कृषि एवं किसान
कल्याण मंत्रालय
MINISTRY OF
AGRICULTURE AND
FARMERS WELFARE

सत्यमेव जयते

ICAR

CAFRI

Accreditation Protocol for Agroforestry Nurseries

ICAR-Central Agroforestry Research Institute
Jhansi 284003, Uttar Pradesh

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Disclaimer

This technical protocol has been developed by ICAR-CAFRI under the aegis of the Ministry of Agriculture and Farmer's Welfare, Government of India, for monitoring and evaluation of the Government supported nurseries, particularly the RKVY-aided nurseries on a pilot basis and could be improved from time to time.

अर्जुन मुंडा
Arjun Munda

सत्यमेव जयते

मंत्री
जनजातीय कार्य मंत्रालय एवं
कृषि एवं किसान कल्याण मंत्रालय
भारत सरकार
Minister
Ministry of Tribal Affairs and
Ministry of Agriculture &
Farmers Welfare
Government Of India

MESSAGE

It gives me an immense pleasure to present this pioneering initiative for ensuring Quality Planting Material(QPM) for promotion of Agroforestry in the country. Agroforestry is known to have the potential to mitigate the climate change effects through microclimate moderation and conservation of natural resources.

India became the first country to have the National Agroforestry Policy in the year 2014 and ever since, the country has been striving to promote agroforestry on the mission mode. Sub-Mission on Agroforestry (SMAF) was launched in 2016-17 to encourage and expand tree plantation on farm land, which is presently implemented as a component of RKVY emphasizes on the importance of Quality Planting Material to popularize agroforestry practices.

Agroforestry policy envisages effective implementation strategy to enhance the availability, accessibility and affordability of Quality Planting Material by augmenting the farm processes. I appreciate the steps taken by the Ministry in general and the ICAR-Central Agroforestry Research Institute, Jhansi in particular, to have developed a protocol for accrediting the agroforestry nurseries for delivery of Quality Planting Material.

I am sure that this Accreditation Guidelines would strengthen the institutional arrangement for production and certification of large-scale planting material to promote agroforestry in the country. I also appeal to the stakeholders for its successful adoption to bring in vigour and assured returns from the QPM and achieve the objectives and targets of the National Agroforestry Policy.

(Arjun Munda)

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  Tel. : 011-23381499, 23388482, 23070577 (Fax)
- Agriculture & Farmers' Welfare Affairs Minister's Office : 120, Krishi Bhawan, New Delhi-110 001
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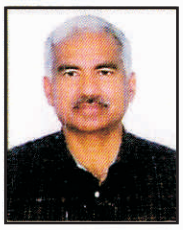
MANOJ AHUJA
SECRETARY



सत्यमेव जयते

आज़ादी का अमृत महोत्सव

भारत सरकार
कृषि एवं किसान कल्याण मंत्रालय
कृषि एवं किसान कल्याण विभाग
Government of India
Ministry of Agriculture & Farmers Welfar
Department of Agriculture & Farmers Welfare

MESSAGE

In order to ensure effective implementation of the National Agroforestry Policy 2014, we need to encourage farmers to take up tree plantation of economically important species in a complementary and integrated manner with crops. Agroforestry helps improve farm productivity and improve income and livelihoods of rural households, especially for small and marginal farmers. Agroforestry is also gaining popularity for its potential to mitigate the climate change effects through microclimate moderation, conservation of natural resources and creation of additional source of livelihood and income opportunities. To promote agroforestry in the country, we need to sustain availability, accessibility and affordability of Quality Planting Material (QPM). In this regard, the role of plant nurseries conforming to certain standards becomes important. I appreciate the steps taken to accredit the nurseries for sustainable supply of Quality Planting Material. This initiative is the first of its kind to promote agroforestry. I am sure this futuristic '*Accreditation Protocol for Agroforestry Nurseries*' brought out by the ICAR-Central Agroforestry Research Institute (CAFRI), Jhansi, Uttar Pradesh will ensure the sustainable production and supply of QPM in the country. The fundamental aspects of a plant nursery such as basic nursery infrastructural requirements, source of the planting/propagation material have been taken as criteria for developing the accreditation protocol.

I hope that this accreditation protocol will support and augment the existing institutional mechanism of monitoring the agroforestry nurseries for Quality Planting Material production and distribution. I also appeal to all the concerned stakeholders for the successful adoption of this accreditation protocol to bring in vigour and assured returns from the QPM and achieve the objectives of the National Agroforestry Policy.

(Manoj Ahuja)

December 19th, 2023

Office : Krishi Bhawan, New Delhi-110001, दूरभाष / Phone : 23382651, 23388444 फैक्स सं० / Fax No. : 23386004
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Preface

Production and access to quality planting material (QPM) are vital criteria for ensuring the success of plantations as well as for upscaling agroforestry. This has been reiterated numerous times and steps have been taken to bring in guidelines for ensuring QPM at all levels of planting. The diversity of tree species has been a challenging task in formulating guidelines for QPM production. The Ministry of Agriculture & Farmers' Welfare, Govt. of India notified the ICAR-Central Agroforestry Research Institute (CAFRI) as the national nodal agency for Agroforestry. The CAFRI has so brought out a technical document – Guidelines for Quality Planting Material of Agroforestry Species that has charted out the direction for achieving QPM in tree species. However, there has been a little focus on implementing the guidelines. The financial year 2023-24 benchmarks the importance of QPM and asserts towards implementation of agroforestry component to ensure QPM in the States/nurseries. To enable this, the ICAR-CAFRI has brought out this accreditation protocol for agroforestry nurseries. This protocol is based on the fundamental aspects of any nursery which remains the same irrespective of size, nature and choice of propagation material used. This protocol envisages that accredited nurseries will follow certain criteria which can be eventually assessed to have the foundational establishment of QPM. This entire protocol revolves around healthy, resilient, and disease-free seedlings/saplings whose pedigree could be traced through the nursery system. It is believed that the accreditation protocol will enable the smooth implementation of the agroforestry component of the Rastriya Krishi Vikas Yojana (RKVY) scheme.

- Director, ICAR-CAFRI

Contents

Abbreviations

AICRP	All India Coordinated Research Project
CAFRI	Central Agroforestry Research Institute
EOI	Expression of Interest
GoI	Government of India
ICAR	Indian Council of Agricultural Research
INM	Integrated Nutrient Management
IPM	Integrated Pest Management
MoA&FW	Ministry of Agriculture & Farmers' Welfare
NNAAC	National Nursery Assessment and Accreditation Committee
SMAF	Sub-Mission on Agroforestry
QPM	Quality Planting Material
RKVY	Rashtriya Krishi Vikas Yojana

Scope

India became the first country in the globe to have a dedicated National Agroforestry Policy in 2014. The section 2 of the policy mentions *'agroforestry has not gained the desired importance as a resource development tool due to various factors including the dearth of quality planting materials….'* and the policy also underlines the need for an '*Institutional mechanism for registration of nurseries and their accreditation should be established*'.

