbandry, Soil Conservation, Tribal Welfare, Industries, Public Health & Engineering, and Education Departments ^{3 [3]} .
One non-official representative to be nominated by the apex institutional framework of Panchayats.	ADM/AC to be nominated by DC/DM ² . One non-official representative to be nominated by the apex institutional framework of Panchayats.
Range Forest Officers, ACFs/SDFs.	Fifteen nominees from the JFMCs, to include minimum of 7 women.

Note 1: FDAs for the Wildlife Divisions shall be confined to the territorial jurisdiction of protected area network under their control.

Note 2: Executive Body of the FDA will co-opt the experts (without voting rights) in such disciplines as are not represented to advise on the preparation of microplans and for implementing specific components of the projects.

¹ A person who has served on the General Body would be eligible for re-nomination after two years of the expiry of his previous tenure.

² In case the forest division falls in more than one district, representatives of all concerned districts will be nominated to function on the Executive Body.

The General Body will meet at least once in a year, while the Executive Body will meet at least once in three months.³

Activities of FDAs

- (i) Implementation of centrally sponsored afforestation schemes.
- (ii) Other beneficiaries oriented activities like agro forestry, avenue plantations.
- (iii) Take steps for value addition and marketing of produce.
- (iv) Inventorisation of land and other natural resources.
- (v) Environmental education.
- (vi) Awareness and active association in protection against poaching and illicit felling of timber.
- (vii) Establishment and management of decentralised nurseries with marketing arrangements.
- (viii) Assist in management of CPRs.
- (ix) Address socio-economic needs of people.
- (x) Management of existing captive water resources in the villages.
- (xi) Active involvement in forest fire fighting operations.
- (xii) Monitoring of activities of local NGOs.

Functions of FDAs

- (i) Approve plans for all afforestation related activities in forest fringe villages, including the microplans.
- (ii) Provide support and assistance to JFMCs for micro planning.
- (iii) Organise training and awareness programmes.
- (iv) Implementation of water harvesting and soil conservation measures with appropriate approvals.
- (v) *Inter se* prioritisation for scheme- and activity-wise financial outlays.
- (vi) Decide entry point activities.
- (vii) Formulate guidelines for utilisation and sharing of usufruct.
- (viii) Evolve rules for use of funds created.
- (ix) Improvise technological improvements.
- (x) Develop Guidelines for employment generation opportunities.
- (xi) Establish and maintain decentralised nurseries.
- (xii) Coordinate and Monitor the activities of their constituent JFMCs.
- (xiii) Conceptualise innovative schemes, viz. establishment of botanical gardens, sacred groves etc.
- (xiv) Deal with contingencies such as drought, flood and forest fires.
- (xv) Coordinate with DRDAs and other relevant government departments to dovetail their schemes and programmes with afforestation schemes so that watersheds can be developed in a holistic manner.

3. A member who does not attend three consecutive meetings of the executive meetings of the executive body shall be disqualified from the executive body.

**APPLICATION FOR VOLUNTARY TREE PLANTING UNDER THE GRANTS-IN-AID
FOR GREENING INDIA SCHEME DURING THE 10th PLAN PERIOD**

GENERAL INSTRUCTIONS

1. Please fill in all columns.
2. If space under any column seems insufficient, separate sheet may be attached; but gist of what you want to say should be given in the space provided.
3. Along with the application please enclose the requisite documents as stated in the guidelines of the scheme.

PART I: GENERAL

- 1.1 Name and postal address of the Agency/Applicant Organisation:
- 1.2 Name of the Post Office with PIN code:
- 1.3 Name of the Police Station (with reference to the Organisation's address):
2. Telephone No. with STD code: ----- Fax No.: -----
3. Telegraphic Address: -----
- 4.1 Name and designation of Chief Functionary:
- 4.2 Telephone No. with STD code:
- 4.3 Name and designation of other Members of the Executive Body:
5. Status of Organization (tick): Cooperative, Voluntary Agency, Registered Society, Trust, Any other (specify):
- 6.1 Registration number and Date and Place of Registration:

