ABSTRACT

Schemes – Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGS) – Announcement made by the Hon'ble Minister (Rural Development) for the year 2023-2024 – Plantation of 70 lakh saplings in rural areas to a total cost of Rs.275.00 crore under Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGS) 2023-24 – Sanction accorded – Orders – Issued.

RURAL DEVELOPMENT AND PANCHAYAT RAJ (CGS1) DEPARTMENT

G.O.(Ms.)No.18 **Dated: 01.02.2024**
சோபகிருது, தை 18
திருவள்ளுவர் ஆண்டு-2055

Read:

1. G.O.(Ms.) No.12, Rural Development and Panchayat Raj (CGS1) Department, dated : 04.02.2019.
2. G.O.(Ms.) No.62, Rural Development and Panchayat Raj (CGS1) Department, dated: 20.05.2022.
3. G.O.(Ms.) No.65, Rural Development and Panchayat Raj (CGS1) Department, dated : 21.04.2023.
4. G.O.(Ms.) No.74, Rural Development and Panchayat Raj (CGS1) Department, dated : 05.06.2023.
5. The Director of Rural Development and Panchayat Raj, Letter No.16075/2023/MGNREGS–I.1, dated: 06.04.2023 and 13.07.2023.

ORDER:

While replying to the debate on the demands for grants for Rural Development and Panchayat Raj Department on the floor of the Tamil Nadu Legislative Assembly on 30.03.2023, the Hon'ble Minister (Rural Development), has made the following Announcement:-

தமிழ்நாடு அரசின் "பசுமை தமிழ்நாடு இயக்கத்தை" முன்னெடுத்து செல்லும் வகையில் 70 இலட்சம் மரக்கன்றுகள் ரூ.275 கோடி மதிப்பீட்டில் நடப்படும்.

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புவி வெப்பமடைதலை தடுத்திடவும், ஊரக பகுதிகளின் பசுமையை அதிகரிக்கவும், மகாத்மா காந்தி தேசிய ஊரக வேலை உறுதி திட்டத்தின்கீழ் 70 இலட்சம் மரக்கன்றுகள் தொண்டு நிறுவனங்கள் மற்றும் தொழில் நிறுவனங்களுடன் இணைந்து அரசு நிலங்கள், நிறுவனங்கள் மற்றும் சாலையோரங்களில் 275 கோடி ரூபாய் மதிப்பீட்டில் நடப்படும்.

2. In pursuance of the above announcement, in the letter 5th read above, the Director of Rural Development and Panchayat Raj, has sent a proposal for plantation of 70 lakh saplings to a total cost of Rs.275.00 crore along with draft guidelines, draft Asset Register, approximate expenditure for one plant including maintenance for one year, approximate cost for installation of Citizen Information Board, details of funding pattern, Non-Negotiable items to be followed during the plantation of saplings and requested the Government to accord permission for the same.

3. The Government have examined the proposal of the Director of Rural Development and Panchayat Raj in detail and decided to accept the same. Accordingly, the Government issue the following orders:-

a. Administrative sanction is accorded for plantation of 70 lakh saplings to a total cost of Rs.275.00 crore under Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGS) 2023-24;

b. Apart from following guidelines issued in Government Orders first and second read above, the Guidelines annexed in Annexure-I of this order shall also be followed scrupulously during the execution of works;

c. Planting Techniques and the list of Agro-Climatic zone-wise species for Plantation are annexed to this order as Annexure-II and Annexure-III respectively;

d. Details of spacing, pitting size, the recommended number of plants per hectare etc., for some of the commonly used Horticulture & forest species are detailed in Annexure IV and Annexure V respectively;

e. The Plantation Asset Register as annexed in Annexure VI to this order shall strictly be maintained;

f. Expenditure for one plant including maintenance for one year shall be as per Annexure VII annexed to this order;

g. Cost of installation of Citizen Information Board (CIB) shall be as per Annexure VIII annexed to this order.

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4. The funding pattern and the Non-Negotiable items to be followed during the execution of works shall be as indicated below:-

(i) Funding Pattern :-

The Labour cost is borne 100% by the Government of India and the material cost is shared at the ratio of 75:25 by the Government of India and the State Government respectively and the detailed funding pattern is as follows.

Massive Tree Plantation of 70 lakh Seedlings

70 lakh saplings will be planted at an estimated cost of Rs.275 crore during the Financial Year 2023-24 under the Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGS) by the Rural Development and Panchayat Raj Department through the Block Nurseries including cost for saplings (inclusive of 10% casualties), pitting, planting and transportation. The Labour & Material cost ratio is 97.71% and 2.29% respectively as described below:-

(Rupees in Crore)

Description	Material Component (2.29%)			Labour Component (97.71%) (Central Share 100%)	Total
	Central Share (75%)	State Share (25%)	Total		
Planting 70 lakh saplings	4.73	1.57	6.30	268.70	275.00

Abstract of Central and State Share:

	(Rs. in Crore)
Central Share: (100% labour component + 75% Material component)	268.70 4.73 -------- **273.43**
State Share: (25% Material component)	**1.57**
Total	**275.00**

However, the actual estimate may vary according to the site condition and issue of Public Works Department (PWD) Schedule of Rate.

(ii) Non-Negotiable items:-

1. Citizen Information Board shall be kept at the work site in 3 X 4 feet with all necessary information as per the framework given by the Government of India vide Ref No: k11023/1/1/2017 – MGNREGA (IV), Ministry of Rural Development, Dated 07.04.2017. The cost of Citizen Information Board will be fixed at Rs.4,500/- per unit for all community works and assets.
2. Estimate creation, Administrative sanction and Technical sanction shall be done in SECURE software.

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3. The Notified Wage Rate have been issued by Ministry of Rural Development, Government of India shall be adopted.

In addition to the above said guidelines, the following shall also be adhered during the execution of works :-

- Resolution should be obtained in the Gram Sabha for all the selected works and it should be entered work wise in Register No.2 of Mahatma Gandhi NREGA of village panchayats concerned.

5. The Director of Rural Development and Panchayat Raj is requested to give instructions to the District Collectors for plantation of saplings with reference to the Guidelines annexed to this order and send the progress report to Government periodically. The Financial sanction will be made only after release and realization of corresponding Central Share.

6. This order issues with the concurrence of Finance Department vide U.O.No.e5229238/Finance (RD)/2023, dated 31.01.2024

(BY ORDER OF THE GOVERNOR)

P.SENTHILKUMAR
PRINCIPAL SECRETARY TO GOVERNMENT

To
The Director of Rural Development and Panchayat Raj, Chennai-15.
All District Collectors (except Chennai District)
(through the Director of Rural Development and Panchayat Raj, Chennai-15).
All Project Directors, District Rural Development Agencies
(through the Director of Rural Development and Panchayat Raj, Chennai-15).