With a national mandate of greening India and restoring degraded lands including forested lands, the demand for producing more and more quality planting material is on the rise. This further signifies that tree planting on farmlands and other non-forest areas has been slow as well as unpopular, owing to low returns to growers. This is largely due to low productivity in terms of volume and poor-quality yield of tree products like nuts, fruits fibres etc. This is primarily because people interested in tree cultivation do not have easy access to Quality Planting Material (QPM) due to both a lack of QPM production facilities in many parts of the country especially, the rural areas of the country and the lack of awareness about the benefits of using QPM. The effort of the central/state governments has therefore been to ensure quality standards to be followed and/or adopted by both public and private nurseries. ICAR-CAFRI with the support of the Ministry of Agriculture & Farmers' Welfare, the Government of India has attempted to build the nursery accreditation protocol whereby we use a framework to assess and accredit nurseries that would eventually produce quality planting materials (QPM). This document gives the standard operating procedures for nursery accreditation only.

This protocol is to ensure quality standards for accrediting agroforestry nurseries in the country. It is believed that such accreditation will ensure the availability of quality planting material for trees and other woody perennials for agroforestry purposes. Majorly, the nursery gets accredited based on standards that meet the following critical requirements:

i. Land and physical infrastructure
ii. Technical operation of sourcing and propagation along with input management and handling of seedlings
iii. Nursery register & Sale data

Institutional Arrangement for Nursery Accreditation

The ICAR-Central Agroforestry Research Institute (CAFRI) has been notified as the national nodal agency for the agroforestry component of *Rashtriya Krishi Vikas Yojana* (RKVY) (vide F.No.3-1/2021-NRM-SMAF dated 5 April 2023; Appendix I) to provide technical support, capacity building, setting up of nurseries, production, and certification of QPM. The strength of ICAR-CAFRI is, its All India Coordinated Research Project (AICRP) centres on agroforestry situated across the agro-climatic zones of the country.

The Ministry of Agriculture & Farmers' Welfare, Government of India has constituted a National Nursery Assessment and Accreditation Committee (NNAAC) whose tenure shall initially be for 5 years. The NNAAC shall meet as per requirements or at least twice a year to consider the recommendations of the State Agencies and allied matters (Appendix II).

The Composition of NNAAC is as below:

Chairman	Director, ICAR-Central Agroforestry Research Institute, Jhansi
Member*	National Afforestation and Eco-Development Board (NAEB), Ministry of Environment, Forests and Climate Change, Govt. of India
Member*	National Rainfed Area Authority, Ministry of Agriculture & Farmers' Welfare, Govt. of India
Member*	CIFOR-ICRAF, India Office, New Delhi
Member*	Indian Council of Agricultural Research, New Delhi
Invited Member(s)	State Representative of Nodal Agency**
Member Secretary	Deputy Secretary (RFS), DoA&FW, Ministry of Agriculture & Farmers' Welfare, Govt. of India
*Nominated by different agencies	
**States from where the proposal are received and/or considered by NNAAC	

Terms of Reference of NNAAC:

- To devise all policy measures to facilitate, coordinate and regulate the nursery accreditation and seedling certification process for multi-purpose tree species that could be incorporated in farmlands.
- To consider the applications recommended by the State Nodal Agency for nursery accreditation and refer it to the national nodal agency for assessment.
- To consider the renewal applications with the recommendation of the state nodal agency and the national nodal agency

Similarly, the state nodal agencies (**Annexure 1**) shall identify the nurseries for accreditation and recommend the same for accreditation by the national nodal agency, after due assessment and approval by the NNAAC.

Any grievance regarding the nursery accreditation process shall be redressed by the concerned Joint Secretary in the Ministry of Agriculture & Farmers' Welfare, Govt. of India being the Appellate Authority.

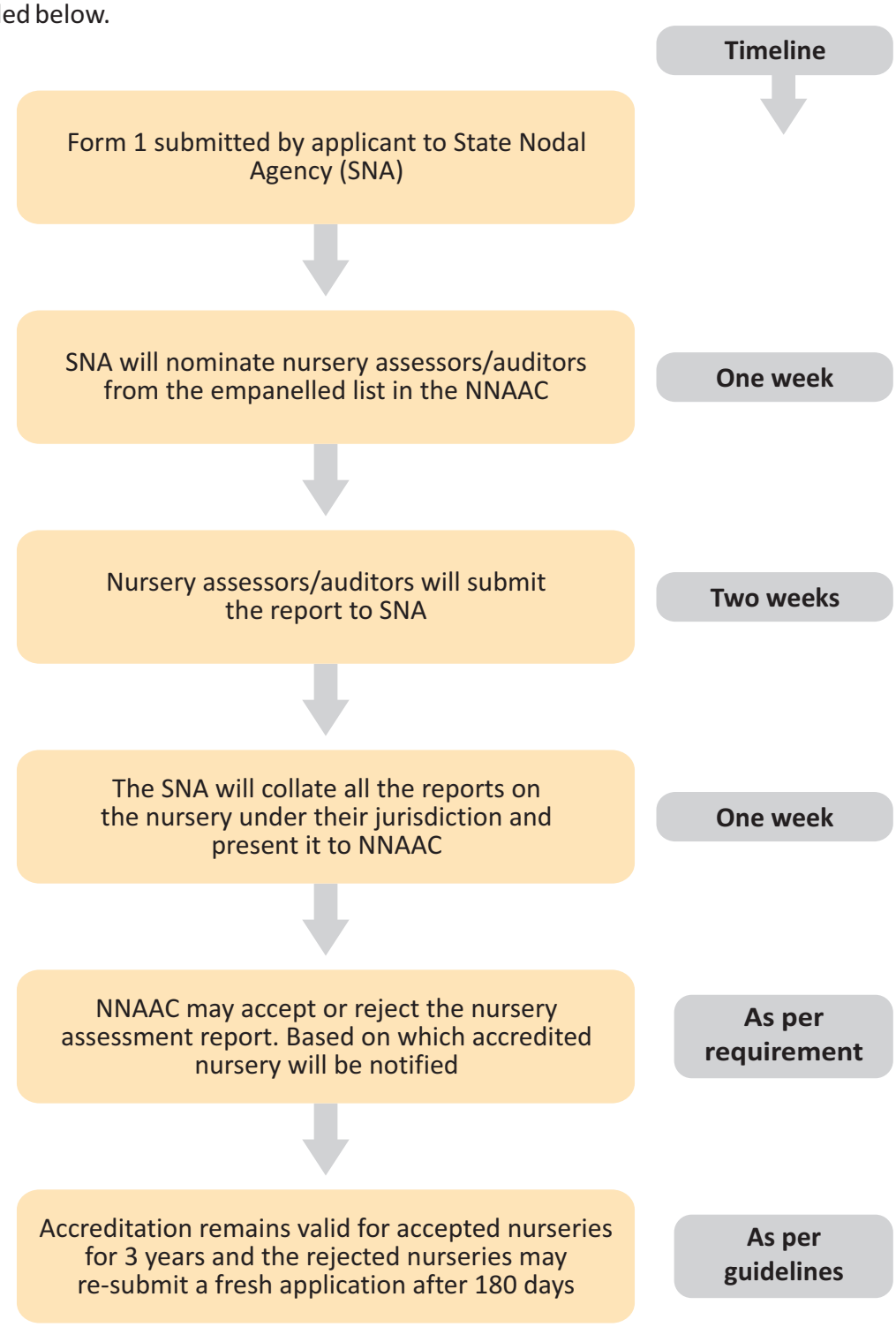
Empanelment of Nursery Assessors/Auditors

- The National Nodal Agency shall empanel a list of technically qualified people of professionals and practitioners as nursery assessors/auditors (**Annexure 2**)
- The State Nodal Agencies shall identify and recommend a list of technically qualified people to the National Nodal Agency for adding to the list of experts in the respective states.
- The empanelment shall be initially valid for 5 years or till the next notification, whichever is earlier.