-
- 6.2 Name of the Registering authority and its address:
- 6.3 Act under which registered:
- 6.4 Validity upto:
7. Title of the project for which grant is sought:
8. Objectives of the project (in brief):
- 9.1 Implementation of the project (Explain in brief how the project will be implemented with special reference to the following points. In case any of them is not applicable, please write 'N.A.')
- 9.2 Details of the land available:
- (i) Type of land/Government/Revenue, Forests/Community/Private
 - (ii) Name of the block/village
 - (iii) Name of Compartment/Khasra/title etc.
- 9.3 Irrigation sources:
- 9.4 Who will provide technical assistance, if required, to the agency?
- 9.5 Organisation and management of work (Please give details of the organisational structure to implement the project especially at the field level);
- 9.6 Any other salient features of the project you may wish to highlight:
- 9.7 Present Bankers of the organization
- 9.7.1 Name and Branch of the Bank
 - 9.7.2 Bank account number and type of account.
 - 9.7.3 Postal address of the bank.
10. Past experience in the afforestation or related activities.
- (i) Details of projects taken up in the last 10 years:
 - (ii) Fund availability and its sources for implementation of the above said projects:

PART -II

CERTIFICATE TO BE SUBMITTED WITH THE APPLICATION

CERTIFIED THAT:

1. We shall abide by all the Terms and Conditions of the Grant.
2. We shall furnish such periodical/special reports as may be required by NAEB
3. Our books and records shall be open to inspection at all times to NAEB or their authorised representatives.
4. NAEB may, at their discretion, themselves or through their authorised representatives evaluate the physical progress/utilisation of funds for this project.
5. The undersigned shall be personally responsible for the credibility and authenticity of the information provided and documents attached with the proposal and legally liable for any default in this regard.
6. In the event of any default or deviation from the terms and conditions of sanction of the project, the Board shall have the right to recover the grant from the Agency.

* Photograph of
the Chief
functionary of
the applicant
agency duly
attested by a
gazetted
officer.

Signatures, Names and
Stamp of Chief Functionary
of the Agency

Postal address:
Telephone Number with STD code:

* Name, designation and seal of the attesting official.

PART -III

CHECKLIST OF DOCUMENTS TO BE SUBMITTED ALONG WITH APPLICATION

1. Attested copies of the Registration Certificate, Memorandum of Association and Bye- laws of the Agency .
2. Attested copy of the Audited Statement of Accounts for the last three successive years.
3. A note on past activities especially those related to forestry or related social service sectors development.
4. Latest Bank account Statement of the organization.
5. A list of beneficiaries giving details of land for nursery raising/tree planting viz. survey/ khasra numbers, area in ha. and names of owners, Local body/ Village-wise. However, the Agency will have to certify on the list of beneficiaries that the Agency has obtained the consent of the beneficiaries concerned for nursery, planting and maintenance/ after care activities and the same is available in the Agency's office for verification.
6. Written consent of owners of land that they have no objection to nursery/afforestation activities being taken up on their lands. These details should be verified and authenticated by the concerned Revenue officials/ Village Councils (for N. E. region) and countersigned by the Member-Secretary of the concerned JFMC/EDC or the concerned Forester/Block Forest Officer.
7. A certificate from the agency that at least 50% of the beneficiaries are SC/ST or from disadvantaged sections of society. This may not be insisted upon where the SC/ST population is not sufficient to fulfil this stipulation. However, at least 50% of the total beneficiaries should be women. This should be countersigned by the concerned village panchayat/village council/local body.
8. A detailed note on the Agency's plan for nursery raising, soil and moisture conservation works, tree planting and also the details of its organisational structure to implement the project at the field level.
9. A certificate from the agency that at least 50% of the beneficiaries are SC/ST or from disadvantaged section of the society duly countersigned by the respective village Panchayat.
10. Location map of the proposed area.
11. Details of land, Local Body/ Village-wise, indicating Khasra Nos./plot Nos. and area in ha. These details should be verified and authenticated by the concerned Revenue or Local Body officials/ Village Councils (for autonomous districts of N.E. region) and countersigned by the Member-Secretary of the concerned JFMC/ EDC or the concerned Forester/ Block Forest Officer.
12. A certificate from the agency stating the use of certified Quality planting material (QPM)produced under the scheme for tree planting and use of QPM certified by State Forest Department till such time QPM is not made available.