Copy to:

The Special Personal Assistant to Hon'ble Minister (Finance and HRM), Chennai-9.
The Special Personal Assistant to Hon'ble Minister(Rural Development), Chennai-9.
The Senior Principal Private Secretary to Chief Secretary to Government, Chennai-9.
The Senior Principal Private Secretary to Principal Secretary to Government, Finance Department, Chennai-9.
The Senior Private Secretary to Principal Secretary to Government, Rural Development and Panchayat Raj Department, Chennai-9.
The Finance (RD) Department, Chennai-9.
The Accountant General, Chennai-18.
The Resident Audit Officer, Chennai-9.
The Pay and Accounts Officer (South), Chennai-35.
The National Informatics Centre, Secretariat, Chennai-9.
Stock file / Spare copy.

//FORWARDED BY ORDER//

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ANNEXURE -I

G.O. (Ms.) No.18, Rural Development and Panchayat Raj (CGS 1) Department, dated 01.02.2024

Guidelines for Plantation

Introduction

Raising of tree plantations is the need of the hour in the context of climate change. Depletion of forest cover, biodiversity and other natural resource, are leading to poverty and disturbance in the hydrological cycle, which in turn affects the cropping pattern and cropping intensity.

Massive Tree Plantation:

As per the guidelines issued in Para 7.6.1 of the Annual master circular 2022-23,

- The tree plantation shall be taken up under Common Land, government institutions, schools, colleges, parks and other suitable areas including the Forest area with the approval of Gram Sabha.
- Preference shall be given to the area which is nearer to any natural water source like kulam, pond, etc..,
- If there is no natural water source is available, the source should be provided within the Mass Tree Plantation (MTP) site like the extension of pipe line, bore well etc...., which shall be met out from any other funds. Creation of water sources- In all Block plantation sites, permanent water sources shall be created from the available resources like State Finance Commission (SFC), 15th Finance Commission, Panchayat Union & Village Panchayat General funds for ensuring availability of water throughout the year.

Selection of Site and Species:

- A suitable location for tree plantation should be selected by considering the soil type, climate, water availability, drainage, and exposure to sunlight.

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- Species Selection: Tree species that are native to the area and well-suited to the site conditions should be selected for plantation. The plant species should be selected in consultation with the Horticulture/Forest/Agriculture Department and the types of plants are to be identified and finalized before preparing the estimate. Preference shall be given to native species and in respect of fruit trees, variety suitable to the area be selected in consultation with Horticulture Department.

- The following species may be taken up for plantation

Sl.No	Name of the Species	
1	Agathi	அகத்தி
2	Alangiyam	அலஞ்சியம்
3	Amla	நெல்லி
4	Arasu	அரசு
5	Areca - Betel Nut	பாக்கு
6	Asoka	அசோகா
7	Athi	அத்தி
8	Avocado	அவகோடா
9	Badham	பாதாம்
10	Banyan Tree	ஆலமரம்
11	Cashew	முந்திரி
12	Coconut tree	தென்னை மரம்
13	Custard Apple	சீதா
14	Elumburukki	எலும்புருக்கி
15	Eyal Vagai	இயல் வாகை
16	Guava	கொய்யா

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17	Gulmohar	குல்மோகர்
18	Ilanthai	இலந்தை
19	Illuppai	இலுப்பை
20	Jack Fruit	பலா
21	Kadukkai	கடுக்கை
22	Kattu Nelli	காட்டு நெல்லி
23	kodukkapuli	கொடுக்காப்புளி
24	lemon	எலுமிச்சை
25	Magizham	மகிழம்
26	Mahogany	மகாகனி
27	Malai Vembu	மலை வேம்பு
28	Mandharai	மந்தாரை
29	Mango	மா
30	Mayilkondrai	மயில்கொன்றை
31	Moongil	மூங்கில்
32	Naval	நாவல்
33	Neem	வேப்ப மரம்
34	Netlingam	நெட்டிலிங்கம்
35	Paalai	பாலை
36	Palm	பனை
37	Pear (Berikkai)	பேரிக்காய்
38	Pepper	மிளகு
39	Plums	ப்ளம்ஸ்
40	Pomegranate	மாதுளை

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41	Poovarasu	பூவரசு
42	Pungan	புங்கை
43	Punnai tree	புன்னை மரம்
44	Rose wood	ஈட்டி
45	Sappota	சப்போட்டா
46	Sara Kondrai	சரக்கொன்றை
47	Serankottai	சேரான் கொட்டை
48	Shenbagam	செண்பகம்
49	Silver oak	மலை சவுக்கு
50	Tamarind	புளி
51	Teak tree	தேக்கு மரம்
52	Thandri	தான்றி
53	vagai	வாகை
54	Vanni	வன்னி
55	Vengai	வேங்கை
56	Vilan	விளான்
57	Vilvam	வில்வம்
58	Wood Apple	விளாம்பழம்
59	Yetti	எட்டி

- The community lands can be planted with diverse fruit-yielding tree species like Mango, Sapota, Nelli, Guava, etc., and Pungai, Neem shall be planted in schools, Anganwadis, etc.,
- Saplings shall be used from the Block Nurseries and Horticulture/Forest/Agriculture Department.

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Work Selection for Avenue Plantation:

As per the guidelines of the Annual master circular 2022-23,

- Avenue plantations under MGNREGS are to be taken up along PMGSY roads / rural roads on a priority basis.
- The roads that are recently completed and not to be renewed for 5 years should be taken up for Avenue plantation.
- Single row of plantation may be taken up.

Technical Instructions for taking up Plantation:

- Trees should be planted at a minimum of 0.5 meter beyond the toe of the roadway so that they are not a safety hazard or affect the required sight distance
- Trees should be planted clear of roadside drains and other drainage structures so that their root system does not interfere with the efficient working of the drainage facilities.
- In case, there is no sufficient land width available, then the trees could be planted beyond the shoulders keeping in view that the roots do not damage the carriageway and the shoulders.
- Plantation layout should be prepared with spacing between trees, row arrangement, and pit depth. Proper spacing and planting depth are crucial for healthy growth.
- Pit size and height of the plant: The pit size for normal soil should be from 60 cm x 60 cm x 60 cm. However, it can vary to the type of species. It's crucial to consider the specific requirements of the tree species. Some trees have deep root systems and might require deeper pits, while others have wider spreading roots, necessitating wider pits.
- The grown up saplings should be used for plantation work and ideally about 5 feet to 6 feet tall.
- The land should be prepared by clearing it of weeds and debris.