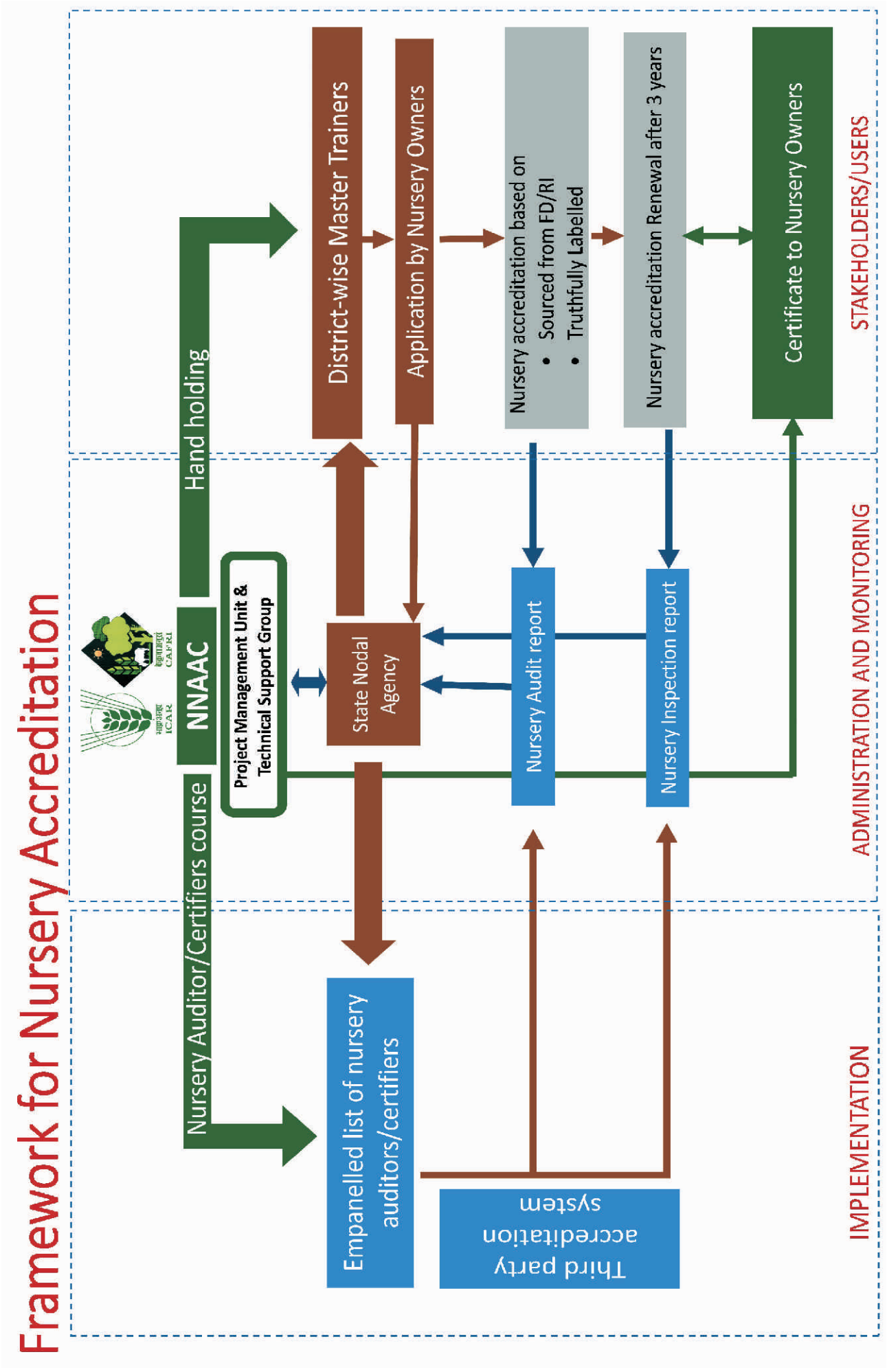
Procedure for Nursery Accreditation and Renewal

A nursery seeking accreditation shall apply in **Form1** along with details on the layout of nurseries, infrastructure components, land records, geospatial coordinates, details of the staff, machineries as well as the operational protocol adopted to produce seedling/saplings and sale register of the nursery.

The workflow is detailed below.



Upon receiving the duly filled application, the state-level nodal agency may enable the assessment and physical verification of the nurseries by appointing assessors from the empanelled list of nursery assessors/auditors, following the standards for accreditation protocol and who will then submit the audited report within 15 days to the state agency who shall forward it to the National Nursery Assessment and Accreditation Committee (NNAAC) notified by the Ministry of Agriculture and Farmer's Welfare, Government of India. Upon the decision by the NNAAC, the assessed nurseries shall be given accreditation initially for 3 years.


Framework for Nursery Accreditation
IMPLEMENTATION
ADMINISTRATION AND MONITORING
STAKEHOLDERS/USERS
Nursery Auditor/Certifiers course
Empanelled list of nursery auditors/certifiers
Third party accreditation system
NNAAC
Hand holding
Project Management Unit & Technical Support Group
State Nodal Agency
Nursery Audit report
Nursery Inspection report
District-wise Master Trainers
Application by Nursery Owners
Nursery accreditation based on
• Sourced from FD/RI
• Truthfully Labelled
Nursery accreditation Renewal after 3 years
Certificate to Nursery Owners

Criteria for Nursery Accreditation

The criteria have been aligned with the Infrastructural requirement of the Model Nursery and Product specific technical requirements for the production of good quality planting material as detailed below:

	Criteria	Indicator
1	Nursery Area	1.1. Optimal nursery area for producing 100000 seedlings per year should be a minimum of one acre (4000 sq.m.)
2	Connectivity level	2.1. The easy access to the nursery becomes crucial to ensure access to QPM and a distance of lesser than 5 km from the metal/main road will reduce the transportation cost 2.2. If the nursery is located more than 5 km from the metal/main road; then proper transportation is needed to ensure access to QPM that might add to the price of the QPM
3	Diversity of the seeding raised	The nursery producing different species of seedlings will require highly skilled manpower as well as modern infrastructure with more land area: 3.1. If the nursery produces seedlings/saplings - upto 5 different species 3.2. If the nursery produces seedlings/saplings more than 5 different species
4	Relevance of the seeding raised	4.1. If the nursery produces seedlings relevant to industry and market
5	Source of Planting Material	Scientifically, tree improvement and breeding principles insist on selecting superior/elite germplasm seeds/vegetative propagules for raising QPM. This process ensures the genetic superiority of the seedlings. 5.1. Source identified/registered seedling material Seeds or vegetative propagation material including clonal material sourced from the Forest Department, Research Institutes and any other commercial clones 5.2. Truthfully labelled seeds In certain instances, the source of seeds/vegetative material cannot be disclosed by private nurseries or commercial-scale nurseries
6	Potting Media	Different types of potting materials are being used yet Soil: Sand: FYM mixture - is the most common and conventional potting mixture used in India. The quality of the soil used will greatly influence the quality of the potting mixture. The proportion of the components is another factor. Sand and soil mixtures that contain a lot of sand or soil are not suitable. As a rule of thumb when soil is to be part of the growing medium, use the following mixtures for best results (topsoil: fine gravel: well-decomposed organic matter such as FYM or compost): 6.1. For heavy (clayey) soils 1: 2: 2 6.2. For medium (loamy) soils 1: 1: 1 6.3. For light (sandy) soils 1: 0: 1

		6.4.	For vermiculite: It has a neutral pH, high CEC, low bulk density 120 g/L) and absorbing about 5 times its weight
		6.5.	The quality criteria for other potting materials like Coir Pith, Peat, Perlite, etc. are not used often on a commercial scale and their properties very much. Hence, the quality will be determined on a case-by-case basis
7	Potting material	7.1.	Polybag is a typical choice for a nursery
		7.2.	However, the use of biodegradable polybag will ensure more sustainability of the nursery
		7.3.	Mud pot, *dona* and any other recyclable potting material will also ensure the sustainability of the nursery
8	Infrastructure	8.1.	Mist chamber becomes important for large production of vegetative propagation of seedlings (100000 Nos. per year)
		8.2.	Shade-net house is vital to ensure the survival of seedlings as well as modify the microclimate by reducing evapotranspiration and thus reducing irrigation requirement
		8.3.	The presence of more than one permanent structure like the mist chamber and shade-net house will boast the quantity of QPM production per year
9	Irrigation	9.1.	Availability of water is a must for ensuring year-round production of seedlings in the nursery and optimal water quality will vary with location. Hence, the presence of permanent source of water is the most promising factor
		9.2.	Sprinkler irrigation is the most effective method of irrigation in terms of water-use efficiency will make the nursery economically viable
10	Plant protection measures	10.1.	Adopting recommended plant protection measures will ensure disease and pest-free QPM
		10.2.	Adopting IPM and INM practices in the nursery will make the nursery ecologically more viable
11	Operational Manual and timeline	11.1.	Small scale nursery / temporary nursery may not need an operational manual
		11.2.	Nursery at commercial scale must have operating manual and nursery plan calendar
		11.3.	Irrespective of size, the nursery should have a nursery register (detailing the seedlings produced per year) and a sale register
12	Staff welfare	12.1.	Basic amenities like rest rooms and toilets should be made in the vicinity of nursery premises
		12.2.	Behaviour to customers based on feedback also should be accounted
		12.3.	Skill updating and training for the staff are also pertinent for fully functional nursery-producing QPM

1. Subsequently, based on the nursery evaluation proforma (**Form 2**), the overall rating/grading will be provided to the nursery.

<40 marks	0	Not eligible for accreditation
41-60 marks	*	1-year validity
61-70 marks	**	2-year validity
71-80 marks	***	Accreditation is valid for 3 years
81-90 marks	****	
91-100 marks	*****	

2. The applicant nursery must note that the most important feature of accreditation will be based on the source of seeds or vegetative propagule. It needs to be procured from recognised sources like state forest departments/ research institutes, seed orchards, clonal banks, etc. and it will be mandatory for the nursery owners to disclose the source. In a situation where such disclosures are not possible, for commercial or any other reasons, they can adopt a truthfully labelled source option[#]. However, the nursery owners/enterpreneurs are encouraged to register the source of seedling material with central registry of NNAAC.

Procedure for Application to Higher Grade

- On receipt of an application for a higher grade from an existing lower grade, the application will be considered by the state agency for review (within 90 days from first decision).
- Based on the review and reassessment done by the nursery assessors/auditors, the state agency shall convey its recommendation to the NNAAC which will finally decide on the need to proceed with the case of the nursery for upgradation and subsequent recognition and/or otherwise.

Renewal of Recognition

- The Nursery seeking renewal of recognition shall re-apply in the prescribed form (**Form 1**) (within 7 days from the validity date).
- The renewal of recognition shall be done based on the satisfactory performance reported as per the surveillance/periodic inspection carried out and with the recommendation of the state agency to be finally considered by NNAAC.

Validity Period of Recognition

- In case of approval, accreditation shall be granted for a period of three years with 3-star and above grading (from the date of approval).
- The validity will be for 2 years if the nursery is adjudged for a 2-star grading and similarly, 1 year for a nursery with 1-star grading.
- The effective date of accreditation shall be considered from the date of issuance of the certificate.

Inspection and Monitoring

- The interim inspection and monitoring shall be carried out in accredited nurseries as required.

[#]means the category of seedlings produced by private nursery companies and sold under truthful labels.

Fee for Application

The nursery accreditation protocol shall be piloted in the established nurseries under RKVY Scheme during the FY 2023-24 without any fee. The fee structure for other nurseries shall be decided in due course.

Issue of Accreditation Certificate

The accredited nurseries based on the recommendation of the NNAAC shall be issued a certificate.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Ministry of Agriculture and Farmers Welfare

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Certificate of Accreditation

This is to attest that

has met the requirements of the standards as per the accreditation protocol for agroforestry nurseries and has demonstrated compliance to the guidelines for quality planting material production. The above nursery is accredited with _____ star rating by the NNAAC and notified by the Ministry of Agriculture and Farmers Welfare, Govt. of India.

S.No: 2023/001
Date:

Member Secretary, NNAAC

Chairman, NNAAC

Cancellation of Nursery Accreditation

- The accreditation certificate could be cancelled or suspended:
  - i) If the nursery does not conform/fail to perform as per requirements of this scheme at any point of time during the validity period of accreditation.
  - ii) Upon adverse reports from the farmers/users or any other proven complaints made to NNAAC by any other entity and upon enquiry duly conducted it is established that the Nursery has breached any of the conditions of recognition,
  - iii) On expiry of the recognition date specified in the Recognition Certificate, the recognition ceases to be valid unless renewed.

[#]means the category of seedlings produced by private nursery companies and sold under truthful labels.

