GOVERNMENT OF MEGHALAYA
DEPARTMENT OF FORESTS AND ENVIRONMENT
OFFICE OF
THE PRINCIPAL CHIEF CONSERVATOR OF FOREST
WORKING PLAN, RESEARCH & TRAINING AND DISTRICT COUNCIL AFFAIRS
MEGHALAYA, SHILLONG

No. MFRT/G/280 | 1274 Dated Shillong, the 21st August 2024

Notice Inviting for Comments and Suggestions

This Office with financial assistance from the Meghalaya Basin Development Authority (MBDA) is implementing a project titled **'Development of Schedule of Rates for Afforestation Works in Meghalaya'.** A copy of the project document containing, among others, draft content and format of the Schedule of Rates for Afforestation Works proposed to be developed, is **enclosed.**

All interested stakeholders may submit their comments and observations on the contents and format of the Schedule of Rates for Afforestation Works proposed to be developed, to this office through email at pccfmeghccrandt@gmail.com, on or before 23.55 Hrs. on 22nd September 2024.

Encl.: As above.

21/08/2024

(H.C. Chaudhary, IFS)
Principal Chief Conservator of Forests
Working Plan Research & Training and District Council Affairs
Meghalaya: Shillong
Email: pccfmeghccrandt@gmail.com Ph:91-364-2227311



Government of Meghalaya

Forest and Environment Department

Proposal

for

Preparation of

Schedule of Rates

for

Afforestation Works in Meghalaya

Prepared By:

H.C. Chaudhary, IFS

Principal Chief Conservator of Forests

Working Plan, Research & Training and District Council Affairs

CONTENTS

		Page No.
1	Background	1
2	Need for proposal	3
3	Proposal	4
4	Methodology	5
5	Estimated Outlay	7
6	Duration and Time Schedule	8

ANNEXURES

Annexure-I	Draft Format and Contents of the Proposed Schedule of Rates for Afforestation Works	i
Annexure-II	Item-Wise Cost-Estimates for Preparation of Schedule of Rates for Afforestation Works	lxvi
Annexure-III	Quarterly Time Schedule for Preparation of Schedule of Rates for Afforestation Works	lxix

1. BACKGROUND

1.1 Meghalaya located between latitudes 25°02' and 26°07' N and longitudes 89°49'and 92°50'E, is blessed with varied topography, altitude, climate and forest types. In the State having a comparatively small 22,429 km^2 geographical area, elevation varies from 60 m to 1,961 m above mean sea level. Topography of the State varies from plain belts to steep gorges and canyons. Soil depth varies from deep fertile alluvial plains to bare rocky plateaus. Average annual rainfall in the State varies from 2,400 mm in Baghmara to 11,800 mm in Mawsynram. The maximum temperature varies from 36°C in Resubelpara to 24°C in Jowai. Similarly, the minimum temperature varies from 4°C in Shillong to 16°C in Resubelpara.

1.2 Meghalaya is home to eight different forest types namely, Cachar Tropical Evergreen Forest, Pioneer Euphorbiaceous Scrub, Assam Alluvial Plains Semi-Evergreen Forest, Secondary Moist Bamboo Brakes, Khasi Hill Sal Forest, East Himalayan Moist Mixed Deciduous Forest, Khasi Sub-Tropical Wet Hills Forest and Assam Sub-Tropical Pine Forest. Soil moisture in these forests greatly varies. Extent and rate of growth of weeds and susceptibility to forest fires, which greatly depends on soil moisture, therefore varies from one forest type to another forest type. Diversity and rate of growth of weed is very high in evergreen forests. These forests are however not susceptible to forest fires. Very little weeds grow in Pine forests having very little soil moisture in forest floor. Pine forests are however highly susceptible to forest fires.

1.3 Accessibility in the State varies substantially from areas located directly on all weather motorable blacktopped roads to areas which can be accessed only after long foot tracks for several hours from the nearest road head. Extent of biotic pressure on forests and plantations also substantially varies.

1.4 Growth and survival of plants depend on inputs and care. Through application of appropriate doses of fertilizer and Plant Growth Promoting Rhizobactirium (PGPR), growth of plants can be substantially increased. Similarly, by timely application of pesticides, mortality rates of plants can be substantially decreased. Growth and survival of a plant also depend on pit size, watering and size of seedling. Plantations raised through direct sowing of seeds at the plantation site takes substantially longer years to establish than the plantations raised by planting of tall seedlings raised in large containers/bags.

1.5 Requirement for upkeep of a plantation depends on the extent of biotic pressure and growth rate. Plantations raised in refractory sites and in areas located in vicinity of habitations facing high biotic pressure need upkeep for substantially longer period than the plantations in deep fertile alluvial soil raised by using tall seedlings with high inputs of fertilizers and pesticides as they attain the requisite safe height quickly.

1.6 Nature of activities required for afforestation or restocking of an area depends on availability of seed, root and young regenerating plants at the site. Areas having adequate natural presence of seeds, roots and young regenerating plants can be regenerated and restocked in a cost effective and an efficient manner through assisted natural regeneration (ANR) by controlling agents of degradation such as forest fire, grazing and extraction of fire-wood, fodder and small timber *etc.*, and by planting limited number of seedlings in blank patches having deficient presence of seed, root and young regenerating stock which cannot be regenerated or restocked by mere controlling the agents of degradation.

1.7 Felling, cutting, removal and burning of existing vegetation, except exotic invasive weeds, to prepare site for afforestation or restocking need to be avoided to the extent possible as it causes immense damage to flora, fauna and biodiversity, especially the micro-organisms. It also results in avoidable carbon emission. Freshly cleared areas are susceptible to enhanced soil erosion.

1.8 About 79 percent area of the Meghalaya is under forest and tree cover. Remaining 21 percent area of the State is under various land uses such as agriculture, habitations, settlements, industries, roads, water bodies, wetlands and such other permanent land uses. Very little from these 21 % areas is available for raising plantations. Majority of afforestation activities in the State can therefore be undertaken in open degraded forests having adequate natural presence of roots, seeds and young regeneration. In majority of the cases felling, cutting, removal and burning of existing vegetation for afforestation in open forests having adequate natural presence of roots, seeds and young regeneration, as is provided by the existing cost-norms causes more harms to biodiversity and growing stock than the benefits which may accrue from the monoculture plantations raised in these areas.

1.9 Nature of activities required to be undertaken for afforestation and amounts required for each of these activities depend on topography, climate, soil depth, accessibility, extent of biotic pressure and natural presence of seeds, root stock and young regeneration. These also depend on method of raising plantations, size of seedlings used for raising plantations and the targeted rate of growth.

2. NEED FOR THE PROPOSAL

2.1 Inspite of large variation in topography, climate, soil type, soil depth, accessibility and extent of biotic pressure, Forests and Environment Department uses only two models for creation and maintenance of plantations- one for raising plantations in areas under direct control of the Department without fencing and another for raising plantations in community and privately owned areas by erecting fencing along periphery of the plantation sites. The model for raising plantations in community and privately owned areas provides the option to use either a barbed wire fencing or ditch cm bund type fencing, with different cost norms for fencing of these two types.

2.2 Though, majority of afforestation activities in the State are undertaken in open degraded forests, existing models provide for clearing of and burning of existing vegetation and planting of a uniform number of seedlings. Such models are suitable for completely blank areas bereft of any seed or roots or young regeneration. As stated above, such areas are however normally not available for afforestation woks in the State.

2.3 Cost of raising plants in nurseries depends on several factors such as plant source (seed, cutting, tissue culture), method of raising (naked root, polybag, root trainer), size of container (in case of plants raised in poly bag, root trainer), species, required height and collar diameter of the seedlings and availability of water and other infrastructure such as sprinkler, water storage reservoir for irrigation of plants *etc*.. It also depends on nature (*viz*. permanent or temporary) of the nursery. Forest and Environment Department however, has only two Model Estimates for creation and maintenance of nurseries. One for raising plants in polybags and another for raising naked root plants.

2.4 Estimated cost of various activities for creation and maintenance of plantations and nurseries, even for erection of barbed wire fencing, for which a major part of the cost is constituted by the cost of materials (viz. barbed wire, fencing posts *etc.*) and for purchase of polythene bag where entire cost is constituted by the materials only, is specified in terms of the number of person-days. Available records do not indicate that the existing cost estimates are based on scientific method study and work measurement. Actual cost of execution of majority of activities specified in the existing cost-norms is substantially different than the same specified therein.

2.5 Sanction of equal amount for creation and maintenance of plantations, without taking into account site condition results in sanction of excess amounts at some sites and sanction of less amounts at some other sites. Same results in wastage of precious resources at the sites where actual requirement of funds is less than the same specified by the model cost estimates. Similarly, it results in sub-optimal performance or failure of plantations at sites where actual requirement is more than the same specified in the model estimates.