That the implementing Agencies namely shall procure the quality planting material from State Forest Department or from the Agency certified by State Forest Department.....

PART IV: Format for project proposal for tree planting

1. STATUS OF LAND

1.1 STATE: _____ DISTRICT: _____
 BLOCK: _____ TALUKA: _____

VILLAGE/LOCAL BODY (Where work would be undertaken)	AREA (in hectares)	NUMBER OF BENEFICIARIES
1.		
2.		
3.		
4.		
5.		
6.		
7.		
TOTAL		

- * Local body/ Village-wise details of beneficiaries should be given separately
- In case the number of locations exceeds 6, please attach a separate sheet of paper giving these details.

1.2 OWNERSHIP PATTERN:

	AREA (HA) to be afforested	LOCATION (Name of Village/ local body) (Khasra number etc)
Private land	-----	-----
Community land	-----	-----
Government Revenue land	-----	-----
Forest land	-----	-----
Any other (specify)	-----	-----
TOTAL	-----	

1.3 TYPE OF LAND TO BE TAKEN UP UNDER THE PROJECT;

	AREA (ha.)
Gullied and/or ravinous land	-----
Undulating upland with or within scrub	-----
Surface water logged land and marsh	-----
Salt affected land	-----
Shifting Cultivation Area	-----
Degraded forest land	-----
Strip lands	-----
Sands	-----
Mining/industrial wastelands	-----
Marginally Cultivated land	-----
TOTAL	-----

1.4 NUMBER OF BENEFICIARIES AND OTHER CATEGORIES;

A) Total Number of Beneficiaries* -----

B) CATEGORY	NO. OF BENEFICIARIES
SCHEDULED CASTE (SC)	
SCHEDULED TRIBE (ST)	
MARGINAL FARMERS (MF)	
SMALL FARMERS (SF)	
LANDLESS (LL)	
WOMEN (W)	

OTHER (SPECIFY) (O)

*Caution - The sum of total of the categories will not be the same as mentioned at 'A' as the categories are overlapping.

1.5 Location Map of the Project Area

1.6 Quality planting material to be procured/purchased from:

PART V: PHYSICAL /FINANCIAL

2.1 DURATION OF THE PROJECT FROM ----- TO -----

(The period should be at least of 3 year duration)

2.2 PHYSICAL TARGETS OF THE PROJECT (YEAR-WISE):

ACTIVITY	Year-1	Year-2	Year-3	Total
----------	--------	--------	--------	-------

A. QPM

Number of Seedling
to be procured/purchased

B. PLANTING

Seedlings to be planted:
Public lands (area in ha)
Number of seedlings
Private lands (area in ha)
Number of seedlings

C. AWARENESS RAISING/EXTENSION/

Training etc. activities
Number of camps/ workshops etc.
Number of persons

D. PROTECTION MEASURES

Public lands only (area in ha)

E. SOIL & WATER CONSERVATION MEASURES

Public lands (area in ha)

Private Land (area in ha)

Forest lands (area in ha)

F. TRANSPORTATION OF SEEDLINGS

(Hill and Desert areas only)

Number of seedlings to be
Transported

G. ANY OTHER (SPECIFY)

3.A. PHASING OF FINANCIAL ASSISTANCE SOUGHT

ACTIVITY	AMOUNT IN Rs.			
	Year-1	Year-2	Year-3	Total
A. NURSERY				
@ Rs. -----/seedling				
B. PLANTING				
Public lands				
@ Rs. -----/seedling/ha*				
Private lands				
@ Rs. -----/seedling/ha*				
Forest lands				
@ Rs-----/seedlings/ha*				

C. SOIL & WATER CONSERVATION MEASURES

Public lands

@ Rs. -----/seedling/ha*

Private lands

@ Rs.-/seedling/ha*

D. OVERHEADS

Upto 10% of the cost of A+B+C

E. AWARENESS RAISING/EXTENSION/
TRAINING etc.

Upto 5% of the cost of A+B+C

F. PROTECTION MEASURES

(Public/Forest lands only)

@ Rs.-/ha

G. TRANSPORTATION OF SEEDLINGS

(Hill and Desert area only)

@ Rs.-/seedling/ha*

H. ANY OTHER (SPECIFY)

TOTAL

- Strike out whichever is not applicable.