Form 1

Application for nursery accreditation/renewal of accreditation

1.	Name of the Nursery:	
2.	Ownership:	Govt/Private/Others
3.	Year of establishment:	
4.	Name and contact details of the owner/in-charge:	
5.	Location of the nursery:	
6.	Geospatial coordinates of the nursery:	
7.	Source of planting material for each species:	• Sourced from a recognised source, if so, details.....
		• Truthfully labelled seedlings
8.	Details of the infrastructure including tissue culture facilities:	
9.	Source of Potting material:	
10.	Type of potting material:	
11.	Size of the poly bags used:	
12.	Layout of the nursery:	
13.	Area of the nursery/tissue culture facility	
14.	Total number of seedlings produced per unit nursery area (one acre or hectare):	
15.	Total number of species propagated in the nursery/tissue culture lab:	
16.	Total number of planting material produced from seeds:	
17.	Total number of planting material produced in asexual propagation/tissue culture:	
18.	Production quantity in the last year:	
19.	Quantity of seedlings sold last year:	
20.	Copy of the Nursery register indicating the yearly operations:	
21.	Copy of the sale register:	
22.	Details of the staff:	
23.	Additional comments (for renewal applications):	
(Note: Form 1 is to be submitted by the applicant to the state nodal agency)		

Contact Details of the Applicant with email & mobile number:

Place:

Date:

Signature of the Applicant

Form 2

Assessment sheet for accreditation

Parameters	Criteria	Marks	Max Marks	Marks obtained
Area of Nursery	<1 acre	1	2	
	>1 acre	2		
Connectivity level (distance from the metal/main road)	<5 km	5	5	
	>5 km	2.5		
Quantity of seedlings produced per unit area	<1 acre	5; <1 lakh/year	10	
		10; >1 lakh/year		
	>1 acre	2.5; <1 lakh/year		
		10; >1 lakh/year		
Number of species considered QPM for production	Up to 5	5	10	
	6 and above	10		
Species relevance to industry and market	Relevance	upto 5##	5	
Source of planting material	Sourcing from a recognised source	10	10	
	Truthfully labelled seedling/sapling	5		
Mist chambers/tissue culture facilities	Fully functional	5	5	
Shade Net House/Hardening Chambers# for tissue culture raised seedlings	Less than one	5	10	
	More than one	10		
Potting media/Tissue culture media#	Recommended proportion	5	5	
Use of biodegradable& ecofriendly potting material including waste recycling	Yes/No	5	5	
Assured source of irrigation	Throughout the year	5	5	
Sprinkler irrigation system		2.5	2.5	
Plant protection measures	Recommended PoP	5	5	
INM and IPM practices	Recommended practices	5	5	
Nursery Register indicating yearly operations and stock and sale registers	Depending on the adoption level	2.5 for nursery register	5	
		2.5 for stock and sale registers		
Staff Welfare	Toilets & Healthcare	2.5	2.5	
Staff Skill	Assessed by auditors	5	5	
Customer Feedback		3	3	
Assessors Remarks				
Signature and date				

#exclusively for tissue culture-based nurseries; ##zero marks for non-relevance

Annexure I

Details of state nodal agency for implementation of agroforestry under the RKVY scheme

S.No.	Name of the States/ UTs	Name of implementing Department
1	Andhra Pradesh	Horticulture
2	Arunachal Pradesh	Agriculture
3	Assam	Agriculture
4	Bihar	Forest
5	Chhattisgarh	Horticulture
6	Goa	Forest
7	Gujarat	Forest
8	Haryana	Forest
9	Himachal Pradesh	Agriculture
10	Jammu & Kashmir	Agriculture
11	Jharkhand	Agriculture
12	Karnataka	Forest
13	Kerala	Agriculture
14	Madhya Pradesh	Agriculture
15	Maharashtra	Social Forestry
16	Manipur	Forest
17	Meghalaya	Horticulture
18	Mizoram	Agriculture
19	Nagaland	Agriculture
20	Odisha	Soil Conservation & Watershed Development
21	Rajasthan	Horticulture
22	Sikkim	Agriculture
23	Tamil Nadu	Agriculture
24	Telangana	Horticulture
25	Uttar Pradesh	Forest
26	West Bengal	Agriculture
27	Puducherry	Agriculture

Annexure II

Tentative list of nursery assessors and auditors

S.No.	Name	Organisation	State
1.	Dr. I. Jaisankar	ICAR-Central Island Agricultural Research Institute	Andaman and Nicobar Islands
2.	Dr. Bikram Singh	College of Horticulture and Forestry, Pasighat	Arunachal Pradesh
3.	Mr. Shankar Mayanglambam	College of Horticulture and Forestry, Pasighat	Arunachal Pradesh
4.	Dr. T.S. Mehra	College of Horticulture and Forestry, Pasighat	Arunachal Pradesh
5.	Dr. D. Balasubramanian	Arunachal University of Studies, Namsai	Arunachal Pradesh
6.	P. Udaya Sanker (Retd.)	A.P. State Forest Academy	Andhra Pradesh
7.	S.V. Ramana (Retd.)	A.P. State Forest Academy	Andhra Pradesh
8.	Dr. R.K. Kalita	Rain Forest Research Institute, Jorhat	Assam
9.	Dr. Rajib Bora	Rain Forest Research Institute, Jorhat	Assam
10.	Dr. Kusum Deka	AAU, Jorhat (HRS, Kahikuchi)	Assam
11.	Dr. Kaberi Mahanta	AAU, Jorhat (HRS, Kahikuchi)	Assam
12.	Dr. Dhattareya, H.	IIRM, Tezpur	Assam
13.	Dr. Anurag Raizada	ICAR-Mahatma Gandhi Integrated Farming Research Institute	Bihar
14.	Mr. Pradip Kumar Sarkar	ICAR Research Complex for Eastern Region	Bihar
15.	Dr. Anurag Raizada	ICAR - Mahatama Gandhi Integrated Farming Research Institute	Bihar
16.	Dr. D.K. Das	RPCAU, Pusa	Bihar
17.	Dr. Pankaj Panwar	ICAR - Indian Institute of Soil and Water Conservation	Chandigarh
18.	Dr. Pempa Lamu Bhutia	ICAR-Indian Institute of Soil and Water Conservation	Chandigarh
19.	Dr. Lalji Singh	IGKVV, Raipur	Chhattisgarh
20.	Dr. S. Nema	Bilaspur University	Chhattisgarh
21.	Dr. Uthappa A.R.	ICAR-Central Coastal Agricultural Research Institute	Goa
22.	Dr. N.P. Singh (Retd.)	ICAR-Central Coastal Agricultural Research Institute	Goa
23.	Dr. M.B. Tandel	College of Forestry, Navasari	Gujarat
24.	Dr. R.P. Gunaga	College of Forestry, Navasari	Gujarat
25.	Dr. N.S. Thakur	College of Forestry, Navasari	Gujarat
26.	Dr. S.M. Patel	College of Forestry, Navasari	Gujarat
27.	Dr. J.G. Pathak	College of Forestry, Navasari	Gujarat
28.	Dr. M.K. Desai	College of Forestry, Navasari	Gujarat