2.6 Over the years several tools, equipments, implements and machineries having potential of use in afforestation activities have been developed. Use of these tools, equipments, implements and machineries such as tractor mounted augurs, mechanized potting media mixtures *etc.* may substantially enhance efficiency, effectiveness and success rate of afforestation works. Majority of operations relating to afforestation works in the State are however, still undertaken manually.

3. PROPOSAL

3.1 To ensure that afforestation works in the State are undertaken in an efficient and cost-effective manner with assured success, it is proposed to prepare detailed Schedule of Rates (SoR) for various activities based on a detailed method study and work measurement. A draft format of the proposed SoR containing details of the activities to be included therein is enclosed as **Annexure-I.**

3.2 The proposed SoR will have five Parts. Part-I will contain estimated quantity and cost of materials required for afforestation activities. Part-II will contain requirement of person-days for afforestation activities. Part-III will contain detailed specification, drawings, pictorial

illustrations and testing protocols for materials used and activities involved in afforestation works. Part-IV will contain model estimates for nurseries of different types. Part-V will contain model estimates for afforestation and restocking of forests in different afforestation zones.

3.3 Apart from the Forests and Environment Department, the proposed SoR may be used by all other agencies, organizations and authorities such as Community and Rural Development Department, Meghalaya Basin Development Authority, Urban Affairs Department, Public Works Department, Village Employment Councils *etc.* for afforestation works undertaken by them.

4. METHODOLOGY

4.1 Study will be undertaken by the Divisional Forest Officer, Forest Utilization Division under supervision and guidance of Principal Chief Conservator (Working Plan, Research & Training and District Council Affairs) and Conservator of Forests (Climate Change, Research and Training). The Divisional Forest Officer, Forest Utilization Division will be assisted by four Study Teams, each headed by a Forest Ranger or a Forester-I or a Forest Guard and two (02) Field Enumerators cum Data Entry Operators, to be engaged on contract basis. Each Study Team will engage on an average five persons for 15 months to undertake activities for work measurement.

4.2 Development of SoR will involve following steps:

4.2.1 Inception Workshop to Finalize Formats and Contents of SoR: At the beginning of the study an Inception Workshop will be organised to critically examine the draft format and contents of the SoR given in **Annexure-I** and to suggest appropriate amendments therein. Workshop will be attended by officers in the Forest and Environment Department; other Departments, Agencies, Organisations and Authorities involved in afforestation works; Researchers, Academicians and representatives of Autonomous District Councils. To facilitate informed discussion during the Workshop, draft format and contents of the SoR given in **Annexure-I** will be shared with all participants well in advance. A copy of the draft format and contents of the SoR will also be placed on website of the Forests and Environment Department to invite comments from all interested stakeholders. Based on discussions held during the inception workshop and comments of stakeholders, format and contents of the proposed SoR will be finalized.

4.2.2 Method Study to Standardize Each Operation Included in the draft SoR: Study Teams will collect and compile information on activities and operations included in the draft SoR, including the latest tool, equipments, plants and machineries which may be used to undertake these activities. Based on the information collected, the Teams will critically examine and standardize each operation to be included in the proposed SoR by eliminating avoidable and wasteful activities and avoidable and wasteful movements in each unavoidable activity in each operation.

4.2.3 Documentation of Standardized Operations and Testing Protocols: Once the operations included in the SoR are standardized through method study, a complete written description thereof along with drawings, specifications and pictorial description (wherever required) will be prepared. Protocols to test and ascertain that the materials and products confirm to the standards will also be developed and incorporated in the draft SoR.

4.2.4 Work Measurement and Cost Estimation: Once the operations and activities included in the SoR are standardized, the Study Teams will assess the requirement of materials, services and person-hours for each operation and activity. The Teams will also assess market rates of materials and service required for execution of these operations. Based on quantities and market rates of materials and services and person-days and wage rates of manpower required, total estimated cost of each activity and operation will be assessed and incorporated in the draft SoR.

4.2.5 Development of Model Estimates for Nurseries of Different Types: Based on rates of different activities, model estimates for raising 1,000 plants of different species in different types of containers in nurseries of different types, as per details given in the draft format and contents of SoR, will be prepared and included in the draft SoR for easy reference by the Field officials.

4.2.6 Development of Model Estimates for Afforestation and Restocking of Sites having Different Topographic, Climatic, Edaphic, Forest Type, Vegetation Density and Locations Features and Growth Requirements: Based on topographic, climatic, vegetation, accessibility, biotic pressure and edaphic features, State will be divided into different afforestation zones, as per details given in the draft SoR. Requirement and frequency of various operations for each afforestation zone will be assessed by the Study Teams and based on the same, model estimates

for afforestation and restocking in each afforestation zone will be prepared and included in the draft SoR.

4.2.7 Pre-Finalization Workshop to Examine Draft SoR: Once the draft SoR is ready, a Pre-Finalization Workshop will be organised to critically examine the same and suggest appropriate amendments therein. Workshop will be attended by officers in the Forest and Environment Department and other Departments, Agencies, Organisations and Authorities involved in afforestation works; Researchers; Academicians and representatives of Autonomous District Councils. To facilitate informed discussions during the workshop, draft SoR will be shared with participants well in advance. A copy of the draft SoR will also be placed on website of the Forest and Environment Department to invite comments from all interested stakeholders. Based on discussions held during the Workshop and comments of stakeholders, final draft of the SoR will be prepared for consideration and approval of the State Government.

4.2.8 Consideration and Approval of the Final Draft of SoR by the State Government: Final draft of the SoR will be submitted to the State Government for its consideration and approval. State Government after examination of the final draft will approve the same with such amendment(s) as it may consider necessary.

4.2.9 Publication and Dissemination of Approved SoR: Once the SoR is approved by the State Government, 500 hard copies of the same will be published and distributed among various stakeholders. A copy of the SoR will also be placed on website of the Forests and Environment Department.

5. ESTIMATED OUTLAY

5.1 The proposed study will involve an expenditure of Rs. 1,84,00,000 (rupees one crore eighty four lakh only) as per item-wise breakup given in **Annexure-II.**

5.2 To ensure that study is undertaken in natural work environment, to the extent possible, work measurement will be undertaken in existing nurseries and afforestation sites. Expenditure incurred under the study will result in savings in the amounts sanctioned in favour of the implementing agencies for such activities at these sites. Equipment, machineries tools and

implements purchased under the study will be available for use after the study. Net expenditure on the study will therefore be much lower than the gross outlay of the study.

6. DURATION AND TIME SCHEDUL

6.1 The study is proposed to be completed in next two years. Quarter-wise phasing of various activities is given in **Annexure-III.**

****

ANNEXURES

Annexure-I

Draft Format and Contents of the Proposed Schedule of Rates for Afforestation Works

Government of Meghalaya

Forest and Environment Department

Schedule of Rates

for

Afforestation Works

2024-25

CONTENTS

		Page No.
	PART –I: MATERIAL	
1	Polythene Bag	1
2	Clean Seed	3
3	Farmyard Manure	4
4	Compost	6
5	Sand	7
6	Clay	8
7	Ordinary Soil	10
8	Wood Charcoal	11
9	Dry Pine Bark	11
10	Flower Pot	12
11	Agronet	12
12	Barbed Wire	13
13	Plain Tie Wire	13
14	Goat Proof Fencing Cum Gabion Mesh	14
15	Root Trainer Tray	15
16	Root Trainer Stand	16
17	Thatch	18
18	Wooden Post	18
19	Bamboo	20
	Part-II: LABOUR	
A.	**CREATION AND MAINTENANCE OF NURSERY**	21
20	Preparation of Mother Bed	21
21	Preparation of New Nursery Bed for Polybags	21
22	Re-forming of Existing Nursery Bed	23
23	Sowing of Seeds in Mother Bed	24
24	Preparation of Potting Media and Filling of Polybags	24
25	Preparation of Potting Media and Filling of Root Trainers	25