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- Trees should be planted during the appropriate season, usually in the spring or fall, when the weather is more favourable for tree establishment. Saplings can be planted during the monsoon season, which typically occurs between June to September (South West Monsoon) in Kanniyakumari, Tenkasi, Nilgiris and Coimbatore and October to December (North East Monsoon) in all districts.
- Weed control measures like manual weeding and mulching should be followed to minimise competition for water, nutrients, and sunlight.
- Adequate water supply must be ensured, especially during the initial years when trees are establishing their root systems.
- Plantations should be maintained regularly by pruning, thinning, and shaping the trees as needed and by providing protection from pests and diseases.
- The plantation of saplings may be done as per the Innovative Root Zone method, since, this gives better survival.
- Suitable spacing between the plants should be adopted for the Avenue plantation depending on the species. The extent of the road should be measured and where the width is available for plantation alone be taken as the effective length. Sometimes the width may be available for only one side of the road and plantation carried out only on that side. The same has to be specified in the estimate.
- Shade and Timber Species like Tamarind, Kodukapuli, Vembu, Pungan etc may be planted.
- It should not be placed on bell mouth entry of branch roads.
- It should not be placed in front of the house entry gate but can be placed on the edge of individual plots.
- It should not be placed below the low-lying EB line.

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Provisions of Sunken Pits for Moisture Conservation for Avenue Tree Plantation:

- Sunken pits could be dug up in the roadside drains wherever feasible to ensure water recharge which will also serve the dual purpose of benefitting the plants planted.
- The sunken pits could be dug up in the existing drains with respect to the spacing of plants to a length of 2m and depth of 0.45m keeping the width equal to the existing drain.
- These sunken pits could be included in the estimate as moisture conservation works wherever feasible.
- A saucer pit shall be provided for all the plants, planted under the Avenue plantation.

Provisions of trench cutting for Moisture Conservation for Massive Tree Plantation:

- Trench Cutting could be dug up in between plants to a size of 3m x 0.60 x 0.60m.
- Trenches can act as conduits for irrigation, allowing water to flow directly to the root zones of the planted trees. This ensures more effective water distribution, especially in areas with sporadic rainfall.
- These trench cutting could be included in the separate estimate as moisture conservation works.

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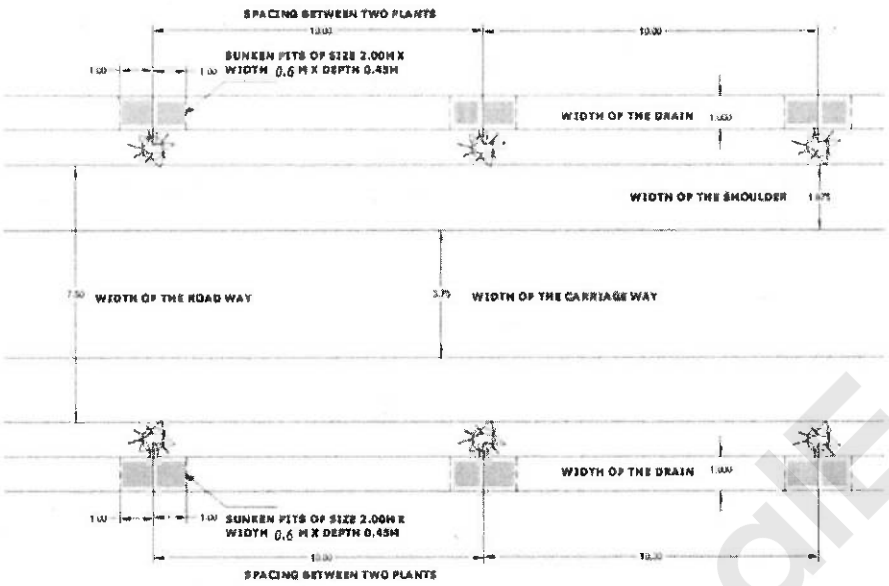
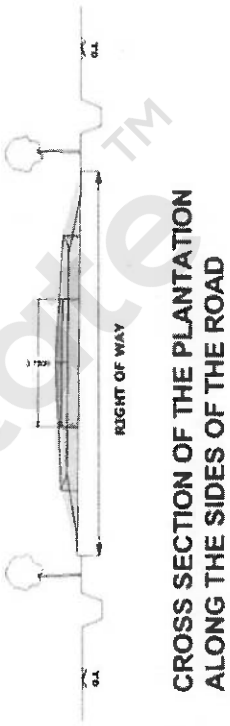
PLANTATION ALONG THE SIDES OF THE ROAD





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Technical Specifications for execution of works

Preparation of Estimates

- In the case of new plantations, the plantation cost for the first year 2023-24 and the provision for maintenance in the 1st year shall be included in the original estimate itself.
- The maintenance cost for the 2nd and 3rd years has to be included in the subsequent year's labour budget.
- One single maintenance estimate shall be prepared every year for all the block plantation works within the panchayat. This shall include sub-estimates for various locations within the panchayat.
- Weeding and hoeing followed by mulching and manuring operations shall be included in the estimate at the rate of twice per year (as per the schedule of maintenance). The technical advice of the Forest/Agriculture departments concerned shall also be obtained in this regard.

- Organic compost or Vermi compost shall be used in the pits before planting the tree saplings. The manure /compost produced through the SWM / Vermi compost units within the Village Panchayats / Blocks may be utilized for plantation activities of their Village Panchayat free of cost.
- A 20% casualty replacement rate may be adopted for plants for the first year of growth and a 10% casualty replacement rate for the second year. This cost shall be added to the overall maintenance cost of the corresponding year.
- The works taken up for the maintenance of plants and the cost of maintenance shall be reflected in the labour budget of the concerned Village Panchayat.
- Moreover, Maintenance will be considered as a separate work like any new work.
- As saplings grow in size, saplings should be transferred to bigger polythene covers. Polythene bags of size 15 cm X 30 cm should be used for raising the grown up saplings. Saplings raised in smaller bags be transferred to bigger bags, as per the growth of the sapling.
- The earthwork for pits should be dug well in advance to improve the survival rate.
- Saplings with a height of 5 to 6 feet alone should be used for plantation work. The PLF/Village Panchayat that maintains the block nursery should ensure that only 5 to 6-foot-high saplings alone are distributed to the work site.
- The Block Development Officer (VP) should ensure that only 5 to 6 feet of saplings alone are obtained from Forest/Agriculture/Horticulture/ Department, CSR/NGO.