3.B List of species to the planted

3.C SOURCE OF FUNDS:

3.C.1 FINANCIAL ASSISTANCE REQUIRED FROM NAEB:

	ACTIVITY	Amount in Rs.
a)	Nursery	-----
b)	Planting	-----
c)	Soil & Water Conservation Measures	-----
d)	Overheads	-----
e)	Awareness raising	-----
f)	Protection Measures	-----

g)	Transportation of seedlings	-----
h)	Any other (specify)	-----
	Total	-----

3.C.2 FROM OTHER SOURCES

a)	Bank (specify name of the Bank)	-----
b)	Any other Govt. Scheme (specify)	-----
c)	Own funds of the Applicant Agency	-----
d)	Other (specify)	-----
	Total	-----

TOTAL PROJECT COST (3.C.1+3.C.2)

3.D Please name the nearest place (convenient to the agency) alongwith district, which has a branch of Union Bank of India.

3.E If NAEB have sanctioned a Grant-in-Aid for other project(s) for this applicant agency in the past, details thereof including sanction number(s) and date(s):

PART VI: PROTECTION, USUFRUCT/BENEFITS

4.1 Protection of plantations with special reference to the concept of Social Fencing:

4.2 Maintenance of Nursery and Plantations:

4.3 In case of community plantation, how will the produce be distributed?

4.4 In case of individual farmers, what benefits accrue?

4.5 If any other form of organisation to utilize the produce is being envisaged, please give details.

PART -VII

TREE PLANTING – COST NORMS FOR VARIOUS SUBCOMPONENTS

Sl.No	Item of Work	Approved Cost Norms		
		For Govt./ Community land (1100 plants/ha.)	For Private land (1100 plants/ha.)	Abandoned mines /Quarries /Special problem lands
1.	Nursery raising *	11000	11000	11000
2.	Plantation			
	(a) Advance Work	6320	3575	9000
	(b) Plantation	5000	2830	5000
3.	Soil & Moisture Conservation	1800	1020	4200
	Sub-total	24120	18425	29200
4.	Overheads	1380	780	1500
5.	Awareness raising	700	395	700
6.	Protection	1100	-	1100
7.	Transportation (hilly and desert areas only)	200	200	500
	TOTAL	27500	19800	33000

* Cost of purchase of QPM from nurseries established under the scheme.

**APPLICATION FOR ESTABLISHMENT OF SATELLITE/HIGHTECH NURSERY
UNDER THE GRANTS-IN-AID FOR GREENING INDIA SCHEME
DURING THE 10th PLAN PERIOD**

GENERAL INSTRUCTIONS

1. Please fill in all columns where ever applicable.
2. If space under any column seems insufficient, separate sheet may be attached; but gist of what you want to say should be given in the space provided.
3. Along with the application please enclose the requisite documents as stated in the guidelines of the scheme.

PART I: GENERAL

- 1.1 Name and postal address of the Agency/ individual
- 1.2 Name of the Post Office with PIN code:
- 1.3 Name of the Police Station (with reference to the Organisations address):
2. Telephone No. with STD code: ----- Fax No.: -----
3. Telegraphic Address: -----
- 4.1 Name and designation of Chief Functionary:
- 4.2 Telephone No. with STD code:
- 4.3 Name and designation of other Members of the Executive Body:
5. Status of Organisation (tick): SFD/FDA/Private entrepreneur/Farmer below poverty line.
- 6.1 Registration number and Date and Place of Registration:
- 6.2 Name of the Registering authority and its address:
- 6.3 Act under which registered:

-
- 6.4 Validity upto
 - 6.5 Certificate from Tehsildar incase of Farmer below Poverty line.
 - 6.6 Certificate from Local DFO in case of individual regarding his experience and credibility.
 7. Title of the project for which grant is sought:
 8. Objectives of the project (in brief):
 9. Implementation of the project :(Explain in brief how the project will be implemented with special reference to the following points. In case any of them is not applicable, please write 'N.A.'):
 - 9.1 Details of the land available:
 - (iv) Type of land/Government/Revenue/Forests/Community/Private
 - (v) Name of the block/village
 - (vi) Name of Compartment/Khasra/title etc.
 - 9.2 Irrigation sources:
 - 9.3 Who will provide technical assistance, if required, to the agency?
 - 9.4 Organisation and management of work (Please give details of the organisational structure to implement the project especially at the field level);
 - 9.5 Any other salient feature of the project you may wish to highlight:
 - 9.6 Present Bankers of the organization
 - 9.6.1 Name and branch of the Bank.
 - 9.6.2 Postal address
 - 9.6.3 Bank account number and type of account.
 10. Past experience in raising Quality planting material or at least in raising a normal nursery.
 11. Details of projects taken up in the last 10 years:
 12. Fund availability and its sources for implementation of the above said projects:

PART -II

CERTIFICATE TO BE SUBMITTED WITH THE APPLICATION

CERTIFIED THAT:

1. We shall abide by all the Terms and Conditions of the Grant.
2. We shall furnish such periodical/special reports as may be required by NAEB
3. Our books and records shall be open to inspection at all times to NAEB or their authorised representatives.
4. NAEB may, at their discretion, themselves or through their authorised representatives evaluate the physical progress/utilisation of funds for this project.
5. The undersigned shall be personally responsible for the credibility and authenticity of the information provided and documents attached with the proposal and legally liable for any default in this regard.
6. In the event of any default or deviation from the terms and conditions of sanction of the project, the Board shall have the right to recover the grant from the Agency.

* Photograph of the Chief functionary of the applicant agency duly attested by a gazetted officer.

Signatures, Names
and Stamp of Chief Functionary
of the Agency

Postal address:
Telephone Number with STD code:

* Name, designation and seal of the attesting official.

PART -III

CHECKLIST OF DOCUMENTS TO BE SUBMITTED ALONG WITH APPLICATION

1. Attested copies of the Registration Certificate, Memorandum of Association and Bye- laws of the Agency.
2. Attested copy of the Audited Statement of Accounts for the last three successive years.
3. A note on past activities especially those related to raising of Quality planting material or raising seedlings in a nursery.
4. A list of beneficiaries giving details of land for nursery raising/survey/khasra numbers, area in ha. and names of owners, Local body/ Village-wise. However, the Agency will have to certify on the list of beneficiaries that the Agency has obtained the consent of the beneficiaries concerned for nursery, after care activities and the same is available in the Agency's office for verification.
5. Written consent of owners of land that they have no objection to nursery/afforestation activities being taken up on their lands. These details should be verified and authenticated by the concerned Revenue officials/ Village Councils (for N.E. region) and countersigned by the Member-Secretary of the concerned JFMC/ EDC or the concerned Forester/ Block Forest Officer.
6. A certificate from the agency that at least 50% of the beneficiaries are SC/ST or from Disadvantaged sections of society. This may not be insisted upon where the SC/ST population is not sufficient to fulfill this stipulation. However, at least 50% of the total beneficiaries should be women. This should be countersigned by the concerned village Panchayat/village council/ local body.
7. Latest Bank Accounts Statement of the organization.
8. A detailed note on the Agency's **plan for nursery raising**, and also the details of its organisational structure to implement the project at the field level.
9. A certificate from the agency that at least 50% of the beneficiaries are SC/ST or from disadvantage section of the Society duly countersigned by the respective village panchayat.
10. Location map of the proposed area.
11. Details of land, Local Body/ Village-wise, indicating Khasra Nos./plot Nos. and area in ha. These details should be verified and authenticated by the concerned Revenue or Local Body officials/ Village Councils (for autonomous hill districts of N.E region) and countersigned by the Member-Secretary of the concerned JFMC/EDC.
12. Certificate from the agency regarding use of certified seed/vegetative material for QPM Production.

PART IV: Format for project proposal for establishment of High tech/Satellite Nursery

1. STATUS OF LAND

1.1 STATE:

DISTRICT:

BLOCK:

TALUKA:

VILLAGE/LOCAL BODY (Where work would be undertaken)	AREA (in hectares)	NUMBER OF BENEFICIARIES
--	-----------------------	----------------------------

- 1.
- 2.
- 3.
- 4.
- 5.
- 6.
- 7.