26	Preparation of Potting Media and Filling of Pots	25
27	Direct Sowing of Seeds in Polybags or Root Trainers or Pots	26
28	Transplanting of Seedlings from Mother Bed to Polybag or Root Trainer or Pot	26
29	Preparation and Planting of Cuttings	26
30	Preparation of Bamboo Culm Cuttings	26
31	Preparation of Bamboo Branch Cuttings	26
32	Collection of Bamboo Culms for Preparation of Bamboo Culm Cuttings	26
33	Collection of Bamboo Branches for Preparation of Bamboo Branch Cuttings	26
34	Construction of Shade for Beds	27
35	Watering of Nursery Plants	27
36	Weeding of Nursery Plants	28
37	Shifting of and Grading of Plants	29
38	Preparation of Root Shoot Cuttings of Naked Root Plants	30
39	Disposal of Empty Polybags	30
40	Cleaning and Staking of Root Trainer Trays	30
41	Spray of Pesticides and Fertilisers	31
42	Collection of Seeds from Locally Available Trees	32
B.	**ADVANCE WORK FOR AFFORESTATION AND RESTOCKING**	34
43	Survey and Preparation of Map	34
44	Temporary Demarcation of Boundary	34
45	Fencing	34
46	Provision and Fixing ofGate for Afforestation Area	35
47	Chowkidar Hut	35
48	Site Clearance	35
49	Identification and Marking of Pit Locations	36
50	Manual Digging of Pits	36
51	Digging of Pits by Tractor Mounted Augur	42
52	Construction of Gabions	48
C	**AFFORESTATION AND RESTOCKING**	

53	Transportation of Polybag Seedlings from Nursery to Road Head	49
54	Transportation of Root Trainer Seedlings from Nursery to Road Head	51
55	Transportation of Root Shoot Cuttings and Naked Root Seedlings from Nursery to Road Head	52
56	Collection of Bamboo Rhizomes from Existing Bamboo Clumps	52
57	Transportation of Bamboo Rhizomes from Collection Site to Nearest Road Head	52
58	Transportation of Bamboo Rhizomes from the Road Head Near Place of Collection to the Road Head Near Planting Site	52
59	Manual Transportation of Polybag Seedlings from Road Head to Plantation Site	53
60	Manual Transportation of Root Trainer Seedlings from Road Head to Plantation Site	53
61	Manual Transportation of Root Shoot Cuttings and Naked Root Seedlings from Road Head to Plantation Site	53
62	Manual Transportation of Bamboo Rhizomes from Road Head to Plantation Site	54
63	Care of Poly Bag and Root Trainer Seedlings at Temporary Pre-Plantation Storage Site	54
64	Care of Root Shoot Cuttings and Naked Root Seedlings at Temporary Pre-Plantation Storage Site	54
65	Care of Root Shoot Cuttings and Naked Root Seedlings at Temporary Pre-Plantation Storage Site	54
66	Planting of Polybag and Root Trainer Seedlings	54
67	Planting of Root Shoot Cuttings and Naked Root Seedlings	55
68	Planting of Bamboo Rhizomes	55
69	Direct Seed Sowing in Pits	55
70	Weeding	55
71	Re-digging of Pits for Vacancy Filling	55
72	Provision and Fixing of Tree Guards	56
73	Watering of Plants	56
74	Singling of Plants	57
75	Identification and Field Demarcation of Fire Lines	57
76	Creation of New Fire Lines	57

77 Clearing and Cleaning of Existing Fire Lines 57

PART-III: SPECIFICATIONS, DRAWINGS, PICTORIAL ILLUSTRATIONS AND TESTING PROTOCOLS

PART-IV: MODEL ESTIMATES FOR NURSERIES OF DIFFERENT TYPES

Model NNRT:	Naked Root Plants in Temporary Nursery	59
Model NNRP:	Naked Root Plants in Permanent Nursery	59
Model NRST:	Root Shoot Cuttings in Temporary Nursery	59
Model NRSP:	Root Shoot Cuttings in Permanent Nursery	59
Model NPBT:	Polybag Plants in Temporary Nursery	59
Model NRTP:	Root Trainer Plants in Permanent Nursery	59
Model NPBP:	Polybag Plants in Permanent Nursery	59
Model NRTT:	Root Trainer Plants in Temporary Nursery	59
Model NRCT:	Rooted Cuttings in Temporary Nursery	59
Model NRCP:	Rooted Cuttings in Permanent Nursery	59
Model NBCT:	Rooted Bamboo Culm Cuttings in Temporary Nursery	59
Model NBCP:	Rooted Bamboo Culm Cuttings in Permanent Nursery	59
Model NBBT:	Rooted Bamboo Branch Cuttings in Temporary Nursery	59
Model NBBP:	Rooted Bamboo Branch Cuttings in Permanent Nursery	59

PART-V: MODEL ESTIMATES FOR AFFORESTATION AND RESTOCKING OF AREAS LOCATED IN DIFFERENT AFFORESTATION ZONES

Model ACBA:	Afforestation in Completely Blank Areas	60
Model AMRA:	Afforestation of Mining Affected and Other Refractory Areas	60
Model AROP:	Restocking of Open Forests having Adequate Seed, Root and Young Regenerating Stock	60
Model AROB:	Restocking of Open Forests with Deficient Seed, Root and Young Regenerating Stock	60
Model ARDD:	Restocking of Dense Forests Showing Signs of Degradation	60
Model ARSP:	Raising of Road Side Plantations	60
Model APDS:	Plantation of dwarf Species	60
Model DPNS:	Dense Plantation of Native Species (Miyawaki Model)	60

***

PART-I: MATERIAL

1. Polythene Bag

Item No.	Length (cm)	Width (cm)	Thickness (micron)	Weight of 1,000 bags	Rate (Rs./kg)	Cost per1000 plants (Rs.)
(i)	10	12.5	200			
(ii)	10	12.5	250			
(iii)	10	12.5	300			
(iv)	10	15	200			
(v)	10	15	250			
(vi)	10	15	300			
(vii)	12.5	12.5	200			
(viii)	12.5	12.5	250			
(ix)	12.5	12.5	300			
(x)	12.5	15	200			
(xi)	12.5	15	250			
(xii)	12.5	15	300			
(xiii)	12.5	17.5	200			
(xiv)	12.5	17.5	250			
(xv)	12.5	17.5	300			
(xvi)	15	15	200			
(xvii)	15	15	250			
(xviii)	15	15	300			
(xix)	15	20	250			
(xx)	15	20	300			
(xxi)	15	20	350			
(xxii)	15	22.5	250			
(xxiii)	15	22.5	300			
(xxiv)	15	22.5	350			
(xxv)	17.5	17.5	250			
(xxvi)	17.5	17.5	300			
(xxvii)	17.5	17.5	350			
(xxviii)	17.5	20	300			
(xxix)	17.5	20	350			
(xxx)	17.5	20	400			
(xxxi)	17.5	22.5	350			
(xxxii)	17.5	22.5	400			
(xxxiii)	17.5	22.5	450			
(xxxiv)	20	20	350			
(xxxv)	20	20	400			
(xxxvi)	20	20	450			
(xxxvii)	20	25	400			
(xxxviii)	20	25	450			

(xxix)	20	25	500			
(xl)	22.5	27.5	400			
(xli)	22.5	27.5	450			
(xlii)	22.5	27.5	500			
(xliii)	25	25	350			
(xliv)	25	25	400			
(xlv)	25	25	450			
(xlvi)	25	25	500			
(xlvii)	25	30	500			
(xlviii)	25	30	550			
(xlix)	25	30	600			
(l)	30	30	500			
(li)	30	30	550			
(lii)	30	30	600			
(liii)	25	35	600			
(liv)	25	35	650			
(lv)	25	35	700			
(lvi)	32.5	32.5	600			
(lvii)	32.5	32.5	650			
(lviii)	32.5	32.5	700			
(lix)	37.5	37.5	650			
(lx)	37.5	37.5	700			
(lxi)	37.5	37.5	750			
(lxii)	42	42	650			
(lxiii)	42	42	700			
(lxiv)	42	42	750			
(lxv)	53.5	53.5	800			
(lxvi)	53.5	53.5	850			
(lxvii)	53.5	53.5	900			
(lxviii)	62.5	62.5	1000			
(lxix)	62.5	62.5	1050			
(lxx)	62.5	62.5	1100			
(lxxi)	75	75	1300			
(lxxii)	75	75	1400			
(lxxiii)	75	75	1500			
(lxiv)	100	100	1900			
(lxv)	100	100	2000			
(lxi)	100	100	2100			
(lxii)	Used Cement Bag					