Technical Note should cover the following:

1	Name of the Work:
2	Name of the Road / Classification of Land :
3	Length of the Road in Km / Area of the Land:
4	Effective length available: ..... Km Whether proposed for both the sides/one side: Specify the reach:

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5	Soil type:
6	Species selected:
7	Recommended spacing:
8	No. of plants that could be planted:
9	Size of the pits recommended:

Execution and Maintenance

1) Pitting size and spacing of the plantation should be done as required for each sapling.
2) The saplings are to be planted during the monsoon period only and should not be planted during the summer months when the temperature is very high.
3) Plantation is to be done along the toe of the bund of the water bodies for erosion control and improvements in water quality.
4) Live fencing is not necessary for each plant but Soil and moisture conservation works such as Continuous Contour Trench (CCT), Staggered Contour Trench (SCT), and water Absorption Trench (WAT) shall be provided in separate estimates along the boundary of the plantation sites which also prevent the plants from the grazing animals and maintain the soil moisture to certain period.
5) Watering to the plants is to be provided for 68 days in a year as per the schedule as detailed below.
6) Weeding, mulching, and manuring shall be done twice a year per plant.
7) Watering, weeding, manuring, and replacement of the causalities shall be done during the maintenance period.
8) A small number of saplings planted shall be allotted specifically to each worker for maintenance for better survival. MGNREGS coordinators (GRS) should monitor survival accordingly in the village panchayat.
9) Site-specific responsibility should be fixed to the Overseers and Zonal Deputy Block Development Officers(BDOs) for maintenance of plantation and maintenance works to improve survival, and the causalities should be replaced with new saplings immediately.

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Documentation

- Records should be maintained with the date of plantation, type of species planted, maintenance activities, and growth progress.
- Photographs of the site and Photographs of the saplings to indicate the height of the saplings to be taken before undertaking the work, during the execution of the work, and after completion of the work should be taken and properly documented along with the geotagging.

Schedule of Activities

The districts shall draw up a maintenance schedule for each plantation site based on the species of plant, age of the plant and climatic conditions.

Plantation Asset Register

- Each panchayat shall maintain a register containing the details of the various plantation sites within the panchayat. This should include the location with Survey No., year of the plantation, estimate cost, no. of saplings, variety of species along with watering, gap filling and survival details during the maintenance period and remarks of the inspecting officer. The asset register (Annexure VI) for plantation activities shall be exclusively maintained in a format in all Village Panchayats wherein Avenue Plantation/Block Plantation is undertaken under MGNREGA. The maintenance activities will include watering, weeding, mulching and Gap filling of seedlings.
- All the existing plantations under MGNREGS and the asset register has to be periodically inspected by the Overseer, Zonal Deputy Block Development Officer, Assistant Engineer/Block Engineer, Block Development Officer, Assistant Executive Engineer, Block level Zonal Officer in Assistant Director Cadre, Assistant Project Officers, Executive Engineer(RD) and Project Director(DRDA). This is to ensure the survival of saplings planted and to monitor the growth of plants.
- In addition, a stock and distribution register should be maintained for plantation works in all nurseries by the PLF or village panchayat to monitor the effective functioning of the nursery

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Distribution Register at Nursery

Name of the Nursery:

Name of the Village Panchayat :

Name of the Block :

Sl. No	Name of the Sapling	Number of Saplings Raised	No of Saplings distributed for Plantation	Height of Saplings during distribution (In Feet)	Date of Distribution	Name of the work where saplings were distributed with the village panchayat name	Balance Saplings available at Nursery

Monitoring of Plantation of Activities:

The schedule of Maintenance activities for plantation for three years is provided and Administrative Sanction for each year should be accorded separately for the better maintenance and monitoring.

Schedule of Activities

I	**First year**	
1	Site preparation by cleaning, cutting bushes, weeds and removal wherever necessary as per the RSoR	**Before the onset of monsoon**
2	Moisture conservation works such as sunken pits in the drains	
3	Aligning and marking of pits	
4	Pitting	
5	Planting & Refilling	**At the onset of monsoon**
6	Live thorny tree guard or any other cost effective durable tree guard	
7	Cost of saplings	**Free of cost if raised in Nursery under MGNREGS**

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8	Transportation cost of seedlings	
9	Schedule of Maintenance activity (like watering, weeding, mulching and Manuring is annexed in table	
10	Manure	**Organic compost or Vermi-compost shall be used free of cost**
11	Weeding, Hoeing followed by Mulching & Manuring @ 2 times as per the Schedule of Maintenance	
12	Total cost for I year	
	Material cost (out of Col. 12)	
	Labour cost (out of Col. 12)	
II	**Separate Estimate for Maintenance- Second year**	
1	Separate estimate as per the Schedule of Maintenance	
III	**Separate Estimate for Maintenance- Third year**	
1	Separate estimate as per the Schedule of Maintenance Schedule	

Schedule of Maintenance activities for plantation

Year	Month	Activities
1st year	Jan	Watering 5 times, Weeding
	Feb	Watering 8 times, Mulching and Manuring(To be provided by village panchayat)
	March	Watering 9 times
	April	Watering 9 times
	May	Watering 9 times
	June	Watering 9 times
	July	Watering 8 times, Casualty replacement (20% of the total plants).
	August	Watering 4 times, Mulching and Manuring(To be provided by village panchayat), Casualty replacement (20% of the total plants) .
	Sept	Watering 4 times
	Oct.	Watering 2 times
	Nov.	Mulching and Maintenance
	Dec	Weeding, Watering 1 time

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2nd year	Jan	Watering 5 times, Weeding
	Feb	Watering 8 times, Mulching and Manuring(To be provided by village panchayat)
	March	Watering 9 times
	April	Watering 9 times
	May	Watering 9 times
	June	Watering 9 times
	July	Watering 8 times, Casualty replacement (10% of the total plants).
	August	Watering 4 times, Casualty replacement (10% of the total plants) .
	Sept	Watering 4 times
	Oct.	Watering 2 times
	Nov.	Mulching and Maintenance
	Dec	Weeding, Watering 1 time
3rd Year	Jan	Watering 5 times, Weeding
	Feb	Watering 8 times, Mulching and Manuring(To be provided by village panchayat)
	March	Watering 9 times
	April	Watering 9 times
	May	Watering 9 times
	June	Watering 9 times
	July	Watering 8 times
	August	Watering 4 times
	Sept	Watering 4 times
	Oct.	Watering 2 times
	Nov.	Mulching and Maintenance
	Dec	Weeding, Watering 1 time

