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Meghalaya Livelihood Improvement through Forest Enhancement

Meghalaya Basin Development Authority

Japan International Cooperation Agency

No. MBDA/JICA/2023/72{1046 **Dated: Shillong, the 08. June, 2023**

From:

Shri Gunanka DB, IFS
Additional Project Director
MegLIFE, MBDA, Shillong

To:

The Block Project Managers
MegLIFE, MBDA

Sub: Guidelines for Transportation and Planting of Nursery Seedlings

With reference to the subject cited above, please find attached herewith the guidelines for transportation and planting of nursery seedlings from SWCD permanent nurseries at **Annexure-A**.

Along with the guidelines also find attached herewith Village wise Checklist of activities for transportation and planting of nursery seedlings at **Annexure-B.** You are asked to fill up the village wise checklist of activities and submit the duly signed checklist to SPMU within 3 days after completion of transportation and planting in respective MegLIFE Project Villages without fail.

This will be reviewed in monthly online meetings of BPMUs.

Additional Project Director
MegLIFE, MBDA Shillong

Copy to:

1. The Project Director, MegLIFE, MBDA, Main Secretariate Building, Shillong

Additional Project Director
MegLIFE, MBDA Shillong

Annexure-A

Guidelines for Transportation, and Planting of Nursery Seedlings including 'Stump' Preparation and Planting

1.0 General:

1.1 'Seedling Lifting Plans' and plantation dates should be decided by the BPMs in consultation with the concerned VPIC and the central nursery personnel /nursery-in-charge. There should be perfect coordination between the planting and lifting of seedlings. Number of seedlings lifted from the nursery should be maintained by the Nursery-in-charge and the concerned Project Associate.

1.2 The Project Associates (Foresters) should mandatorily be present at the nurseries on all days of lifting seedlings and ensure that only quality planting materials/ seedlings are taken for plantation from the nurseries, after checking the following points: A). Seedlings of minimum 18" height should only be taken for delivery. B) Check that there are no symptoms /signs of pest attack or disease on the seedlings. C). The foliage (leaves) of the seedlings should be uniformly green and should not be yellow or wilted. D.) Stem of the seedling should be straight and sturdy.

2.0 In the Permanent/Nursery Before Lifting seedlings:

2.1 Polybag seedlings should be adequately watered in the nursery before lifting.

2.2 In case of lifting tall seedlings of more than 4`` height the following precautions should be taken.

i. Polybag seedlings should be lifted after rain or after proper watering in the nursery.

ii. Crowbar should be used to lift the seedlings without damaging the tap root and polybag or the ball of earth in the polybag.

3.0 Transportation & Storage: It is to be remembered that seedlings are sensitive living organisms that come under stress, the moment they are lifted from the nursery beds. During journey from the nursery to the planting sites, seedlings typically become stressed through exposure to rapid heating, sudden freezing, lack of water, too much water, and physical abuse such as shaking, slapping, ripping, or squeezing. These stresses upset the balance between photosynthesis, respiration, and transpiration. Plant cells and their contents break down and cease to function normally (roots are generally more sensitive to stress). Stressed seedlings must then divert their efforts from growth to survival, from growing new cells to repairing damaged cells. The following are some of the precautions for transportation of seedlings:

3.1 The field BPMs of Blocks will arrange carriage the assigned seedlings (QPMs) for the village / cluster of villages to the common diesel points from where the headloads will be carried to the plantation sites.

3.2 If using an open vehicle, provide shelter by covering with a tarpaulin. If placed in a metallic vehicle body, ensure minimize travel time. Metallic vehicle bodies heat up quickly and don't provide adequate air circulation.

3.3 On rough roads, drive as if the seedlings are boxes of eggs, not bales of hay.

3.4 Park in the shade.

3.5 Seedlings stored temporarily in the villages/plantation sites must be provided with shade, cool temperatures, adequate irrigation water (not stagnant), protection from drying winds, and good ventilation. Avoid direct sunlight, standing water, and low-lying frost pockets. Plan ahead to choose the best storage spot.

3.6 Unload new seedlings immediately from the vehicle.

3.7 Water the seedlings as per the requirement.

3.8 Plant stored-seedlings first before picking up fresh ones

3.9 Handle gently: — no tossing, dropping, or forcing into small spaces

3.10 Do not stack bags
3.11 Leave space around each bag for ventilation when storing or thawing
3.12 Ensure on-site storage time is absolutely minimal
3.13 Place seedlings in upright position and pack loosely so that removal will not damage the tender roots

4.0 Planting Season: In Meghalaya planting is done during monsoon i.e. preferably in the last part of June or in July depending on the onset of South-West Monsoon. That is why it's called monsoon planting.