2. Clean Seed

Item No.	Species	No. of seeds per kg	Germi. %	Seed Required per 1000 plants with 30% factor of safety (gm)	Rate of seed (Rs/kg)	Cost per 1000 plants
(i)	*Adina cordifolia*					
(ii)	*Aegle marmelos*					
(iii)	*Aescules indica*					
(iv)	*Alnus nepalensis*					
(v)	*Alstonia scholaris*					
(vi)	*Amoora wallichii*					
(vii)	*Anthocephaluschinensis*					
(viii)	*Aquillaria malacensis*					
(ix)	*Artocarpus chaplasha*					
(x)	*Artocarpus integrifolia*					
(xi)	*Arundinaria falcata*					
(xii)	*Bambusa arundinacia*					
(xiii)	*Bambusa nutans*					
(xiv)	*Bambusa tulda*					
(xv)	*Dendrocalamus giganteus*					
(xvi)	*Dendrocalamus hamiltonii*					
(xvii)	*Dendrocalamus strictus*					
(xviii)	*Melocana bambusoides*					
(xix)	*Bauhinia purpurea*					
(xx)	*Bauhinia variegate*					
(xxi)	*Bombax ceiba*					
(xxii)	*Callistemon viminalis*					
(xxiii)	*Casia fistula*					
(xxiv)	*Cassia siamea*					
(xxv)	*Castonopsis indica*					
(xxvi)	*Chukrasia tabularis*					
(xxvii)	*Cinnamomumcamphora*					
(xxviii)	*Dalbergia assamica*					
(xxix)	*Dalbergia sissoo*					
(xxx)	*Delonix regia*					
(xxxi)	*Duabanga grandiflora*					
(xxxii)	*Dysoxylum hamiltonii*					
(xxxiii)	*Emblica officinalis*					

(xxxiv)	*Endospermum chinense*					
(xxxv)	*Ficus roxburghii*					
(xxxvi)	*Gmelina arborea*					
(xxxvii)	*Grevillea robusta*					
(xxxviii)	*Hevea brasiliensis*					
(xxxix)	*Jacaranda acutifolia*					
(xl)	*Kayea assamica*					
(xli)	*Lagerstroemia parviflora*					
(xlii)	*Mesua ferrea*					
(xliii)	*Michelia champaca*					
(xliv)	*Mimusopus elengi*					
(xlv)	*Moringa oleifera*					
(xlvi)	*Morus alba*					
(xlvii)	*Oroxylum indicum*					
(xlviii)	*Parkia roxburghii*					
(xlix)	*Pinus kesia*					
(l)	*Phoebe goalparensis*					
(li)	*Pongamia pinnata*					
(lii)	*Prunus nepalensis*					
(liii)	*Prunus cerasoides*					
(liv)	*Sapium baccatum*					
(lv)	*Schima wallichii*					
(lvi)	*Shorea assamica*					
(lvii)	*Shorea robusta*					
(lviii)	*Spondia spinnata*					
(lix)	*Sterculia villosa*					
(lx)	*Szygium jambolanum*					
(lxi)	*Tamarindus indica*					
(lxii)	*Taxus baccata*					
(lxiii)	*Tectona grandis*					
(lxiv)	*Terminalia arjuna*					
(lxv)	*Terminalia bellirica*					
(lxvi)	*Terminalia citrina*					
(lxvii)	*Terminalia myriocarpa*					
(lxviii)	*Tetrameles nudiflora*					
(lxix)	*Toona ciliate*					
(lxx)	*Trema orientalis*					

3. Farmyard Manure

(i) Base cost of farmyard manure at source (excluding the transportation cost)

Item No.	Composition of Potting Media	Size of Polybag/Root	Requirement per 1,000 plants	Rate (Rs./Cum)	Cost per 1000

		Trainer/	(Cum)		plants (Rs.)
(a)					
(b)					
(c)					
(d)					
(e)					
(f)					
(g)					
(h)					
(i)					
(j)					
(k)					
(l)					
(m)					
(n)					
(o)					
(p)					
(q)					
(r)					
(s)					
(t)					
(u)					
(v)					
(w)					
(x)					
(y)					
(z)					

(ii) Cost of Transportation of Farmyard Manure (including cost of loading and unloading) by Departmental Vehicle

Item No.	Distance	Requirement per 1000 plants (Cum)	Rate (Rs./Cum)	Cost per 1,000 plants (Rs.)
(a)	Upto 5 km			
(b)	Additional cost in Rs. For each additional km beyond 5 km			

(iii) Cost of Transportation of Farmyard Manure (including cost of loading and unloading) by hired Vehicle

Item	Distance	Requirement per	Rate	Cost per

x

No.		1000 plants (Cum)	(Rs./Cum)	1000 plants (Rs.)
(a)	Upto 5 km			
(b)	Additional cost in Rs. For each additional km beyond 5 km			

4. Compost

(i) Base cost of Compost at source (excluding the transportation cost)

Item No.	Composition of Potting Media	Size of Polybag/Root Trainer	Requirement per 1000 plants (Cum)	Rate (Rs./Cum)	Cost per 1000 plants (Rs.)
(a)					
(b)					
(c)					
(d)					
(e)					
(f)					
(g)					
(h)					
(i)					
(j)					
(k)					
(l)					
(m)					
(n)					
(o)					
(p)					
(q)					
(r)					
(s)					
(t)					
(u)					
(v)					
(w)					
(x)					
(y)					
(z)					

(ii) Cost of Transportation of Compost (including cost of loading and unloading) by Departmental Vehicle

Item No.	Distance	Requirement per 1000 plants (Cum)	Rate (Rs./Cum)	Cost per 1000 plants (Rs.)
(a)	Upto 5 km			
(b)	Additional cost in Rs. For each additional km beyond 5 km			

(iii) Cost of Transportation of Compost (including cost of loading and unloading) by hired Vehicle

Item No.	Distance	Requirement per 1000 plants (Cum)	Rate (Rs./Cum)	Cost per 1000 plants (Rs.)
(a)	Upto 5 km			
(b)	Additional cost in Rs. For each additional km beyond 5 km			

5. Sand

(i) Base cost of sand at source

Item No.	Composition of Potting Media	Size of Polybag/Root Trainer	Requirement per 1000 plant (Cum)	Rate (Rs./Cum)	Cost per 1000 plants (Rs.)
(a)					
(b)					
(c)					
(d)					
(e)					
(f)					
(g)					
(h)					
(i)					
(j)					
(k)					
(l)					
(m)					
(n)					
(o)					
(p)					
(q)					
(r)					

(s)					
(t)					
(u)					
(v)					
(w)					
(x)					
(y)					
(z)					

(ii) Cost of Transportation of sand (including cost of loading and unloading) by Departmental Vehicle

Item No.	Distance	Requirement per 1000 plants (Cum)	Rate (Rs./Cum)	Cost per 1000 plants (Rs.)
(a)	Upto 5 km			
(b)	Additional cost in Rs. For each additional km beyond 5 km			

(iii) Cost of Transportation of sand (including cost of loading and unloading) by hired Vehicle

Item No.	Distance	Requirement per 1000 plants (Cum)	Rate (Rs./Cum)	Cost per 1000 plants (Rs.)
(a)	Upto 5 km			
(b)	Additional cost in Rs. For each additional km beyond 5 km			

6. Clay

(i) Base cost of Clay at source

Item No.	Composition of Potting Media	Size of Polybag/Root Trainer	Requirement per 1000 plants (Cum)	Rate (Rs./Cum)	Cost per 1000 plants (Rs.)
(a)					
(b)					
(c)					
(d)					
(e)					

(f)					
(g)					
(h)					
(i)					
(j)					
(k)					
(l)					
(m)					
(n)					
(o)					
(p)					
(q)					
(r)					
(s)					
(t)					
(u)					
(v)					
(w)					
(x)					
(y)					
(z)					

(ii) Cost of Transportation of Clay (including cost of loading and unloading) by Departmental Vehicle

Item No.	Distance	Requirement per 1000 plants (Cum)	Rate (Rs./Cum)	Cost per 1000 plants (Rs.)
(a)	Upto 5 km			
(b)	Additional cost for each additional km beyond 5 km			

(iii) Cost of Transportation of Clay (including cost of loading and unloading) by hired Vehicle

Item No.	Distance	Requirement per 1000 plants (Cum)	Rate (Rs./Cum)	Cost per 1000 plants (Rs.)
(a)	Upto 5 km			
(b)	Additional cost for each additional km beyond 5 km			

7. Ordinary Soil

(i) Base cost of Ordinary Soil at source

Item No.	Composition of Potting Media	Size of Polybag/Root Trainer	Rate (Rs./Cum)	Requirement per 1000 plants (Cum)	Cost per 1000 plants (Rs.)
(a)					
(b)					
(c)					
(d)					
(e)					
(f)					
(g)					
(h)					
(i)					
(j)					
(k)					
(l)					
(m)					
(n)					
(o)					
(p)					
(q)					
(r)					
(s)					
(t)					
(u)					
(v)					
(w)					
(x)					
(y)					
(z)					

(ii) Cost of Transportation of Ordinary Soil (including cost of loading and unloading) by Departmental Vehicle

