

**Memorandum Circular  
No. 21  
September 10, 1990**

**SUBJECT: Guidelines in the Handling and Disposition  
of Endemic Forest Tree Seeds from  
Selected Mother Trees**

With the reforestation of denuded forest areas, and critical watersheds of the country as the main thrust of the government and viewing same as an economic investment, the DENR through the National Forestation Program (NFP) realizes the urgent need to improve the quality and quantity of seeds to be used in reforestation projects. Towards this end, the NFP has purchased 52 tons of seeds of different forest tree species collected from selected mother trees throughout the country. These seeds are intended not only for the establishment of production and protection forests but also for the establishment of genetically improved plantations for Seed Production Areas in the future.

In order to ensure that these seeds are properly handled and disposed of, the following guidelines are hereby promulgated:

**A. Distribution**

**1. Distribution**

The endemic seed lots which are available in the Regional Offices shall be distributed through the PENRO's as systematically programmed by the RTD for Research Services, provided all the requirements on site characteristics as discussed hereafter are fully met. To this effect, the concerned RTD shall be provided by the recipient PENRO's the following information:

- a. Species required
- b. Quantity requested
- c. Location of the CENRO and planting site
- d. Map of the area where the planting stocks shall be planted
- e. Statement whether the area is within the existing reforestation project or reservation, and whether the growing and tending of stocks are by contractor(s) and a copy of the duly accomplished contract should be submitted
- f. Bio-physical condition of the site: area, soil characteristics, terrain, present vegetative cover

The respective RTD's for Research shall determine based on the information submitted the appropriateness of the site as future Seed Production Area and Seed Orchard for the species requested. If the site is appropriate, the seeds shall be released to the requesting PENRO or his duly authorized representative together with the proper information on the documentation, monitoring and reporting system adopted for the purpose.

## **2. Recipients/End-Users**

The seed stocks may be released only to the requesting PENRO or his duly authorized representative. The planting stocks may be planted in reforestation projects by contract. The contract shall be made aware of the work and responsibilities required to ensure that Seed Production Areas and Seed Orchards are established.

## **B. Tending and Maintenance**

### **1. Nursery Operation**

The PENRO's/CENRO's concerned shall properly monitor and supervise the production of planting stock to ensure that the seedlings raised are of high quality.

### **2. Plantation Establishment**

The PENRO's/CENRO's concerned shall strictly adopt the species-site matching and planting quality control in order to ensure good growth.

### **3. Monitoring and Reporting System**

Consistent and strict monitoring and supervision of the planting stocks from nursery operation to plantation maintenance and protection shall be done by the Forest Management Sector (FMS) and Ecosystem Research and Development Sector (ERDS) of the respective region in collaboration with the Forest Management Bureau (FMB) and Ecosystem Research and Development Bureau (ERDB). The task force to be composed of technical personnel from Reforestation Division, FMB and GDAERD, ERDB will assist the FMS and ERDS and each of the recipient PENRO's to set up their respective documentation, reporting and monitoring system.

The PENRO's concerned shall submit quarterly reports on the progress of development of the seed production areas from these seed stocks through their respective RED's. Likewise, the task force shall monitor and periodically report the progress of such plantations.

**C. Guide and Reference**

In implementing item B of this Guideline the PENROs/CENROs shall be guided by herein Project Proposal on Species Trial and Establishment of Seed Production Area using Endemic Forest Tree Species.

**D. Deduction**

If the end-user is a contractor, the cost intended for seed procurement shall be automatically deducted from the total contract cost. The seed costs shall be based on the prevailing seed prices, see Annex B. The amount that will be raised upon deduction of contract cost shall be used by the PENRO's to finance additional contracts for establishment of seed production areas and species trial of exotic and endemic species within their jurisdiction.

**E. Immediate Measures of Seed Disposition**

While observing provisions A to C of this Circular, the REDs thru their RTDs for Research Services who already received their endemic selected seeds from the Zeta Beta Rho-Mussaenda Foundation shall endeavor to undertake the following measures in order to avoid spoilage.