TOTAL

- * Local body/ Village-wise details of beneficiaries should be given separately
- In case the number of locations exceeds 6, please attach a separate sheet of paper giving these details.

1.2 OWNERSHIP PATTERN:

	LOCATION	
	(Name of Village/ local body)	(Khasra number etc)
Private land	-----	-----
Community land	-----	-----
Government Revenue land	-----	-----
Forest land	-----	-----
Any other (specify)	-----	-----

2. NUMBER OF BENEFICIARIES AND OTHER CATEGORIES;

A) Total Number of Beneficiaries* -----

B) CATEGORY NO. OF BENEFICIARIES

SCHEDULED CASTE (SC)

SCHEDULED TRIBE (ST)

MARGINAL FARMERS (MF)

SMALL FARMERS (SF)

LANDLESS (LL)

WOMEN (W)

OTHER (SPECIFY) (O)

*Caution - The sum of total of the categories will not be the same as mentioned at 'A' as the categories are overlapping.

3. Location Map of the Nursery Area

PART V: PHYSICAL /FINANCIAL

4.1 DURATION OF THE PROJECT FROM ----- TO -----

4.2 PHYSICAL TARGETS OF THE PROJECT

ACTIVITY

. NURSERY

1. Number of Seedling
to be raised

5. List of species to the planted

6. SOURCE OF FUNDS:

6.1 FINANCIAL ASSISTANCE REQUIRED FROM NAEB:

ACTIVITY	Amount in Rs.
a) Infrastructure	-----
b) Technology	-----
c) Irrigation	-----
d) Others	
i)	-----
ii)	-----
iii)	-----
Total	-----

6.2 FROM OTHER SOURCES

- a) Bank (specify name of the Bank) -----
- b) Any other Govt. Scheme (specify) -----
- c) Own funds of the Applicant Agency -----
- d) Other (specify) -----

Total

TOTAL PROJECT COST (6.1+6.2)

7. Please name the nearest place (convenient to the agency) alongwith district, which has a branch of Union Bank of India.

8. If NAEB have sanctioned a Grant-in-Aid for other project(s) for this applicant agency in the past, details thereof including sanction number(s) and date(s):

9. Note on maintenance of Nursery

Pre-appraisal report for Voluntary Tree planting

1. Name of Organization :
- a) Address :
- b) Contact Person :
- c) Phones No. :
- d) Branches (if any) :

2. Registration No. :
- a) Act under which registered :
- b) Validity up to (year) :

3. Experience of the Agency :
- a) Forestry :
- b) Nursery :
- c) Awareness :
- d) Others (Specify) :

4. Funds received in past :
- a) Government Departments :
- b) DRDA :
- c) Others :

5. Availability of Land :
- a) Govt. Revenue Land :
- b) Community Land :
- c) Forest :
- d) Private :

-
6. a) Distance from Forests Area (in Km.)
b) Adjacent to :
7. Technical Feasibility :
a) Species proposed :
i) Are they suitable to the :
area/Soil type
ii) Will they meet the local :
Demands
8. Source of QPM :
9. Personnel of Agency
10. Bank account number Name of the Bank and Branch :
(MICR Code of branch)
11. General creditability of the agency :

Place:

Date

Name & Signature of the Evaluator
Seal of the Evaluating Agency

(NOTE: Report will not be accepted if submitted incomplete)

Pre-appraisal report for establishment of satellite nursery

1. Name of Organization/individual :
- a) Address :
- b) Contact Person :
- c) Phones No. :
- d) Branches (if any) :

2. Registration No. :
- a) Act under which registered :
- b) Validity up to (year) :

3. Experience of the Agency/individual :
- a) Forestry :
- b) Nursery :
- c) Production of quality planting Material. :
- d) Others (Specify) :

4. Funds received in past :
- a) Government Departments :
- b) DRDA :
- c) Others :

5. Availability of Land :
- a) Govt. Revenue Land :
- b) Community Land :
- c) Forest :
- d) Private :

-
6. Technical Feasibility :
 - a) Species proposed :
 - iii) Are they suitable to the area/Soil type :
 - iv) Will they meet the local Demands :
 7. Source of procurement of seeds/ vegetativematerial (certified or not) :
 8. Personnel of Agency
 9. Bank account number Name of the Bank and branch (MICR No. of branch) :
 10. General creditability of the agency/individual :