P.SENTHILKUMAR
PRINCIPAL SECRETARY TO GOVERNMENT

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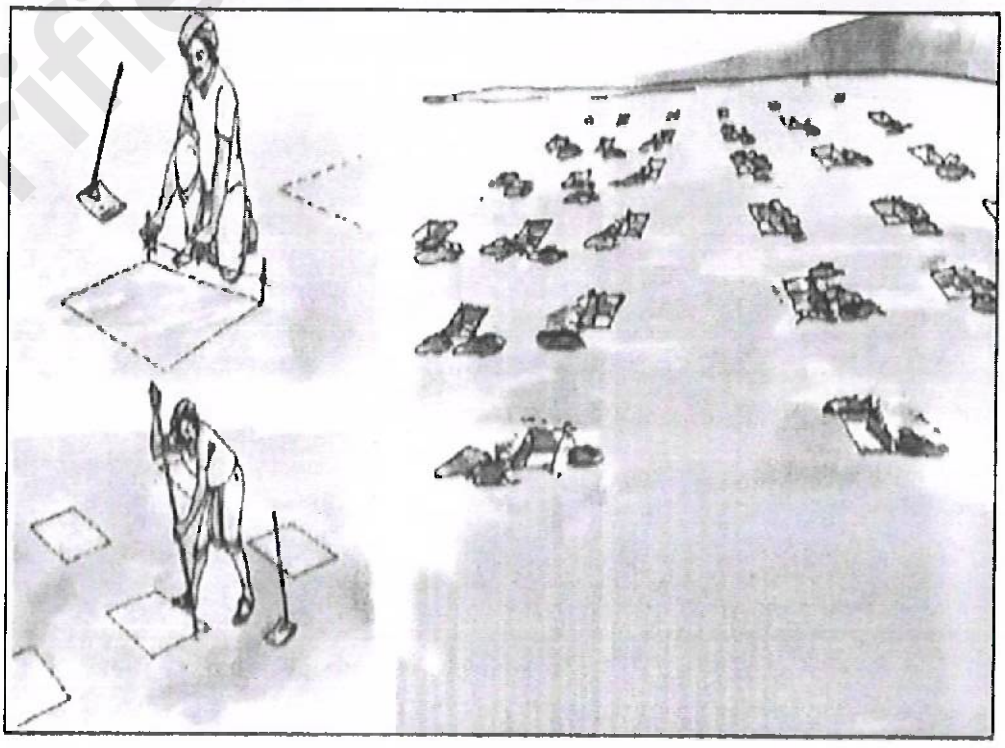
ANNEXURE -II

G.O. (Ms.) No.18, Rural Development and Panchayat Raj (CGS 1) Department, dated 01.02.2024

Planting Techniques

1. Digging of Pits:

- After land development and before digging of pits, pit sites should be demarcated by using a measuring tape or with graduated sticks to ensure the desired spacing.
- Pit size depends on the type of species proposed to be planted.
- Pits should be dug well in advance and exposed to sunlight for one to two months before planting.
- Pits shall be dug to the required depths so that the roots of the plants do not curl up once the planting material is placed in them.
- The soil dug from the pits should be dumped close to the pit.
- The details of spacing, pitting size', the recommended number of plants per hectare etc., for some of the commonly used Horticulture & Forest Species have been detailed in the **Annexure IV & V** respectively. For species other than those listed in the Annexures, advice from the departments concerned should be obtained before giving Sanction.



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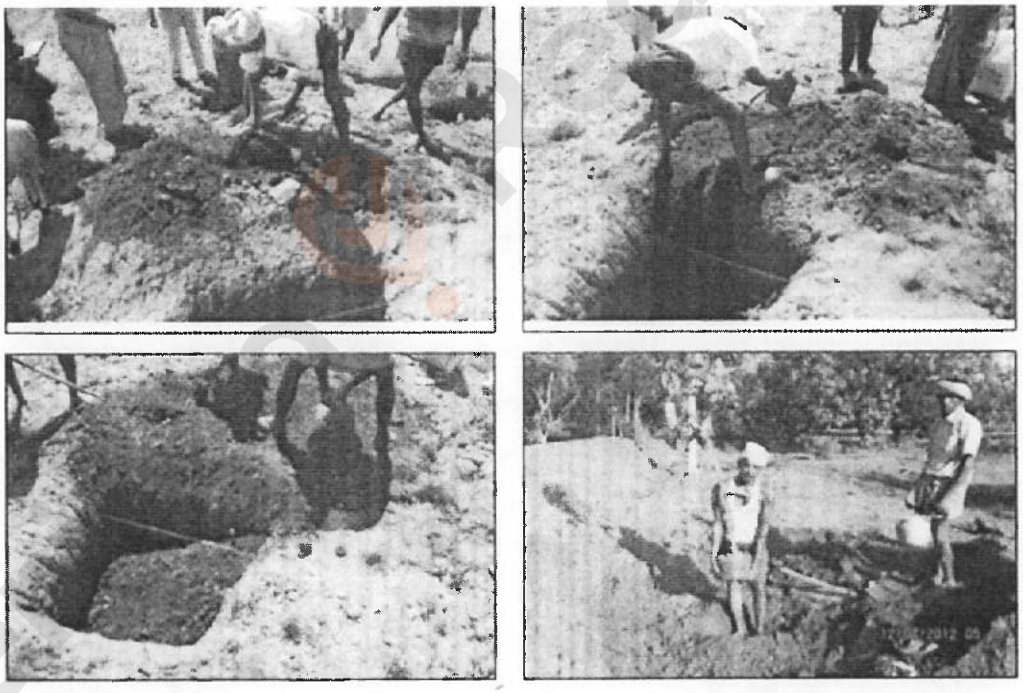
2. FILLING OF PITS:

- The soil already dumped near the pits should be filled back before a month of plantation. As per the preferred Schedule of activity for plantation works, pits shall be filled up before a month of monsoon.
- While filling the pits, the area surrounding the pit should be scraped with a spade to remove grasses or weeds.
- Top soil should be filled in the bottom of the pit and after this, subsoil should be filled.
- Vermi compost/ compost (FYM-Farm Yard Manure) should be mixed in the soil while filling back into the pit.
- The pit should be filled a little above the ground level so that the soil gradually settles in the upper surface of the pit, and comes to the level of the ground thus avoiding any water logging.



3. PLANTING OF SAPLINGS:

- 5 to 6 feet height plant alone should be planted which would increase the survival rate.

- The planting of seedlings must be done in the first week of the month when monsoon rains begin.
- Planting of naked root plants should be completed as early as possible so as to take full advantage of the rain.
- The planting work should be done either in the afternoon or during light rain or cloudy sky.
- The roots of the plants should be kept straight and the plant put straight in vertical position. For this a hole should be made with the help of a stick or small crow bar.
- The collar of the plant should be kept at the surface level of the pit. Loose soil should be available in the pit below the roots for the growth of roots.