Item No.	Distance	Rate (Rs./Cum)	Requirement per 1000 plants (Cum)	Cost per 1000 plants (Rs.)
(a)	Upto 5 km			
(b)	Additional cost in Rs. For each additional km			

	beyond 5 km			

(iii) **Cost of Transportation of Ordinary Soil (including cost of loading and unloading) by hired Vehicle**

Item No.	Distance	Rate (Rs./Cum)	Requirement per 1000 plants (Cum)	Cost per 1000 plants Rs.)
(a)	Upto 5 km			
(b)	Additional cost in Rs. For each additional km beyond 5 km			

8. **Wood Charcoal**

Item No.	Composition of Potting Media	Size of pot (cc)	Requirement per pot (kg)	Cost of Charcoal (Rs./Kg)	Cost per pot (Rs.)
(i)					
(ii)					
(iii)					
(iv)					
(iv)					
(v)					
(vi)					
(vii)					
(viii)					
(ix)					
(x)					

9. **Dry Pine Bark**

Item No.	Composition of Potting Media	Size of pot (cc)	Requirement per pot (kg)	Cost of Pine Bark (Rs./Kg)	Cost per pot (Rs.)
(i)		cc			
(ii)					
(iii)					
(iv)					
(iv)					
(v)					
(vi)					
(vii)					

(viii)					
(ix)					
(x)					

10. Flower Pots

(i) Earthen Flower Pots

Item No.	Size of pot (cc)	Rate per pot (Rs.)
(i)		
(ii)		
(iii)		
(iv)		
(iv)		
(v)		
(vi)		
(vii)		
(viii)		
(ix)		
(x)		

(ii) Plastic Flower Pots

Item No.	Size of pot (cc)	Rate per pot (Rs.)
(i)		
(ii)		
(iii)		
(iv)		
(iv)		
(v)		
(vi)		
(vii)		
(viii)		
(ix)		
(x)		

11. Agronet

Item No.	Specifications	Rate (Rs./Sqm)
(i)		
(ii)		
(iii)		
(iv)		

12. Barbed Wire

(i) Galvanised Iron Barbed Wire

Item No.	Specifications			Rate (Rs./kg)
	Size of main strand (swg)	Size of thorns (swg)	Thickness of galvanising zinc coating (micron)	
(a)				
(b)				
(c)				
(d)				
(e)				
(f)				

(ii) Non-Galvanised MS Barbed Wire

Item No.	Specifications		Rate (Rs./kg)
	Size of main strand (swg)	Size of thorns (swg)	
(a)			
(b)			
(c)			
(d)			
(e)			
(f)			

13. Plain Tie Wire

(i) Galvanised MS Plain Tie Wire

Item No.	Diameter (swg)	Rate (Rs./kg)
(a)		
(b)		
(c)		
(d)		
(e)		

(ii) Non-Galvanised MS Plain Tie Wire

Item No.	Diameter (swg)	Rate (Rs./kg)
(a)		
(b)		
(c)		
(d)		
(e)		

14. Goat Proof Fencing cum Gabion Mesh

(i) MS Galvanised Goat Proof Fencing cum Gabion Mesh

Item No.	Size of wire (SWG)	Size of Mesh (mm x mm)	Thickness of GI Coating (micron)	Width of mess (meters)	Rate (Rs./sqm)
(a)					
(b)					
(c)					
(d)					
(e)					
(f)					
(g)					
(h)					
(i)					
(j)					
(k)					
(l)					
(m)					
(n)					
(o)					
(p)					
(q)					
(r)					
(s)					
(t)					
(u)					
(v)					
(w)					
(x)					
(y)					

(z)					

(ii) MS Non-Galvanised Goat Proof Fencing cum Gabion Mesh

Item No.	Size of wire (SWG)	Size of Mesh (mm x mm)	Thickness of GI Coating (micron)	Width of mess (meters)	Rate (Rs./sqm)
(a)					
(b)					
(c)					
(d)					
(e)					
(f)					
(g)					
(h)					
(i)					
(j)					
(k)					
(l)					
(m)					
(n)					
(o)					
(p)					
(q)					
(r)					
(s)					
(t)					
(u)					
(v)					
(w)					
(x)					
(y)					
(z)					

15. Root Trainer Trays

Item No.	Number of Cells per Tray	Volume of Cell (cc)	Rate (Rs./Tray)
(i)	1	100	
(ii)	1	150	
(iii)	1	200	
(iv)	1	250	
(v)	1	300	
(vi)	1	350	
(vii)	1	400	

(viii)	1	450	
(ix)	1	500	
(x)	12	100	
(xi)	12	150	
(xii)	12	200	
(xiii)	12	250	
(xiv)	12	300	
(xv)	12	350	
(xvi)	16	100	
(xvii)	16	150	
(xviii)	16	200	
(xix)	16	250	
(xx)	16	300	
(xxi)	16	350	
(xxii)	20	100	
(xxiii)	20	150	
(xxiv)	20	200	
(xxv)	20	250	
(xxvi)	20	300	
(xxvii)	20	350	
(xxviii)	24	100	
(xxix)	24	150	
(xxx)	24	200	
(xxxi)	24	250	
(xxxii)	24	300	
(xxxiii)	24	350	
(xxxiv)	25	100	
(xxxv)	25	150	
(xxxvi)	25	200	
(xxxvii)	25	250	
(xxxviii)	25	300	
(xxix)	25	350	
(xl)	30	100	
(xli)	30	150	
(xlii)	30	200	
(xliii)	30	250	
(xliv)	30	300	
(xlv)	30	350	

16. MS Root Trainer Stand

Item No.	Number of Cells per Tray	Volume of Cell (cc)	Number of Trays per Stand	Rate (Rs./Sta)
(i)	1	100		

(ii)	1	150		
(iii)	1	200		
(iv)	1	250		
(v)	1	300		
(vi)	1	350		
(vii)	1	400		
(viii)	1	450		
(ix)	1	500		
(x)	12	100		
(xi)	12	150		
(xii)	12	200		
(xiii)	12	250		
(xiv)	12	300		
(xv)	12	350		
(xvi)	16	100		
(xvii)	16	150		
(xviii)	16	200		
(xix)	16	250		
(xx)	16	300		
(xxi)	16	350		
(xxii)	20	100		
(xxiii)	20	150		
(xxiv)	20	200		
(xxv)	20	250		
(xxvi)	20	300		
(xxvii)	20	350		
(xxviii)	24	100		
(xxix)	24	150		
(xxx)	24	200		
(xxxi)	24	250		
(xxxii)	24	300		
(xxxiii)	24	350		
(xxxiv)	25	100		
(xxxv)	25	150		
(xxxvi)	25	200		
(xxxvii)	25	250		
(xxxviii)	25	300		
(xxix)	25	350		
(xl)	30	100		
(xli)	30	150		
(xlii)	30	200		
(xliii)	30	250		
(xliv)	30	300		
(xlv)	30	350		

17. Thatch

Item No.	Size of Bale		Rate (Rs/Bale)
	Dia (cm) at base	Length	
(i)			
(ii)			
(iii)			
(iv)			
(v)			
(vi)			
(vii)			
(viii)			
(ix)			
(x)			
(xi)			
(xii)			
(xiii)			
(xiv)			
(xv)			
(xvi)			
(xvii)			
(xviii)			
(xix)			
(xx)			

18. Wooden Posts

(i) Treated Wooden Posts

Item No.	Species	Size		Rate (Rs./ post)
		Dia. at base (mm)	Length (m)	
(a)				
(b)				
(c)				
(d)				
(e)				
(f)				
(g)				
(h)				
(i)				
(j)				
(k)				
(l)				
(m)				

(n)				
(o)				
(p)				
(q)				
(r)				
(s)				
(t)				
(u)				
(v)				
(w)				
(x)				
(y)				
(z)				

(ii) Non Treated Wooden Posts

Item No.	Species	Size		Rate (Rs./ post)
		Dia. at base (mm)	Length (m)	
(a)				
(b)				
(c)				
(d)				
(e)				
(f)				
(g)				
(h)				
(i)				
(j)				
(k)				
(l)				
(m)				
(n)				
(o)				
(p)				
(q)				
(r)				
(s)				
(t)				
(u)				
(v)				
(w)				
(x)				
(y)				

(z)				

19. Bamboo

(i) Treated Bamboo

Item No.	Species	Size		Rate (Rs./ post)
		Dia. at base (mm)	Length (m)	
(a)				
(b)				
(c)				
(d)				
(e)				
(f)				
(g)				
(h)				
(i)				
(j)				
(k)				
(l)				
(m)				
(n)				
(o)				
(p)				
(q)				
(r)				
(s)				
(t)				
(u)				
(v)				
(w)				
(x)				
(y)				
(z)				