Place:

Date

Name & Signature of the Evaluator
Seal of the Evaluating Agency

(NOTE: Report will not be accepted if submitted incomplete)

ILLUSTRATIVE GUIDELINES FOR ESTABLISHMENT OF HIGH-TECH AND SATELLITE NURSERIES

Main objective of establishing high-tech/satellite nursery is to improve productivity of the plantations through production and supply of quality planting material (QPM). Grants-in-Aid for Greening India Scheme provides one time financial assistance of Rs. 10 lakhs for establishment of each high tech nursery of 1 lakh seedling capacity with features of improved technology such as mist chamber, root trainers, sprinkler irrigation etc. An assistance of Rs. 1 lakh is slated to be provided for establishment of satellite nurseries of 1 lakh seedling capacity each using locally available material like thatch shades, can sprinklers, vermi-compost etc. Various steps involved in production of quality planting material are:

1. QPM certification.
2. Use of certified quality seeds/planting material of vegetative origin
3. Use of cost effective high technology infrastructure such as mist chambers, root trainers, mist nets, sprinkler irrigation etc.

1. Quality planting material certification:

The quality seed/planting material of vegetative origin with proven track record of high survival % in the field ensuring improvement in productivity of the plantations, faster growth, higher yield, resistance to pest and diseases, adaptability to local biophysical, climatic and socio-economic conditions, and with high market demand, will be eligible to qualify as QPM.

QPM should originate from properly established seed orchards, clonal orchards, plus trees, hi-tech nurseries, etc. State Forest Department (SFD) will be responsible for certification of QPM. It may authorize territorial/social forestry DFOs for the purpose to be called as Certification Authority. The authority will register seed orchards/clonal orchards/plus trees/hi-tech nurseries/tissue culture facilities/satellite nurseries of government departments/ private organizations/individuals as production source of QPM. The authority will carry out frequent inspections/checks to ensure that planting material being produced in the nursery/lab is of high quality. It will be within the power of the Certification Authority to certify planting material coming from sources other than registered nurseries, to be QPM. SFDs will notify the Certification Authority, and the procedure to be followed for certification of QPM.

2. Use of Certified quality seed /planting material of vegetative origin as propagating material:

It is imperative to use seeds or the material of vegetative origin certified by the certification authority for production of planting material in high-tech nurseries. The objective of use of certified seeds and other planting material is to ensure production of good quality planting material of genetically superior trees for faster growth, high yield, disease and drought resistance.

3. Use of cost effective high technology infrastructure:

The level of technology advancement to be achieved depends on the quality of planting stock being used, availability of equipment, infrastructure and trained manpower. The use of source identified seeds for raising quality seedlings may not require very sophisticated and costly nursery equipment. However, since the high-tech nurseries require planting stock of very high quality obtained from clonal seed orchards (CSOs), elite trees etc., it is imperative to go for high quality mist chambers, shade houses, hardening chambers, root trainers, sprinkler irrigation and other sophisticated infrastructure. For satellite nurseries, such high level of technology input may not be required.

3.1 Root trainer technology: Seedlings raised in polythene bags often suffer from certain disadvantages, root coiling and distortion being the most critical. The tap root in polythene bag when strikes the bottom, generally fails to penetrate the wall of the bag and starts coiling within the bag. Even if it is able to penetrate the bottom of the bag, it spreads out into the nursery bed. Such seedlings, when lifted, suffer a sever root shock, often resulting in heavy mortality. Very often the coiled root strangulates itself as it grows, leading to stunted growth and untimely death of a plant. Root trainers are increasingly being favoured to deal with the disadvantages of the polythene bag seedling production system. These containers are usually made up of high-density polyethylene, designed with 4-6 vertical ribs and have open bottoms. They are either separate tubes or joined into blocks and are available in various shapes and sizes. The most common type is the 'Hiko pots' with 20-25 cavities, and each cavity having a volume of 150 cc. The root trainers are kept raised off the ground so as to allow aerial pruning of any roots growing through the drainage hole. Roots are trained vertically downwards along the ribs, do not coil and get self-pruned, resulting in formation of more fibrous roots. Root trainers also require lesser inputs, have fewer weed problems, are easy to handle and transport, and are re-usable for at least five years. Absence of root coiling and excellent development of fibrous root system, use of uniform compost based pot mix, ease in handling and transport ensure fast establishment, higher survival and better growth after planting.