- After planting the sapling, the soil around it should be firmly pressed by hands and while doing so the plant should be pulled about half an inch to make sure that its roots are not bending inside.
- The saplings are to be planted during the monsoon period only and should not be planted during the summer months when the temperature is very high.

Post-Planting care:

Maintenance is necessary to ensure the survivability of the plants. It comprises watering, weeding & mulching, and applying organic manures as and when required which depends upon the type of species planted.

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ANNEXURE -III

G.O. (Ms.) No.18, Rural Development and Panchayat Raj (CGS 1) Department, dated 01.02.2024

LIST OF AGRO-CLIMATIC ZONE-WISE SPECIES FOR PLANTATION

S. No	Agro Climatic Zones	Altitude(m)	Rainfall (mm)	Soil Type	Species Selected
1	**North Eastern Zone** **Districts:** 1. Kancheepuram 2. Vellore 3. Ranipet 4. Thirupathur 5. Villupuram 6. Kallakurichi 7. Cuddalore 8. Tiruvallur 9. Tiruvannamalai	100 -200	1054	1. Red Loamy soil 2. Clay Loam 3. Saline Coastal Alluvium	1. Tamarind – புளி 2.Nelli– நெல்லி 3. Naval– நாவல் 5.Ilanthai– இலந்தை 6.Kodukkapuli – கொடுக்காப்புளி 8.Arasu– அரச மரம் 9.Athi– அத்தி 10. Badam– பாதாம் 11.Sarakondrai– சரக்கொன்றை 12.Vilvam– வில்வம் 13. Pala– பலா 14. Sandal– சந்தனமரம் 15.Vilan– விளான் 16.Neem– வேம்பு
2.	**North Western Zone** **Districts:** 1. Salem 2. Dharmapuri 3. Namakkal	200-600	825	1. Non Calcareous Red 2. Non Calcareous Brown 3. Calcareous Black	1.Tamarind– புளி 2.Nelli– நெல்லி 3. Naval– நாவல் 4.Poochakkai– பூச்சக்காய் 5. Sandal– சந்தனமரம் 6.Malaivembu– மலைவேம்பு 7. Alangium– அலஞ்சியம் 8.Vilan– விலான் 9.Badam– பாதாம் 10.Aal– ஆலமரம் 11.Arasu– அரசமரம் 12.Athi– அத்தி

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					13.Mahagoni– மகாகணி 14.Vembu– வேம்பு 15.Kodukkapuli– கொடுக்காபுளி
3.	**Western Zone** **Districts:** 1. Erode 2. Coimbatore 3. Karur,(Part) 4. Namakkal(Part) 5. Dindigul(Part) 6. Theni (Part)	200-600	708	1. Red Loamy 2. Black	1.Tamarind– புளி 2. Nelli– நெல்லி 3.Naval– நாவல் 4. Poochakkai– பூச்சக்காய் 5. Sandal– சந்தனம் 6. Malaivembu– மலைவேம்பு 7.Alangium– அலஞ்சியம் 8. Vilan– விலான் 9.Badam–பாதாம் 10.Aal– ஆலமரம் 11.Arasu– அரசமரம் 12.Athi– அத்திமரம் 13.Mahagoni– மகாகனி 14.Vembu– வேம்பு 15.Kodukkapuli– கொடுக்காபுளி 16.Thandri– தான்றி
4.	**Cauvery Delta Zone** **Districts:** 1. Thanjavur 2. Nagapattinam 3. Mayiladuthurai 4. Thiruvarur 5. Thiruchirapalli 6. Perambalur 7. Ariyalur 8. Pudukaottai (Part) 9. Cuddalore (Part)	100-600	1078	1. Red Loamy 2. Alluvium	1.Aal– ஆலமரம் 2.Arasu– அரசமரம் 3.Athi– அத்தி 4. Naval– நாவல் 5. Badam– பாதாம் 6.Nelli– நெல்லி 7.Thandri– தான்றி 8. Pala– பலா 9.Iluppai– இலுப்பை 10.Vembu– வேம்பு 11.Poochakkai– பூச்சக்காய் 12.Paalai– பாலை

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5.	**Southern Zone** **Districts:** 1. Madurai 2. Sivaganga 3. Ramanathapuram 4. Virudhunagar 5. Thoothukudi 6. Tirunelveli 7. Tenkasi	100-600	776	1. Coastal Alluvium 2. Black 3. Red Sandy Soil 4. Deep Red Soil	1.Vembu– வேம்பு 2.Naval– நாவல் 3.Ilanthai– இலந்தை 4.Kodukka puli– கொடுக்காப்புளி 5.Aal– ஆலமரம் 6.Arasu– அரசமரம் 7.Athi– அத்தி 8. Tamarind– புளி 9.Panai– பனை 10.Punnai– புன்னை 11.Sarakondrai– சரக்கொன்றை
6.	**High Rainfall Zone** **Districts:** Kanyakumari	100-200	1420	1. Saline coastal 2. Alluvium 3.Deep Red Loam	1.Ayanipala– அயனிபலா 2. Pala– பலா 3. Naval– நாவல் 3.Iluppai– இலுப்பை 4. Badam– பாதாம் 5.Thandri– தான்றி 6.Punnai– புன்னை 7.Aal– ஆலமரம் 8.Arasu– அரசமரம் 9.Athi– அத்தி
7.	**Hilly Zone** **Districts:** 1. Nilgiris 2. Dindigul(Part) 3. Kodaikanal (Part)	2000	2124	1. Lateritic	1. Silver Oak–மலை சவுக்கு 2. Rose Wood– ரோஸ் வுட் 3. Teak Wood – தேக்கு 4. Pear – பேரிக்காய்
8.	**Low Altitude Hilly Areas** 1. Pachamalai 2. Shervaroys 3. Kalrayan 4. Yelagiri 5. Chitheri 6. Javvadu 7. Kolli	600-1200	1100	1.Loamy and clayey soil, 2.black soil, 3.sandy clay	1.Thandri– தான்றி 2.Kadukkai– கடுக்காய் 3.Nelli– நெல்லி 4. Tamarind– புளி 5. Pala– பலாமரம் 6.Ayanipala– அயனிபலா 7. Naval– நாவல் 8.Poochakkai– பூச்சக்காய்

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					9.Serankottai– சேரான்கொட்டை 10. Sandal– சந்தனம் 11.Vilan– விளான் 12. Vilvam– வில்வம் 13.Iluppai– இலுப்பை 14.Yetti– எட்டி