29.	Dr. M.R. Parmar	College of Forestry, Navasari	Gujarat
30.	Dr. L.K. Behera	College of Forestry, Navasari	Gujarat
31.	Dr. V.M. Prajapati	College of Forestry, Navasari	Gujarat
32.	Dr. S.K. Jha	College of Forestry, Navasari	Gujarat
33.	Mr. S.A. Huse	College of Forestry, Navasari	Gujarat
34.	Mr. R.S. Chauhan	College of Forestry, Navasari	Gujarat
35.	Dr. M.S. Sankanur	College of Forestry, Navasari	Gujarat
36.	Mr. Satish Kumar Sinha	College of Forestry, Navasari	Gujarat
37.	Mr. Abhishek A. Mehta	College of Forestry, Navasari	Gujarat
38.	Mr. Harsha T. Hegde	College of Forestry, Navasari	Gujarat
39.	Dr. Dileswar Nayak	College of Forestry, Navasari	Gujarat
40.	Dr. F.K. Chaudhary	SDAU, SK Nagar	Gujarat
41.	Prof. Lalita Saini	SDAU, SK Nagar	Gujarat
42.	Dr. Raj Kumar	ICAR-Central Soil Salinity Research Institute	Haryana
43.	Mr. Manish Kumar	ICAR- Central Soil Salinity Research Institute	Haryana
44.	Dr. Rakesh Banyal	ICAR-Central Soil Salinity Research Institute	Haryana
45.	Dr. Chhavi Sirohi	CCSHAU, Hisar	Haryana
46.	Dr. Sushil Kumari	CCSHAU, Hisar	Haryana
47.	Dr. Rameshwar Kumar	CSKHPKV, Palampur	Himachal Pradesh
48.	Dr. Nanak Dev Negi	CSKHPKV, Palampur	Himachal Pradesh
49.	Dr. Rohit Bisht	YSPUH&F, Solan	Himachal Pradesh
50.	Dr. Prashant Sharma	YSPUH&F, Solan	Himachal Pradesh
51.	Dr. Suheel Ahmad Dand	ICAR-Indian Grassland and Fodder Research Institute, Regional Research Station, Srinagar	Jammu & Kashmir
52.	Dr. G.M. Bhat	SKUAST-K, Srinagar	Jammu & Kashmir
53.	Dr. Megna Rashid	SKUAST-K, Srinagar	Jammu & Kashmir
54.	Dr. Sandeep Sehgal	SKUAS&T-J	Jammu & Kashmir
55.	Ms. Leishangthem Chanu Langlentombi	ICAR-Indian Institute of Natural Resins and Gums	Jharkhand
56.	Dr. M.S. Malik	BAU, Ranchi	Jharkhand
57.	Dr. P.R. Oraon	BAU, Ranchi	Jharkhand
58.	Dr. Anil Kumar	BAU, Ranchi	Jharkhand
59.	Mr. Akash Ravindra Chichaghare	RS - Central Arid Zone Research Institute (CAZRI)	Ladakh
60.	Dr. Deldan Namgyal	High Mountain Arid Agriculture Research Institute, Leh	Leh

61.	Mr. Mundre Ningappa Ramesha, Scientist	ICAR-Indian Institute of Soil and Water Conservation	Karnataka
62.	Dr. H.Y. Patil	UAS, Dharwad	Karnataka
63.	Dr. S.T. Hundekar	UAS, Dharwad	Karnataka
64.	Mr. S.M. Ghatanatti	UAS, Dharwad	Karnataka
65.	Mr. Bhaskar, V.	UAS, Bangalore	Karnataka
66.	Dr. Hanumanthappa, D.C.	UAS, Bangalore	Karnataka
67.	Dr. Ramakrishna Hegde	CoF, Ponnampet	Karnataka
68.	Dr. Ramakrishna Hegde	College of Forestry Ponnampet	Karnataka
69.	Dr. Maheswarappa V.	College of Forestry, Ponnampet	Karnataka
70.	Dr. Siddappa Kannur	College of Agricultural Sciences, Iruvakki	Karnataka
71.	Dr. Vaudev L	College of Horticulture, Hiriyur	Karnataka
72.	Dr. B.G. Nayak	College of Forestry, Ponnampet	Karnataka
73.	Mr. Nanaya K.M.	College of Forestry, Ponnampet	Karnataka
74.	Dr. B.N. Satish	College of Forestry, Ponnampet	Karnataka
75.	Dr. Hareesh. T.S	College of Forestry, Ponnampet	Karnataka
76.	Dr. Shivakumar S. Inamati	College of Forestry,Sirsi	Karnataka
77.	Dr. Ramesh S. Rathod	College of Forestry,Sirsi	Karnataka
78.	Sri. Venkatesh L.	College of Forestry,Sirsi	Karnataka
79.	Dr. Jagadish M.R.	College of Forestry,Sirsi	Karnataka
80.	Sri. Shridhar D. Bhat	College of Forestry,Sirsi	Karnataka
81.	Dr. Girish B. Shahapurmath	College of Forestry,Sirsi	Karnataka
82.	Dr. Hanumantha M.	College of Forestry,Sirsi	Karnataka
83.	Mr. Chandraprabha (Retd.)	State Forest Department	Karnataka
84.	Dr. Santhoshkumar A.V.	College of Forestry, Vellanikkara	Kerala
85.	Dr. Binu N. Kamalolbhavan	College of Forestry, Vellanikkara	Kerala
86.	Mr. Anish M.C.	College of Forestry, Vellanikkara	Kerala
87.	Dr. R. Vishnu	College of Forestry, Vellanikkara	Kerala
88.	Dr. Gopakumar, S.	College of Forestry, Vellanikkara	Kerala
89.	Dr. Srinivasan K.	College of Forestry, Vellanikkara	Kerala
90.	Mr. Aneesh K.S.	College of Forestry, Vellanikkara	Kerala
91.	Dr. P. Ratha Krishnan	ICAR - Indian Institute of Spices Research	Kerala
92.	Dr. V. Jamaludheen	KAU, Thrissur	Kerala
93.	Dr. Asha K. Raj	KAU, Thrissur	Kerala
94.	Dr. S.B. Agarwal	JNKVV, Jabalpur	Madhya Pradesh
95.	Mr. Yashpal Singh	JNKVV, Jabalpur	Madhya Pradesh
96.	Dr. Sangram Bhanudas Chavan	ICAR-National Institute of Abiotic Stress Management, Baramati	Maharashtra
97.	Dr. Suchitra S. Desai	BSKKV, Dapoli	Maharashtra