1. For regions whose plantation establishment start at the Third Quarter and extended up to the First Quarter of incoming Calendar Year, sowing of the aforesaid seeds in appropriate timing must be carried out. In carrying this out, contract reforestation when executed must contain provision to the effect that contractors in whole or in part must produce seedlings out of these DENR supplied endemic seeds, the cost of which shall be automatically deducted from the total contract cost. Areas for the planting of these endemic seedlings must be set aside as early as possible to assure establishment on time.

2. For regions whose planting season is from June to September and the production of plantable seedlings for the current year is impossible, the timing of sowing shall be determined taking into consideration the period required for the subject species to attain plantable size. To effectively undertake the seedling production out of the aforesaid seeds, the RTD for Research in coordination with the RTD for Forestry shall engaged in services of contractor with good track record in nursery operation and seedling production to do the job. The RTD for Research and RTD for Forestry shall likewise set aside areas where to plant the seedlings produced. They shall see to it that the areas selected are suitable for the establishment of future seed production areas.

**F. Funding Requirement**

All project proposals pertaining herein must conform with Annex A and be submitted to the Chief, Reforestation Division, FMB for review and processing of funding requirements.

In any case, the provisions of policy issuances on specific activity contract shall govern.

**FULGENCIO S. FACTORAN, JR.**  
Secretary

Note: Detailed schedule of Activities and Budgetary Requirements omitted.

## ANNEX "A"

- I. **Project Title: Species Trial and Establishment of Seed Production Area Using Endemic Tree Species**
- II. **Project Coordinator: FMB, ERDB**
- III. **Proponents: Regions 1-12, CAR**
- IV. **Significance of the Project:**

The continuous denudation of our forests and watershed areas leads to massive reforestation program of our government. The Department of Environment and Natural Resources thru different staff bureaus/ regions become responsible to the complete implementation of the program throughout the country. However, insufficient supply of planting stocks especially seeds hinder some of the activities in many area. Besides quantity and quality of the seeds became also a problem since most of the seeds used were of low genetic make-up and place of the collections was unknown. Because of these limitations some of the contractors and other government officials in charge of reforestation activities imported certified seeds of high quality from other countries which costs too much as compared to the prevailing prices in our country. Realizing the cost of importing seeds, DENR thru Zeta Beta Rho Mussaenda Development Foundation, Inc. implemented a project on seed collection from phenotypically superior mother trees. The foundation had already turned over to DENR 42 tons of seeds of different endemic species of species trial and establishment of seed production areas in different regions.

- V. **Project Objectives:**

The project aims to establish species trials of different indigenous tree seed species in different regions for seed production area and seed orchard establishment.

## **VI. Specific Objectives:**

1. To conduct species trial of various endemic tree seed species in 13 regions.
2. To determine the effect of environmental conditions on the germination and survival of these species.
3. To determine the growth performance of tree stands in plantations.
4. To establish seed production areas and seed orchard.

## **VII. Materials and Methods:**

### **A. Species Trial**

1. Survey, identification and characterization of the site

Survey and selection of the sites will be done by the regional coordinator in cooperation with the PENRO's and CENRO's. The different components of this activity will be the survey of soil vegetation, physiography, fauna and flora. All gathered information will be filled up in Plantation Site Description Form. Soil samples will be collected for physical and chemical analysis.

2. Planting Stock Production

Seeds will be distributed to TRD's for research to PENRO's and then to CENRO's. Seeds will be tested using appropriate germination methods and will be sown in sterilized soil in seed boxes to minimize damping-off. Seed boxes will be incubated in existing nurseries. All informations relevant to seed germination will be recorded in Seed Germination Form. Maintenance and protection will also be done and assessment of seedling survival will also be recorded.

### **3. Plantation Establishment**

Seedlings will be outplanted on the onset of rainy season in the prepared sites. Experimental design will be laid out using Randomized Complete Block Design. For all species, a spacing of 2x2m will be used.

### **4. Maintenance and Protection**

Cultural treatments like weeding, spraying and clearing will be done regularly. Fertilizer will also be applied. Pest and diseases occurrence will be monitored to minimize and prevent outbreak in the area. Fire breaks and fences will also be provided.