(ii) Non-Treated Bamboo

Item No.	Species	Size		Rate (Rs./ post)
		Dia. at base (mm)	Length (m)	
(a)				
(b)				
(c)				

(d)				
(e)				
(f)				
(g)				
(h)				
(i)				
(j)				
(k)				
(l)				
(m)				
(n)				
(o)				
(p)				
(q)				
(r)				
(s)				
(t)				
(u)				
(v)				
(w)				
(x)				
(y)				

PART II: LABOUR

A. CREATION AND MAINTENACE OF NURSERY

Item No.	Particulars of the Work	Unit	Rate (Rs/Unit)
20	Preparation of a mother bed by 30 cm deep digging of soil, breaking of clods, removal of debris/ stones/ pebbles, allowing the soil to weather for about fifteen days, mixing of farmyard manure, chemical fertiliser and pesticide , levelling and compacting of top surface and dressing of sides	Per 1000 Plants	
21	Preparation of a new nursery bed for poly bags	Per 1000 Plants	
A	on a plain earthen surface by digging of soil, clearance of debris/stones/pebbles, levelling compacting and dressing of sides and providing all along its periphery a barrier of following specifications:		
(i)	30 cm high bamboo barrier		
(a)	10 cm x 12.5 cm		
(b)	10 cm x 15 cm		
(c)	12.5 cm x 12.5 cm		
(d)	12.5 cm x 15 cm		

(e)	12.5 cm x 17.5 cm		
(f)	15 cm x 22.5 cm		
(g)	17.5 cm x 17.5 cm		
(h)	17.5 cm x 20 cm		
(i)	17.5 cm x 22.5 cm		
(j)	20 cm x 20 cm		
(k)	20 cm x 25 cm		
(l)	22.5 cm x 27.5 cm		
(m)	25 cm x 25 cm		
(n)	25 cm x 30 cm		
(o)	30 cm x 30 cm		
(p)	30 cm x 35 cm		
(q)	32.5 cm x 32.5 cm		
(r)	37.5 cm x 37.5 cm		
(s)	45 cm x 45 cm		
(t)	53.5 cm x 53.5 cm		
(u)	62.5 cm x 62.5 cm		
(v)	75 cm x 75 cm		
(w)	100 cm x 100 cm		
(x)	Used Cement bag		
(ii)	30 cm high barrier made up of 25 mm x 25 mm x 6 mm MS angle iron on each corner and 5 mm thick MS Flats at top, bottom and middle of the top half portion of the barrier		
(a)	10 cm x 12.5 cm		
(b)	10 cm x 15 cm		
(c)	12.5 cm x 12.5 cm		
(d)	12.5 cm x 15 cm		
(e)	12.5 cm x 17.5 cm		
(f)	15 cm x 22.5 cm		
(g)	17.5 cm x 17.5 cm		
(h)	17.5 cm x 20 cm		
(i)	17.5 cm x 22.5 cm		
(j)	20 cm x 20 cm		
(k)	20 cm x 25 cm		
(l)	22.5 cm x 27.5 cm		
(m)	25 cm x 25 cm		
(n)	25 cm x 30 cm		
(o)	30 cm x 30 cm		
(p)	30 cm x 35 cm		
(q)	32.5 cm x 32.5 cm		
(r)	37.5 cm x 37.5 cm		
(s)	45 cm x 45 cm		
(t)	53.5 cm x 53.5 cm		
(u)	62.5 cm x 62.5 cm		

(v)	75 cm x 75 cm		
(w)	100 cm x 100 cm		
(x)	Used Cement bag		
B.	on a hard cemented/tiled/ stone paved surface by providing a 15 cm high GI frame consisting of 25 mm x 25 mm x 6 mm MS angle iron on corners and 5 mm thick MS Flats at top, bottom and middle of each side all around periphery of the bed:	Per 1000 Plants	
22	Re-forming of an existing nursery bed for poly bags on a plain earthen surface by digging of soil, clearance of debris/stones/pebbles, levelling compacting and dressing of sides and providing all along its periphery a barrier of following specifications:	Per 1000 Plants	
(i)	30 cm high bamboo barrier		
(a)	10 cm x 12.5 cm		
(b)	10 cm x 15 cm		
(c)	12.5 cm x 12.5 cm		
(d)	12.5 cm x 15 cm		
(e)	12.5 cm x 17.5 cm		
(f)	15 cm x 22.5 cm		
(g)	17.5 cm x 17.5 cm		
(h)	17.5 cm x 20 cm		
(i)	17.5 cm x 22.5 cm		
(j)	20 cm x 20 cm		
(k)	20 cm x 25 cm		
(l)	22.5 cm x 27.5 cm		
(m)	25 cm x 25 cm		
(n)	25 cm x 30 cm		
(o)	30 cm x 30 cm		
(p)	30 cm x 35 cm		
(q)	32.5 cm x 32.5 cm		
(r)	37.5 cm x 37.5 cm		
(s)	45 cm x 45 cm		
(t)	53.5 cm x 53.5 cm		
(u)	62.5 cm x 62.5 cm		
(v)	75 cm x 75 cm		
(w)	100 cm x 100 cm		
(x)	Used Cement bag		
(ii)	30 cm high barrier made up of 25 mm x 25 mm x 6 mm MS angle iron on each corner and 5 mm thick MS Flats at top, bottom and middle of the top half portion of the barrier		
(a)	10 cm x 12.5 cm		
(b)	10 cm x 15 cm		

(c)	12.5 cm x 12.5 cm		
(d)	12.5 cm x 15 cm		
(e)	12.5 cm x 17.5 cm		
(f)	15 cm x 22.5 cm		
(g)	17.5 cm x 17.5 cm		
(h)	17.5 cm x 20 cm		
(i)	17.5 cm x 22.5 cm		
(j)	20 cm x 20 cm		
(k)	20 cm x 25 cm		
(l)	22.5 cm x 27.5 cm		
(m)	25 cm x 25 cm		
(n)	25 cm x 30 cm		
(o)	30 cm x 30 cm		
(p)	30 cm x 35 cm		
(q)	32.5 cm x 32.5 cm		
(r)	37.5 cm x 37.5 cm		
(s)	45 cm x 45 cm		
(t)	53.5 cm x 53.5 cm		
(u)	62.5 cm x 62.5 cm		
(v)	75 cm x 75 cm		
(w)	100 cm x 100 cm		
(x)	Used Cement bag		
23	Sowing of seeds in a mother bed by evenly spraying of seeds on surface of the bed, mixing of seeds with soil and covering of bed with grass/straw excluding the cost of seeds but including the cost of straw/husk		
24	Preparation of potting media by mixing of compost, FYM, sand, clay and ordinary soil; filling and placing the poly bags in an orderly manner in the nursery bed including mixing of pesticide, PGPR, chemical fertiliser *etc.* but excluding the cost of compost, FYM, sand, ordinary soil, clay, PGPR, chemical fertiliser, chemical pesticides etc.:		
(i)	10 cm x 12.5 cm		
(ii)	10 cm x 15 cm		
(iii)	12.5 cm x 12.5 cm		
(iv)	12.5 cm x 15 cm		
(v)	12.5 cm x 17.5 cm		
(vi)	15 cm x 22.5 cm		
(vii)	17.5 cm x 17.5 cm		
(viii)	17.5 cm x 20 cm		
(ix)	17.5 cm x 22.5 cm		
(x)	20 cm x 20 cm		
(xi)	20 cm x 25 cm		