98.	Dr. Sangita Sawant	BSKKV, Dapoli	Maharashtra
99.	Dr. N.A. Meshram	BSKKV, Dapoli	Maharashtra
100.	Dr. B.R. Najan	MPKV, Rahuri	Maharashtra
101.	Dr. R.H. Kolse	MPKV, Rahuri	Maharashtra
102.	Dr. V.M. Ilorkar	CoA, Nagpur	Maharashtra
103.	Dr. P. Raut	CoA, Nagpur	Maharashtra
104.	Dr. Salam Dilip	Manipur University	Manipur
105.	Dr. Robert Panmei	Manipur University	Manipur
106.	Dr. Koijam Manibhushan Singh	Govt. College, Imphal	Manipur
107.	Dr. Kalidas Upadhyaya	Mizoram University	Mizoram
108.	Dr. U.K. Sahoo	Mizoram University	Mizoram
109.	Dr. S.K. Singh	Mizoram University	Mizoram
110.	Dr. Nongmaithem Raju Singh	ICAR-NEH, Barapani	Meghalaya
111.	Dr. Popiha Bordoloi	KVK, ICAR, Barapani	Meghalaya
112.	Dr. Gyati Yam	Nagaland University	Nagaland
113.	Dr. Bupesh Giridharan	Nagaland University	Nagaland
114.	Dr. S.K. Dhyani	ICRAF India Office	New Delhi
115.	Dr. C. Biradar	ICRAF India Office	New Delhi
116.	Dr. B.P. Bhatt	ICAR HQ	New Delhi
117.	Dr. K.P. Mohapatra	ICAR-NBPGR	New Delhi
118.	Dr. Puran Chandra	ICAR-NBPGR	New Delhi
119.	Dr. S.C. Mohapatra	OUAT, Bhubaneshwar	Odisha
120.	Dr. S.C. Mohapatra	OUAT, Bhubaneshwar	Odisha
121.	Mrs. Sasmita Behera	OUAT, Bhubaneshwar	Odisha
122.	Dr. Navneet Kaur	PAU, Ludhiana	Punjab
123.	Dr. R.I.S. Gill	PAU, Ludhiana	Punjab
124.	Prof. S.M. Sundarapandian	Pondicherry University	Puducherry
125.	Dr. M.B. Noor Mohamed	ICAR-Central Arid Zone Research Institute	Rajasthan
126.	Ms. Subbulakshmi, V.	ICAR-Central Arid Zone Research Institute	Rajasthan
127.	Dr. Abhishek Kumar	ICAR-Central Arid Zone Research Institute	Rajasthan
128.	Mr. Shiran Kalappurakkal	ICAR-Central Arid Zone Research Institute	Rajasthan
129.	Dr. Kala Samadharmam	ICAR-Indian Institute of Soil and Water Conservation	Rajasthan
130.	Dr. Archana Verma	ICAR-Central Arid Zone Research Institute	Rajasthan
131.	Dr. Rajwant Kaur Kalia	ICAR-Central Arid Zone Research Institute	Rajasthan
132.	Dr. Dharmendra Tripathi	SKNAU, (Fatehpur Shekhawati)	Rajasthan
133.	Dr. Keerthika A.	ICAR-Central Arid Zone Research Institute	Rajasthan
134.	Dr. Yamuna Pandey	College of Horticulture, Bermiok	Sikkim
135.	Dr. S. Manivannan	College of Horticulture, CAU, Sikkim Campus	Sikkim

136.	Dr. Hombe Gowda H.C.	ICAR- Indian Institute of Soil and Water Conservation, RC Ooty	Tamil Nadu
137.	Dr. I. Sekar	TNAU, Mettupalaym	Tamil Nadu
138.	Dr. K. Vaiyapuri	TNAU, Mettupalaym	Tamil Nadu
139.	Dr. S. Gunasekaran	TANUVAS, Kattupakkam	Tamil Nadu
140.	Dr. M Suganthi	TANUVAS, Kattupakkam	Tamil Nadu
141.	Dr. Milkuri Chiranjeeva Reddy	Forest College and Research Institute (FCRI)	Telangana
142.	Dr. Shivaputra Bommanahalli	Forest College and Research Institute (FCRI)	Telangana
143.	Dr. B. Harish Babu	Forest College and Research Institute (FCRI)	Telangana
144.	Dr. Kapil Sihag	Forest College and Research Institute (FCRI)	Telangana
145.	Dr. Sumit Manohar Yadav	Forest College and Research Institute (FCRI)	Telangana
146.	Dr. Arjun Ramachandran	Forest College and Research Institute (FCRI)	Telangana
147.	Dr. Priya R.M.	Forest College and Research Institute (FCRI)	Telangana
148.	Dr. G. Venkatesh	ICAR-Central Research Institute for Dryland Agriculture	Telangana
149.	Dr. O.P. Sharma	National Institute of Plant Health Management	Telangana
150.	Dr. Sridhar K.B.	ICAR Central Research Institute for Dryland Agriculture	Telangana
151.	Dr. A.V. Ramanjaneyulu	PJTSAU, Hyderabad	Telangana
152.	Dr. T. Chaitanya	PJTSAU, Hyderabad	Telangana
153.	Dr. Thiru Selvan	Tripura University	Tripura
154.	Dr. Sourabh Deb	Tripura University	Tripura
155.	Dr. Sabyasachi Dasgupta	Tripura University	Tripura
156.	Dr. A K Handa	ICAR-Central Agroforestry Research Institute	Uttar Pradesh
157.	Mr. Suresh Ramanan S.	ICAR-Central Agroforestry Research Institute	Uttar Pradesh
158.	Mr. Nirmal	ICAR-Indian Institute of Farming System Research	Uttar Pradesh
159.	Dr. Kamini	ICAR-Indian Grassland and Fodder Research Institute	Uttar Pradesh
160.	Dr. S K Verma	ANDUA&T, Faizabad	Uttar Pradesh
161.	Dr. Anjali Tiwari	ANDUA&T, Faizabad	Uttar Pradesh
162.	Dr. Rajesh Kaushal	ICAR-Indian Institute of Soil and Water Conservation	Uttarakhand
163.	Dr. S. K. Lavania	GBPUA&T, Pantnagar	Uttarakhand

164.	Dr. Ashutosh Dubey	GBPUA&T, Pantnagar	Uttarakhand
165.	Dr. Ratna Rai	GBPUA&T, Pantnagar	Uttarakhand
166.	Dr. Charan Singh	ICAR-Indian Institute of Soil & Water Conservation	Uttarakhand
167.	Dr. J.M.S. Tomar	ICAR-Indian Institute of Soil and Water Conservation	Uttarakhand
168.	Dr. Nidhi Sharma	ICAR-Indian Veterinary Research Institute	Uttarakhand
169.	Dr. Benukar Biswas	BCKVV, Kalayani (HRS, Jhargram)	West Bengal
170.	Dr. Subhabrata Panda	BCKVV, Kalayani (HRS, Jhargram)	West Bengal

Note: The list is dynamic subject to empanelment with the recommendation of the State Nodal Agency or the National Nodal Agency with due passport data of the candidate.