Monsoon **planting** should be done when the sky is overcast with clouds or there may be drizzle, but it is always not possible to get such optimum conditions when extensive areas to be planted. Therefore, efforts to be made to complete the work as early as possible once it is started.

5.0 Planting Polythene bag Seedlings: The polythene bag seedlings are planted in the pits made with certain spacing by removing polybag with the help of blade. While planting it should be ensured that the ball of earth around the roots is not disturbed for better survival. While planting, the pit is filled with the loose soil and should be pressed with hands all around the seedling so as not to allow the water to stagnate in the pit.

5.1 Stump Preparation and Planting:

Teak, Gamari and Jarul (Lagerstroemia) etc are generally planted as **'stumps'** or '**Root & Shoot cuttings'**. Stumps are prepared in the nurseries from the seedlings which were directly sown in the nursery beds.

5.2 Preparation of stumps:

Plants are uprooted first from the nursery beds and they are graded on the basis of their tap-root development and the diameter of the collar. Only those plants with single taproot of length not less than 30 cm are suitable. In case of teak, plants having collar dia. of 1 cm to 2 cm dia. are suitable for making stumps. After selecting plants, first the shoot is cut off leaving only 2 to 3 cm at the collar portion. Then all the lateral roots are pruned to a length of 30 cm. Then the tap-root is cut off at a length of 22 to 23 cm from the collar on an average. Care should be taken to keep uniform length of stumps. After preparation, they are tied in bundles of 100 and dipped in thin paste of soil, and finally wrapped in wet gunny cloth and stitched. In this way they can be transported to long distances.

5.3 Technique of Planting Stumps in the Field:

5.3.1 Crowbar Planting:

Stumps are planted in the field either in the holes made by crowbar or some sharp round stick, or in pits of 30 cm deep and 30 cm dia. It is advisable to plant in crowbar holes only in lighter soils. When crowbar holes are made, the depth of the hole should not be more than the length of the stump. After making the hole, the stump is held by the collar portion which is kept 1 cm above the ground level and loose earth is filled in from all sides so that no empty space is left. After the planting the soil has to be pressed fairly well with hands or with wooden sticks and finally with the feet leaving the filled-up earth sloping outside. The test of good planting is that the stump should not come out when pulled with ordinary force.

5.3.2 Polybag Planting in the pits:

The polybag/container plants are planted in pits already dug and sufficiently weathered. First the polybag is cut off with a sharp blade and removed. Without disturbing the earth around the root portion of the seedlings they are kept inside the pits in such a way that the collar portion is recessed with the ground level. After that the pit is filled with the loose soil all around the root and should press at the base of the seedlings or with wooden sticks and finally with the feet leaving the filled-up earth sloping outside.

Annexure-B

Checklist for Lifting, Storage and Planting of Seedlings
Name of MegLIFE Project Village:

TASKS	DONE (put √ mark if done)	Remarks why not done
Lifting seedlings from Permanent Nursery		
Task 1-To ensure adequate watering of Polybag seedlings in the nursery		
Task 2-In case of lifting tall seedlings of more than 4`` height to ensure # lifting of Polybag seedlings after rain or after proper watering in the nursery. # using Crowbar to lift the seedlings without damaging the tap root and polybag or the ball of earth in the polybag		
Task 3- To ensure careful carrying of the assigned seedlings to the common diesel points for carrying to the plantation sites.		
Task 4- To ensure covering of vehicle with tarpaulin during		
T**ask 5**- To ensure slow driving during transportation of seedlings		
Task 6- To ensure parking of vehicle in the shade		
Storage of seedlings		
Task 1-To ensure that Seedlings storage sites are provided with 1) shade 2) cool temperatures 3) adequate irrigation water (not stagnant) 4) protected from drying winds 5) Provided good ventilation. 6) Avoided direct sunlight, standing water, and low-lying frost pockets. 7) best storage place		
Task 2-To ensure unloading of new seedlings immediately from the vehicle		
Task 3- To ensure watering of the seedlings as per the requirement		
Task 4- To ensure planting of stored-seedlings first before picking up fresh ones		

TASKS	DONE (put √ mark if done)	Remarks why not done
Task 5-To ensure seedlings are handled gently as directed		
Storage of seedlings		
Task 6- To ensure bags are not		
Task 7- To ensure proper ventilation when stored		
Task 8- To ensure on-site storage time is absolutely minimal		
Planting		
Task 1- To ensure monsoon planting as directed		
Task 2- To esure polybag seedling and stump planting techniques were followed as directed		

I have gone through the above guidelines and dully adhered to them to the best of my knowledge.

Signature of the BPM:

Name :

Place of Posting:

Date :