## **B. Establishment of Seed Production Area**

### **1. Field Work**

#### **a. Stand Selection and Evaluation**

Selection of vigorously growing stand with superior growth form will be done in each site where the species are growing. The criteria selection will be based on the guidelines made by FMB.

#### **b. Sample Plot Establishment**

A ten meter radius plot at an interval of 50 m between plots will be established within the plot, height and diameter at breast height of the dormant trees will be recorded.

#### **c. Delineation and Mapping of the Area**

This activity will follow after the selection and establishment of sample plot. All important land marks such as roads, rivers, gullies and ridges will be recorded.

d. Isolation - Selected stands shall be free from pollen contamination from inferior trees. In case of areas more than 3 hectares seed collection will be concentrated in 3 hectares only.

e. Cultural treatments

1. Thinning - shall be done to improve the genetic base of the stand.

2. Pruning - removal of branches not capable of holding large amount of fruit.

3. Weeding - removal of grasses, weeds and shrubs that will compete with the tree stand.

4. Disking/Cultivation - to make the soil friable and to induce root formation and moisture penetration.

5. Fertilizer application - improve the nutrient content of the site.

f. Plantation Maintenance and Protection

Plantation areas will be managed by CENRO's of each region with a close supervision by the PENRO's and RTD for research. Yearly monitoring of the plantation sites will be done by the Project Team together with regional counterparts.

2. Seed Production

a. Phenological characteristics

1. flower fruit formation and development

2. period of fruit maturation

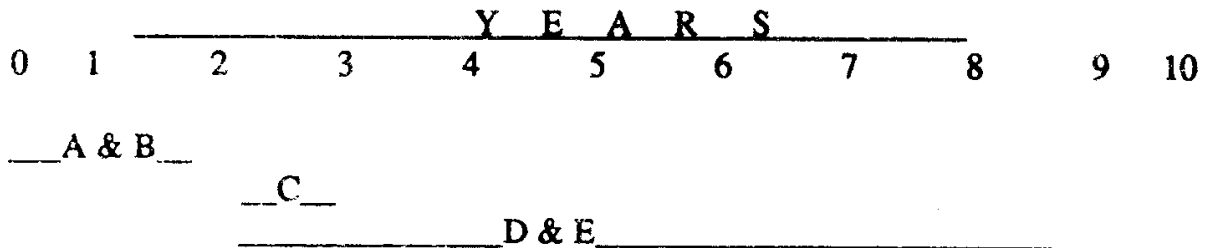
3. dates of seed selection



**b. Seed Yield**

1. quantity - amount of seeds collected per tree will be recorded.
2. quality - assessment of seed quality will be done through germination experiments, seed health and growth performance of seedlings.

**C. Schedule of Activities**



A - Survey, identification and site characterization

B - Planting Stock Production

C - Plantation Establishment

D - Plantation Maintenance and Protection

E - Establishment of Seed Production Areas

1/ Project Start: Date - July 1990

**D. Budgetary Requirements:**

ANNEX "B"

SUGGESTED PRICING OF SEEDS ALREADY SUBMITTED TO DENR

SPECIES	COST PER KILO	SPECIES	COST PER KILO
Akle	P 150.00	Kakauate	100.00
Agoho	250.00	Kalantas	300.00
Akleng parang	300.00	Kalumpang	100.00
Alibangbang (native)	150.00	Kalumpit	100.00
Alim	150.00	Kamachile	100.00
Achoan dilao	300.00	Kariskis	200.00
Anonang	200.00	Katurai	200.00
Bagalunga	100.00	Kupang	100.00
Baguilumbang	100.00	Langil	150.00
Balakat	100.00	Lamutan	150.00
Balakat gubat	100.00	Liusin	100.00
Banaba	300.00	Lumbang	95.00
Dao	100.00	Sapang	100.00
Dapdap	95.00	Molave	200.00
Duhat	95.00	Pink shower	200.00
Dungonlate	95.00	Putat	95.00
Earpod	100.00	Rain tree	95.00
Firetree	150.00	Siar	100.00
Fringon Morado	95.00	Talisay-gubat	100.00
Golden Shower	300.00	Tamarind	100.00