Appendix I

फ्रेंकलिन एल. खोबुंग
FRANKLIN L. KHOBUNG
संयुक्त सचिव
Joint Secretary

सत्यमेव जयते

आज़ादी का अमृत महोत्सव

भारत सरकार
कृषि एवं किसान कल्याण मंत्रालय
कृषि एवं किसान कल्याण विभाग
Government of India
Ministry of Agriculture & Farmers Welfare
Department of Agriculture & Farmers Welfare

No 3-1/2021-NRM-SMAF

05th April,2023

Dr. A. Arunachalam,
Director (ICAR),
Central Agroforestry Research Institute, Gwalior Road,
Jhansi-284 003, Uttar Pradesh.
E-mail: director.cafri@icar.gov.in

As your are aware that in view of restructured scheme of AGROFORESTRY to be implemented as one of the components of *Rashtriya Krishi VikasYojana* (RKVY) for its continuation during 15th Finance Commission period from 2021-22 to 2025-26, ICAR-Central Agroforestry Research Institute (CAFRI), Jhansi has been designated as Nodal agency for providing technical support for supply of Quality Planting Material (QPM) and its certification as well as Accreditation of nurseries as given in the Operational Guidelines of Agroforestry which is as below :-

i. CAFRI shall extend support through its All India Coordinated Research Project (AICRP) centres on agroforestry situated at various locations around the country and also coordinate activities with other agencies/ institutes like ICFRE, CIFOR-ICRAF, FAO-India, SAUs, CAUs, Private Partners, etc. while facilitating the implementation of the scheme.
ii. CAFRI will ensure that all nurseries set up under the scheme comply with the registration and accreditation requirements as laid down by it
iii. Certification of QPM from accredited nurseries shall be done as per guidelines laid down by CAFRI in association with empaneled agencies/experts.
iv. CAFRI shall provide the standards and modalities for Registration, Certification and Accreditation of Nurseries as well as Certification of QPM from such Registered/Accredited nurseries.
v. ICAR-CAFRI will act as Nodal Agency for repository of agroforestry related works with a preamble note to states for providing all related information to CAFRI.
vi. CAFRI may undertake project-based activities including transfer of agroforestry technology in various agro-climatic zones, business incubation and training to stakeholders.

2. In view of above, it is requested that CAFRI as the nodal agency may coordinate with the implementing agencies of the States/UTs in providing technical support while implementing the scheme. As the main thrust of the scheme is on supply of QPM, it is important that the nurseries set up by the States/UTs under the scheme conform to the quality standards prescribed by CAFRI and the nurseries developed under the scheme are registered/accredited and the seedlings produced are certified for QPM standards.

3. Further, ICAR-CAFRI as Nodal Agency for repository of all agroforestry related works may coordinate with the State/UT Governments for obtaining necessary information related to the subject.

Yours faithfully,

(Franklin L Khobung)

Copy to:-

The Pr. Secretary/ Commissioner D/o of Agriculture (All States/UTs).

Office : Krishi Bhawn, New Delhi-110001. दूरभाष / Phone : 23382508
E-mail : franklin.l@nic.in

Appendix II

No. 18-1/2023-NRM-AF (FTS: 132982)
(भारत सरकार)
Government of India
(कृषि एवं किसान कल्याण विभाग)
Department of Agriculture & Farmers Welfare
प्राकृतिकसंशाधनप्रबंधन प्रभाग
(Natural Resource Management Division)
Krishi Bhawan, New Delhi-110001
Dated: 20th December, 2023

Dr. A. Arunachalam
Director,
ICAR - Central Agroforestry Research Institute,
Gwalior Road,
Jhansi-284 003,
Uttar Pradesh. **E-mail:** director.cafri@icar.gov.in

Subject: Accreditation Protocol for Agroforestry Nurseries and institutional arrangement proposed for constituting National Nursery Assessment and Accreditation Committee (NNAAC), headed by CAFRI, Jahnsi –reg.

Sir,

With reference to subject mentioned above, I am directed to convey the approval of the competent authority to the Accreditation Protocol developed for Agroroforestry Nurseries by ICAR-CAFRI including the institutional arrangement proposed for constituting the National Nursery Assessment and Accreditation Committee (NNAAC), with following constitution which will be responsible for Accreditation of nurseries set up under the Agroforestry by the States/UTs: -

i.	Director, ICAR-CAFRI, Jhansi	-	Chairman
ii.	Representative from (NAEB), MoEF&CC	-	*Member
iii.	Representative from NRAA, MoA&FW	-	*Member
iv.	Representative from CIFOR-ICRAF, India office	-	*Member
v.	Representative from ICAR, New Delhi	-	*Member
vi.	Deputy Secretary of MoA&FW dealing with Agroforestry	-	Member Secretary
vii.	Invited Member (s) -		**State Representative of Nodal Agency

* Nominated by different Agencies.
** States from where the proposal are received and/or considered by NNAAC

2. It is requested that the approved accreditation protocols for Agroforestry nurseries may be circulated among the Agroforestry implementing States /UTs and other stakeholders for necessary compliance.

Yours faithfully,

(Vinay Awasthi)
Deputy Secretary (RFS/NRM)
E-mail: vinay.awasthi@nic.in

Glossary

- **Agroforestry:** It is defined as a land use system which integrates trees and shrubs on farmlands and rural landscapes to enhance productivity, profitability, diversity and ecosystem sustainability. It is a dynamic, ecologically based, natural resource management system that, through the integration of woody perennials on farms and in the agricultural landscape, diversifies and sustains production and builds social institutions.
- **Asexual propagation:** Propagation by using vegetative parts of plants such as leaves, stems, and roots in aseptic conditions with artificial media.
- **Criteria:** A category of conditions or processes through which sustainable forest management can be assessed. A criterion is characterized by a set of related indicators, which are monitored periodically to assess change
- **Mist Chamber:** A structure where misting and fogging is done for vegetative propagation
- **Nursery:** A nursery is a place where plants are propagated and grown to usable size.
- **Integrated Nutrient Management (INM):** refers to the maintenance of soil fertility and plant nutrient supply at an optimum level for sustaining the desired productivity through optimization of the benefits from all possible sources of organic, inorganic and biological components in an integrated manner.
- **Integrated Pest Management (IPM):** A pest management method that utilizes all techniques of pest control cultural, biological and chemical, in an integrated manner to keep pest populations below an economic threshold level.
- **Plant Propagation:** Multiplication of plants by using seeds or vegetative plant parts.
- **Plant protection measures:** refer to the measures and practices employed to safeguard seedlings from pests, diseases, and weeds.
- **Potting media:** It is media used to plant any seedling or sapling.
- **Shade Net house:** A structure for rearing plants in a controlled environment
- **Truthfully labelled seedlings:** It is the category of seedlings produced by private nursery companies and is sold under truthful labels.

Notes

Notes

Swachh Bharat Abhiyan

स्वच्छ भारत

एक कदम स्वच्छता की ओर

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भाकृअनुप ICAR

केकृवाअनुसं CAFRI

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Jhansi 284003, Uttar Pradesh