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ANNEXURE IV

G.O. (Ms.) No.18, Rural Development and Panchayat Raj (CGS 1) Department, dated 01.02.2024

Details of spacing, pitting size, recommended number of plants per hectare for Horticulture Crops

Sl. No	Name of plant	Suitability	Recommended size of pits	Recommended Spacing	No of plants / ha	Irrigation
1	**Mango**	**Soil** : Ideal soil for mango is red loamy. Good drainage is preferable for better establishment.	Pits of size 1m x 1m x 1m. Pit should be dug 15 days advanced of planting. Fill in with topsoil mixed with 10 kg of Farm yard Manure (FYM) 3/4 th of the pit.	1. Convention system of planting: 7-10 m either way	100 plants / hectare	Regular watering till establishment. For cultivation under irrigated conditions, adopt drip system of irrigation
				2. High Density Planting : 5m x 5m	400 plants / hectare	
				3. Double hedge row system: Adopt a spacing 5m x 5m within double rows and 10 m between successive double rows	266 plants / hectare	
2	**Sapota**	Soil : It can be grown in all types of soils	Pits of 1m x 1m x 1m size fill up withtop soil mixed with 10 kg of Farm yard Manure (FYM), 1kg of neem cake.	1. Convention system of planting: 8m x 8m	156 plants / hectare	Irrigate copiously immediately after planting and on the third day and once in 10 days afterwards till the graft establishes. In the case of grafted variety, graft joint must be atleast 15cm above ground level and no growth in rootstock should be allowed.
				2. High Density Planting : 8m x 4m	312 plants / hectare	

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3	**Jack Fruit (Artocarpus heterophy)**	**Soil** : Deep well drained soil is necessary for jack cultivation.	Pits of 1m x1mx1m. Fill up the pits with top soil mixed with 10kg of Farm yard Manure (FYM) and 1kg of neem cake per pit.	Plant during June - December at 8x8m spacing	156 plants / hectare	Once in a week till the plant gets established. Thereafter irrigation is given as and when necessary.
4	**Amla**	**Soil** : It is grown in variable soil conditions. **Climate**: Amla is a subtropical plant and prefers dry climate.	Pits of 1m x1m x 1m	Adopt the spacing 6m x 6m	275 plants / hectare	Irrigation is done at 4 days interval
5	**Cashew nut**	**Soil** : It grows well in all soils. Red sandy loam is best suited. **Climate**: A dry climate with about 50 - 75 cm of rainfall from June - September and with well-defined summer and winter seasons is ideal	Pits of 60 cm x 60 cm x 60 cm size are dug and filled up with a mixture of soil 10 kg of Farm yard Manure (FYM) and 1 kg neem cake	A spacing of 7m either way is adopted.	225 plants/ hectare	Normally grown as a rainfed crop. Irrigation once a week
6	**Coconut**	**Soil** : Light sandy soils to heavy soils	Pit size of 1m x 1m x 1m. Fill the pit to a height of 60cm with Farm yard Manure (FYM), red earth and sand mixed in equal proportions.	Adopt the spacing of 7.5m x 7.5m	175 plants / hectare	Irrigation requirement varies according to the soil type and climatic conditions. Drip irrigation is best suited.

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7	**Guava**	**Soil** : Guava grows well in both wet and dry region. Well drained soils are the best	The pit size of 45cm x 45cm x 45cm and filled with top soil Farm yard Manure (FYM) 10 kg and 1 kg of Neem cake	Adopt the spacing of 6.0m x 6.0m	275 plants/ hectare	Irrigate copiously immediately after planting, again on third day and afterwards once in 10 days or as and when necessary
8	**Custard Apple**	**Soil** : Custard apples grown best in sandy loam soils and clay loams are also suitable **Climate**: Predominantly summer rain fall are most suitable. **Climate**: The crop cultivated in both Tropical and sub tropical climate	Pits of size 60cm x 60cm x 60cm	Spacing of 4 metre x 4 metre or 5 metre x 5 metre depends on soil type	400 plants / hectare	Regular watering till establishment. For cultivation under irrigated conditions, adopt drip system of irrigation

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ANNEXURE -V

G.O. (Ms.) No.18, Rural Development and Panchayat Raj (CGS 1) Department, dated 01.02.2024

Details of spacing, pitting size, recommended number of plants per hectare for Forest Species

Sl. No	Name of plant	Suitability	Recommended size of pits	Recommended Spacing	No of plants / ha
1	Teak	Soil: Sandy loam soil, well-drained and alluvial soil. It will not survive in black cotton soils Climate: Mostly occurs in monsoon climate, under tropical and sub tropical conditions. Not suitable for arid and dry climate	Pits size of 45cm x 45cm x 45 cm	Adopt the spacing of 3m x 3m	1111 Plants / ha
2	Neem (Azadirachtaindica)	Soil: The Neem grows on almost of soil including clayey, saline and alkaline soils	Pits size of 45cm x 45cm x 45 cm	Adopt the spacing of 3m x 3m to 4m x 4m	625 Plants / ha to 1111 plants/ha
3	Malai vembu (Melia Dubia)	Soil: Grows well in Sandy loam, red soils with an annual rainfall of 800mm above	Pits size of 60cm x 60cm x60cm	Adopt the spacing of 5m x 5m	400 Plants / ha
4	Punnai (Calophyllu minophyl)	Soil: The Punnai grows on red loamy soil, alluvial soil and nearer to coastal areas	Pits size of 45cm x 45cm x 45 cm	Adopt the spacing of 5m x 5m	400 Plants / ha
5	Pungan	Soil: The Pungan grows on almost all soil including clayey, saline and alkaline soils	Pits size of 45cm x 45cm x 45 cm	Adopt the spacing of 4m x 4m	625 Plants / ha
6	Iluppai (Madhucal ongifolia)	Soil: It grows well in all soils Climate: It is best suited in areas with rainfall between 800 - 1800mm	Pits size of 45cm x 45cm x 45 cm	Adopt the spacing of 5m x 5m	400 plants /ha