(xii)	22.5 cm x 27.5 cm		
(xiii)	25 cm x 25 cm		
(xiv)	25 cm x 30 cm		
(xv)	30 cm x 30 cm		
(xvi)	30 cm x 35 cm		
(xvii)	32.5 cm x 32.5 cm		
(xviii)	37.5 cm x 37.5 cm		
(xix)	45 cm x 45 cm		
(xx)	53.5 cm x 53.5 cm		
(xxi)	62.5 cm x 62.5 cm		
(xxii)	75 cm x 75 cm		
(xxiii)	100 cm x 100 cm		
(xxiv)	Used Cement bag		
25	Preparation of potting media by mixing of compost, FYM, sand, clay and ordinary soil, filling and placing the root trainers blocks on the stands in an orderly manner including mixing of pesticide, PGPR, chemical fertiliser *etc.* but excluding the cost of compost, FYM, sand, ordinary soil, clay, PGPR, chemical fertiliser, chemical pesticides etc.:		
(i)	100 cc root trainer		
(ii)	150 cc root trainer		
(iii)	200 cc root trainer		
(iv)	250 cc root trainer		
(v)	300 cc root trainer		
(vi)	350 cc root trainer		
(vii)	400 cc root trainer		
(viii)	450 cc root trainer		
(ix)	500 cc root trainer		
26	Preparation of potting media by mixing of compost, FYM, sand, clay and ordinary soil, filling and placing the flower pots in an orderly manner including mixing of pesticide, PGPR, chemical fertiliser *etc.* but excluding the cost of compost, FYM, sand, ordinary soil, clay, PGPR, chemical fertiliser, chemical pesticides etc.:		
(i)	..... cc pot		
(ii)	..... cc pot		
(iii)	..... cc pot		
(iv)	..... cc pot		
(v)	..... cc pot		
(vi)	..... cc pot		
(vii)	..... cc pot		
(viii)	..... cc pot		
(ix)	..... cc pot		

xxx

(x)	..... cc pot		
27	Direct sowing of seeds in poly bags and root trainers, covering of surface of the poly bag and root trainer excluding the cost of grass/straw and seeds		
28	Transplanting of seedlings from mother bed to polythene bags and root trainers		
29	Preparation of cuttings including wax sealing of top end and its planting in the poly bag or root trainer or earthen pot etc. complete		
(i)	From the stock sourced from plants/VMG available within 200 meters distance from the bed		
(ii)	Additional cost for sourcing the stock from areas located more than 200 meters distance from the bed		
(a)	Within 500 meters		
(b)	500 meters to 1 km		
(c)	For each additional 1 km beyond initial 1 km		
30	Preparation and of 2 nodded bamboo culm cuttings keeping 10 cm on both sides, trimming of branches, drilling of two (2) holes in inter-node, filling of inter-node with 200 ml of 200 ppm IBA hormonal solution prepared by dissolving 2 gm of Indole Butyric Acid in 10 litre of water in culm cavity, closing of holes by wrapping polythene strip or by cellophane tape, dipping the freshly cut ends of the culm in 0.1 % Bavistin Solution prepared by dissolving 1 gm Bavistin in 1 litre water and placing of culm in bed and covering of culm with soil		
31	Preparation and of two nodded bamboo branch cuttings, dipping the branch cutting in 200 ppm IBA hormonal solution prepared by dissolving 2 gm of Indole Butyric Acid in 10 litre of water for 24 hours, sealing the cut end of the branch cutting by wax, dipping the freshly cut ends of the culm in 0.1 % Bavistin Solution prepared by dissolving 1 gm Bavistin in 1 litre water and placing/planting of the branch cutting in the bed.		
32	Collection of bamboo culms for preparation of bamboo culm cuttings:		
(i)	From the source located within 200 m from the bed		
(ii)	Additional cost for sourcing the stock from areas located more than 200 meters from the bed		
(a)	200 meters to500 meters		
(b)	500 meters to 1 km		
(c)	For each additional 1 km beyond initial 1 km		
33	Collection of bamboo branches for preparation of		

	bamboo culm cuttings by selecting pre-rooted branches from 1.5-2 year healthy and disease free mother clump from natural forest or from the homestead garden and cutting the branches with the rhizomatous swelling along with the aerial roots with the help of hacksaw:		
(i)	from the source located within 200 m from the bed		
(ii)	Additional cost for sourcing the stock from areas located more than 200 meters from the bed		
(a)	200 meters to500 meters		
(b)	500 meters to 1 km		
(c)	For each additional 1 km beyond initial 1 km		
34	Provision of shade for nursery beds:		
(i)	Bamboo post and thatch roof covering on bamboo superstructure excluding the cost of posts and thatch *etc.*		
(ii)	Bamboo posts and agronet roof covering fixed on bamboo structure excluding the cost of posts, agronet etc.		
(iii)	MS Angle Posts and agronet roof covering fixed on MS Angle/MS Flat superstructure excluding the cost of materials		
35	Watering of nursery plants in a bed:		
(i)	Plants raised in Poly bags	Per 1,000 plants	
(a)	10 cm x 12.5 cm		
(b)	10 cm x 15 cm		
(c)	12.5 cm x 12.5 cm		
(d)	12.5 cm x 15 cm		
(e)	12.5 cm x 17.5 cm		
(f)	15 cm x 22.5 cm		
(g)	17.5 cm x 17.5 cm		
(h)	17.5 cm x 20 cm		
(i)	17.5 cm x 22.5 cm		
(j)	20 cm x 20 cm		
(k)	20 cm x 25 cm		
(l)	22.5 cm x 27.5 cm		
(m)	25 cm x 25 cm		
(n)	25 cm x 30 cm		
(o)	30 cm x 30 cm		
(p)	30 cm x 35 cm		
(q)	32.5 cm x 32.5 cm		
(r)	37.5 cm x 37.5 cm		
(s)	45 cm x 45 cm		
(t)	53.5 cm x 53.5 cm		

(u)	62.5 cm x 62.5 cm		
(v)	75 cm x 75 cm		
(w)	100 cm x 100 cm		
(x)	Used Cement bag		
(ii)	Plants Raised in Root Trainers		
(a)	100 cc root trainer		
(b)	150 cc root trainer		
(c)	200 cc root trainer		
(d)	250 cc root trainer		
(e)	300 cc root trainer		
(f)	350 cc root trainer		
(g)	400 cc root trainer		
(h)	450 cc root trainer		
(i)	500 cc root trainer		
(iii)	Plants raised in Earthen Pots	Per 100 pot	
(a)	..... cc pot		
(b)	..... cc pot		
(c)	..... cc pot		
(d)	..... cc pot		
(e)	..... cc pot		
(f)	..... cc pot		
(g)	..... cc pot		
(h)	..... cc pot		
(i)	..... cc pot		
(j)	..... cc pot		
36	Weeding of plants in nursery	Per 100 plants	
(i)	Plants raised in poly bags		
(a)	10 cm x 12.5 cm		
(b)	10 cm x 15 cm		
(c)	12.5 cm x 12.5 cm		
(d)	12.5 cm x 15 cm		
(e)	12.5 cm x 17.5 cm		
(f)	15 cm x 22.5 cm		
(g)	17.5 cm x 17.5 cm		
(h)	17.5 cm x 20 cm		
(i)	17.5 cm x 22.5 cm		
(j)	20 cm x 20 cm		
(k)	20 cm x 25 cm		
(l)	22.5 cm x 27.5 cm		
(m)	25 cm x 25 cm		
(n)	25 cm x 30 cm		
(o)	30 cm x 30 cm		
(p)	30 cm x 35 cm		

(q)	32.5 cm x 32.5 cm		
(r)	37.5 cm x 37.5 cm		
(s)	45 cm x 45 cm		
(t)	53.5 cm x 53.5 cm		
(u)	62.5 cm x 62.5 cm		
(v)	75 cm x 75 cm		
(w)	100 cm x 100 cm		
(x)	Used Cement bag		
(ii)	Plants raised in Root Trainer		
(a)	100 cc root trainer		
(b)	150 cc root trainer		
(c)	200 cc root trainer		
(d)	250 cc root trainer		
(e)	300 cc root trainer		
(f)	350 cc root trainer		
(g)	400 cc root trainer		
(h)	450 cc root trainer		
(i)	500 cc root trainer		
(iii)	Plants raised in Earthen Pots		
(a)	..... cc pot		
(b)	..... cc pot		
(c)	..... cc pot		
(d)	..... cc pot		
(e)	..... cc pot		
(f)	..... cc pot		
(g)	..... cc pot		
(h)	..... cc pot	Per bed	
(i)	..... cc pot		
(j)	..... cc pot		
37	Shifting, grading and arranging of poly bags as per height of the plants:		
(i)	10 cm x 12.5 cm		
(ii)	10 cm x 15 cm		
(iii)	12.5 cm x 12.5 cm		
(iv)	12.5 cm x 15 cm		
(v)	12.5 cm x 17.5 cm		
(vi)	15 cm x 22.5 cm		
(vii)	17.5 cm x 17.5 cm		
(viii)	17.5 cm x 20 cm		
(ix)	17.5 cm x 22.5 cm		
(x)	20 cm x 20 cm		
(xi)	20 cm x 25 cm		
(xii)	22.5 cm x 27.5 cm		
(xiii)	25 cm x 25 cm		
(xiv)	25 cm x 30 cm		