3.2 Modification of Root trainers: Despite the introduction of root trainers and their advantages, the polythene bag seedling production system is likely to stay for the bulk production of planting stock owing to its seemingly low costs. Modifications in polythene bag seedling production system have been suggested to overcome the problems of root distortion and to induce more fibrosity in the root system. One method could be to keep the polythene bags above ground say on Mounted Angle Iron (MAI) beds. Seedlings raised on such beds are expected to derive the benefits similar to root trainers.

3.3 Mist chambers: It is impossible to provide a design for vegetative propagation facilities which can be used in every ecological zone of India. The primary requirement is high humidity, i.e., 85% or over, adequate light and sterilized conditions. Mist irrigation systems made up of high density polyethylene (HDPE) are now easily available in the market. These systems are cheaper and easier to install and maintain. Two more devices can be employed for high humidity propagation, i.e., humidifiers and foggers. It is important that the temperature in the mist chamber should not exceed 250 C to 280 C. Under Indian conditions, excess heat is often critical factor and so shade arrangement becomes compulsory.

3.4 Clonal propagation: The clonal propagation means propagation of genetically identical individuals through asexual reproduction by vegetative propagation. The clonal technology offers distinct advantage as the clonal seedlings are produced directly from vegetative parts

of genetically superior trees which give true-to-type progeny with genetic qualities identical to the mother plant. The superiority of clonal seedlings are reflected in their fast growth, high yield, disease resistance with most desirable qualities leading to higher productivity, better uniformity and improved qualities of the plantations.

3.4.1 Teak root-shoots or stumps: Teak root-shoot or stump is chiefly used as planting material in Teak plantations. The teak root-shoot is prepared by cutting one year old healthy seedlings uprooted from the nursery into 15-20 cm root and 2.5 cm shoot portion with average thickness of more than one cm. The quality teak stumps are produced from the seeds collected from identified best seed sources such as seed production areas and seed orchards.

3.4.2 Rooting medium: Another important feature of vegetative propagation is the rooting medium. The basic requirements for a rooting medium is that it should be sterile, have a texture which will support the seed and cuttings, adequate drainage to ensure that there is always adequate oxygen available in the medium and it should be readily available. A range of media, viz., coconut husks, sterilized sand, vermiculite and soil rite etc., depending upon the requirement of the plant may be utilized.

3.5 Vermi-Compost: When using root-trainers, or any other container, the best root development is obtained when an organic potting medium is used. A major benefit of the organic potting mixture is its lightness in weight and excellent water retention capacity. Plant nutrients are more easily distributed throughout the organic medium, which give rise to the fibrous root system ensuring good start to the young plants when they are planted in the field. It should be a general practice to have a suitable sized composting unit at the nursery site. Vermi-composting also has been found to be quite useful and cost-effective. Vermi-compost is a superior bio-organic manure which mixes well with the soil thereby improving structure and porosity of the soil. It contains NPK and micronutrients (Manganese, Zinc, Iron, Molybdenum, Boron, Copper etc.) and increases water retention capacity of the soil and reduces soil erosion. It is free from weeds and contains substances like hormones, auxins, vitamin B12, antibiotics like actinomycetes and also other growth promoting compounds.

General guidelines for usage of vermi-compost

- Stop using traditional FYM to avoid weeds.
- Use 400 kg of vermi-compost per ha along with chemical fertilizers (80% of recommended dose) in the first year.
- Progressively increase quantity of vermi-compost to one tonne and reduce the quantity of chemical fertilizers to zero in 2 to 3 years.

3.6 Sprinkler irrigation: A fundamental requirement for all nurseries is an adequate supply of good quality water. It is very important that irrigation is carried out at a specified pressure and is evenly spread and regulated to meet the plant needs. Manually operated sprayers may be required at the germination stage and sprinkler irrigation systems when plants attain some initial growth. Water volumes can be calculated and related to climatic variation thereby ensuring that plants are never too dry or too wet as each of these conditions affects plant physiology.