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7	Agathi	Soil: It grows best in black cotton soils. It is ideal for bund plantation Climate: It prefers humid and sub-humid tropical climate	Pits size of 45cm x 45cm x 45 cm	Adopt the spacing of 3m x 3m	1111 Plants/ha
8	Mahilam	Soil: It grows well on rich draining loam and sandy soils. It has a good tolerance to salt conditions.	Pits size of 45cm x 45cm x 45 cm	Adopt the spacing of 4m to 5m	400 Plants /ha to 625 Plants / ha
9	Bamboo	Soil: It requires well-drained sandy loam to clay loam soils and alluvial soils. Water & aeration is required. Climate: Grows well in tropical to warm temperate climatic conditions	Pits size of 45cm x 45cm x 45 cm	Adopt the spacing of 6m x 6m to 7m x 7m	196 plants/ha to 256 Plants / ha
10	Senbagam (Micheliach empaca)	Soil: It is well suited for sandy loam soil and also it occurs on moist deep, well-drained good quality soil. It grows well in high-rainfall areas and in Nilgiris. Avoid acidic and alkaline soils.	Pits size of 45cm x 45cm x 45 cm	Adopt the spacing of 4m x 4m	625 Plants / ha
11	Tamarind (Tamarind usindica)	Soil: Tamarind trees thrive best in deep loamy and alluvial soils. This can also be grown in poor soils Climate: This can survive in any kind of climatic conditions. This tree also can be grown in heavy rain fall areas provided with good internal soil drainage	Pits size of 1.0mx1.0m x 1.0m	Adopt the spacing of 10m x 10m	100 Plants / ha
12	Naval (Jambu	Soil: The Jamun tree can be grown on a wide range of soils.	Pits size of 1.0mx1.0m x	Adopt the spacing of	100 Plants / ha

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	Naval)	Jamun can grow well under salinity and water logged conditions too. However it is not economical to grow Jamun on very heavy or light sandy soils Climate: Jamun prefers to grow under tropical and sub troical climate	1.0m	10 m x 10m	
13	Banyan	Soil: It can grow in any type of soil	Pits size of 1.0mx1.0m x 1.0m	Adopt the spacing of more than 12m	64 Plants / ha
14	Palm	Soil: Moist deep loamy soils, rich in humus with good water permeability are suitable. It can grow in all soils	Pits size of 45cm x45cm x 45cm	Adopt the spacing of 7m x7m	196 Plants / ha
15	Fig	Soil: Fig crop is one of the most drought and salt tolerant crop. It can tolerate a fairly high levels of chloride salt or sulphate	Pits size of 60cm x 60cm x 60cm	Adopt the spacing of 4m x 4m	625 Plants / ha
16	Vaagai	Soil: it grows well in all soils	Pits size of 45cm x 45cm x 45cm	Adopt the spacing of 5m to 6m	256 to 400 Plants/ ha
17	Poovarasu	Soil: Thrives on Sandy coastal soils and rocky soils. It tolerates light to heavy soil. It is preferred in Nagapattinam & Tiruvarur	Pits size of 45cm x 45cm x 45cm	Adopt the spacing of 5m	400 Plants/ ha

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18	Vengai	Soil: It can grow in any type of soil Climate: Grows well in tropical to warm temperate climatic conditions	Pits size of 45cmx 45cm x 45cm	Adopt the spacing of 4m x 4m	625 Plants / ha
19	Vilvam	Soil: It can grow in any type of soil Climate: Warm humid climate	Pits size of 60cm x 60cm x 60cm	Adopt the spacing of 6m x 6m	256 Plants/ ha
20	Badam (Terminalia catappa)	Soil: Almonds grow in a wide range of soils and the ideal PH range of soil is 7.0 - 8.0. Almond trees do not thrive well in heavy or poorly drained soils. They grow well in the east coastal track. Climate: Almond requires a climate having slightly hot summer temperatures ranging from 30 c - to 35 c and cool winters for plant growth and kernel filling	Pits size of 90cm x 90cm x 90cm	Adopt the spacing of 8m x 8m	144 Plants/ha

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ANNEXURE - VI

G.O. (Ms.) No.18, Rural Development and Panchayat Raj (CGS 1) Department, dated 01.02.2024

Plantation Asset Register

Sl. No	Name of the Plantation (Avenue/ Block Plantation)	Site/ Location Details with Survey No.	Year of Plantation	Estimate Cost (Rs. in Lakh)	No. of saplings	Variety of Species	I Year Maintenance				II Year Maintenance				III Year Maintenance				
							Watering	Casualty replacement	No. of plants survived	% of survival	Watering	Casualty replacement	No. of plants survived	% of survival	Watering	Casualty replacement	No. of plants survived	% of survival	Remarks of the Inspecting Officer

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ANNEXURE -VII

G.O. (Ms.) No.18, Rural Development and Panchayat Raj (CGS 1) Department, dated 01.02.2024

Break up of expenditure for 1 plant (including maintenance for 1st year)

1. Scrub Jungle clearance – 1.50 x 1.50 =2.25 sqm

   Deduction for voids = (-) 0.90 sqm

   Net Quantity = 1.35 sqm @ Rs.19.07/sqm = Rs. 25.74

2. Alignment and Marking = Rs. 3.36

3. Pitting – 1 x 0.6m x 0.6m x 0.6m

   =0.216cum @ Rs.442.12/Cum = Rs.95.50

4. Planting – 1 x Rs.14.53 /No. as per RSoR = Rs.14.53

5. Watering cost and Other Mandatory activities such as weeding, mulching and Manuring, etc.

1.	Watering cost (Rs.3.15 x 68) (twice per week in the month of February to July – 52 days, once in a week in the month of January, August, September – 13 days, Twice in October and once in December	Rs.214.20
2.	Weeding & Mulching cost (Twice in a year) (Rs.6.35 x 2)	Rs.12.70
3.	Manuring cost (Twice in a year) (Rs.6.73 x 2)	Rs.13.46
4.	Sub total cost per plant/year	Rs.240.36

6. Distribution of seedlings up to 200m = Rs. 4.50

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7. Cost per plant for all plantation activities inclusive of all maintenance for one year = Rs.383.99 /plant.

8. Cost for planting 70 lakh saplings = Rs. 383.99 x 70 lakh
= Rs. 26879.30 Lakh
= Rs. 268.79 Crore

9. Cost for citizen information Board (Annexure VIII) = Rs. 6.30 crore

10. Total Cost for planting 70 lakh saplings = Rs. 268.79 Crore
+ Rs. 6.30 Crore
= Rs. 275.09 Crore
(Say) = Rs.275.00 Crore

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ANNEXURE - VIII

G.O. (Ms.) No.18, Rural Development and Panchayat Raj (CGS 1) Department, dated 01.02.2024

Cost of Citizen Information Board:

The number of Citizen information board provided is by assuming that 500 saplings can be planted at one plantation site, and this may vary according to the area of the site selected.

= 7000000/500

= 14000 Nos.

Cost for one Citizen Information Board = Rs. 4500.

Total Cost for 14000 No's = 14000x4500

= Rs. 6.30 Crores.

*** Note: In case of availability of any existing Government building at the plantation site, then the Citizen Information Board should be inscribed in the form of wall painting and Rs. 1000/- should be allotted as the Cost for Citizen Information Board.*

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