(xv)	30 cm x 30 cm		
(xvi)	30 cm x 35 cm		
(xvii)	32.5 cm x 32.5 cm		
(xviii)	37.5 cm x 37.5 cm		
(xix)	45 cm x 45 cm		
(xx)	53.5 cm x 53.5 cm		
(xxi)	62.5 cm x 62.5 cm		
(xxii)	75 cm x 75 cm		
(xxiii)	100 cm x 100 cm		
(xxiv)	Used Cement bag		
38	Preparation of root shoot stump cuttings of naked root plants including waxing of top end		
39	Disposal of old empty poly bags filled with potting media by emptying filled poly bags and disposal of torn polybags and potting media		
(i)	10 cm x 12.5 cm		
(ii)	10 cm x 15 cm		
(iii)	12.5 cm x 12.5 cm		
(iv)	12.5 cm x 15 cm		
(v)	12.5 cm x 17.5 cm		
(vi)	15 cm x 22.5 cm		
(vii)	17.5 cm x 17.5 cm		
(viii)	17.5 cm x 20 cm		
(ix)	17.5 cm x 22.5 cm		
(x)	20 cm x 20 cm		
(xi)	20 cm x 25 cm		
(xii)	22.5 cm x 27.5 cm		
(xiii)	25 cm x 25 cm		
(xiv)	25 cm x 30 cm		
(xv)	30 cm x 30 cm		
(xvi)	30 cm x 35 cm		
(xvii)	32.5 cm x 32.5 cm		
(xviii)	37.5 cm x 37.5 cm		
(xix)	45 cm x 45 cm		
(xx)	53.5 cm x 53.5 cm		
(xxi)	62.5 cm x 62.5 cm		
(xxii)	75 cm x 75 cm		
(xxiii)	100 cm x 100 cm		
(xxiv)	Used Cement bag		
40	Cleaning and stacking in an orderly manner root trainer trays containing:		
(i)	..... cells of cc		
(ii)	..... cells of cc		
(iii)	..... cells of cc		
(iv)	..... cells of cc		

(v)	..... cells of cc		
(vi)	..... cells of cc		
(vii)	..... cells of cc		
(viii)	..... cells of cc		
(ix)	..... cells of cc		
(x)	..... cells of cc		
(xi)	..... cells of cc		
(xii)	..... cells of cc		
(xiii)	..... cells of cc		
(xiv)	..... cells of cc		
(xv)	..... cells of cc		
(xvi)	..... cells of cc		
(xvii)	..... cells of cc		
(xviii)	..... cells of cc		
(xix)	..... cells of cc		
(xx)	..... cells of cc		
(xxi)	..... cells of cc		
(xxii)	..... cells of cc		
(xxiii)	..... cells of cc		
(xxiv)	..... cells of cc		
41	Spray of insecticides, pesticides fertilisers *etc.* by using a back mounted Knapsack or a machine operated pump:		
(i)	Plants raised in poly bags		
(a)	10 cm x 12.5 cm		
(b)	10 cm x 15 cm		
(c)	12.5 cm x 12.5 cm		
(d)	12.5 cm x 15 cm		
(e)	12.5 cm x 17.5 cm		
(f)	15 cm x 22.5 cm		
(g)	17.5 cm x 17.5 cm		
(h)	17.5 cm x 20 cm		
(i)	17.5 cm x 22.5 cm		
(j)	20 cm x 20 cm		
(k)	20 cm x 25 cm		
(l)	22.5 cm x 27.5 cm		
(m)	25 cm x 25 cm		
(n)	25 cm x 30 cm		
(o)	30 cm x 30 cm		
(p)	30 cm x 35 cm		
(q)	32.5 cm x 32.5 cm		
(r)	37.5 cm x 37.5 cm		
(s)	45 cm x 45 cm		
(t)	53.5 cm x 53.5 cm		
(u)	62.5 cm x 62.5 cm		

(v)	75 cm x 75 cm		
(w)	100 cm x 100 cm		
(x)	Used Cement bag		
(ii)	Plants raised in Root Trainer		
(a)	100 cc root trainer		
(b)	150 cc root trainer		
(c)	200 cc root trainer		
(d)	250 cc root trainer		
(e)	300 cc root trainer		
(f)	350 cc root trainer		
(g)	400 cc root trainer		
(h)	450 cc root trainer		
(i)	500 cc root trainer		
(iii)	Plants raised in Earthen Pots		
(a)	..... cc pot		
(b)	..... cc pot		
(c)	..... cc pot		
(d)	..... cc pot		
(e)	..... cc pot		
(f)	..... cc pot		
(g)	..... cc pot		
(h)	..... cc pot		
(i)	..... cc pot		
(j)	..... cc pot		
42	Collection, processing, drying and cleaning of seeds from locally available trees:		
(i)	*Adina cordifolia*	Kg	
(ii)	*Aegle marmelos*	Kg	
(iii)	*Aescules indica*	Kg	
(iv)	*Alnus nepalensis*	Kg	
(v)	*Alstonia scholaris*	Kg	
(vi)	*Amoora wallichii*	Kg	
(vii)	*Anthocephaluschinensis*	Kg	
(viii)	*Aquillaria malacensis*	Kg	
(ix)	*Artocarpus chaplasha*	Kg	
(x)	*Artocarpus integrifolia*	Kg	
(xi)	*Arundinaria falcata*	Kg	
(xii)	*Bambusa arundinacia*	Kg	
(xiii)	*Bambusa nutans*	Kg	
(xiv)	*Bambusa tulda*	Kg	
(xv)	*Dendrocalamus giganteus*	Kg	
(xvi)	*Dendrocalamus hamiltonii*	Kg	
(xvii)	*Dendrocalamus strictus*	Kg	
(xviii)	*Melocana bambusoides*	Kg	
(xix)	*Bauhinia purpurea*	Kg	

(xx)	*Bauhinia variegate*	Kg	
(xxi)	*Bombax ceiba*	Kg	
(xxii)	*Callistemon viminalis*	Kg	
(xxiii)	*Casia fistula*	Kg	
(xxiv)	*Cassia siamea*	Kg	
(xxv)	*Castonopsis indica*	Kg	
(xxvi)	*Chukrasia tabularis*	Kg	
(xxvii)	*Cinnamomumcamphora*	Kg	
(xxviii)	*Dalbergia assamica*	Kg	
(xxix)	*Dalbergia sissoo*	Kg	
(xxx)	*Delonix regia*	Kg	
(xxxi)	*Duabanga grandiflora*	Kg	
(xxxii)	*Dysoxylum hamiltonii*	Kg	
(xxxiii)	*Emblica officinalis*	Kg	
(xxxiv)	*Endospermum chinense*	Kg	
(xxxv)	*Ficus roxburghii*	Kg	
(xxxvi)	*Gmelina arborea*	Kg	
(xxxvii)	*Grevillea robusta*	Kg	
(xxxviii)	*Hevea brasiliensis*	Kg	
(xxxix)	*Jacaranda acutifolia*	Kg	
(xl)	*Kayea assamica*	Kg	
(xli)	*Lagerstroemia parviflora*	Kg	
(xlii)	*Mesua ferrea*	Kg	
(xliii)	*Michelia champaca*	Kg	
(xliv)	*Mimusopus elengi*	Kg	
(xlv)	*Moringa oleifera*	Kg	
(xlvi)	*Morus alba*	Kg	
(xlvii)	*Oroxylum indicum*	Kg	
(xlviii)	*Parkia roxburghii*	Kg	
(xlix)	*Pinus kesia*	Kg	
(l)	*Phoebe goalparensis*	Kg	
(li)	*Pongamia pinnata*	Kg	
(lii)	*Prunus nepalensis*	Kg	
(liii)	*Prunus cerasoides*	Kg	
(liv)	*Sapium baccatum*	Kg	
(lv)	*Schima wallichii*	Kg	
(lvi)	*Shorea assamica*	Kg	
(lvii)	*Shorea robusta*	Kg	
(lviii)	*Spondia spinnata*	Kg	
(lix)	*Sterculia villosa*	Kg	
(lx)	*Szygium jambolanum*	Kg	
(lxi)	*Tamarindus indica*	Kg	
(lxii)	*Taxus baccata*	Kg	
(lxiii)	*Tectona grandis*	Kg	
(lxiv)	*Terminalia arjuna*	Kg	

(lxv)	*Terminalia bellirica*	Kg	
(lxvi)	*Terminalia citrina*	Kg	
(lxvii)	*Terminalia myriocarpa*	Kg	
(lxviii)	*Tetrameles nudiflora*	Kg	
(lxix)	*Toona ciliate*	Kg	
(lxx)	*Trema orientalis*	Kg	

B. ADVANCE WORK FOR AFFORESTATION AND RESTOCKING

Item No.	Particulars of the Work	Unit	Rate (Rs/Unit)
43	Survey and preparation of map by using:	Ha.	
(i)	Chain and Compass:		
(a)	Up to 5 ha		
(b)	5 to 10 ha.		
(c)	10 to 20 ha.		
(d)	More than 20 ha.		
(ii)	Hand held GPS:		
(a)	Up to 5 ha		
(b)	5 to 10 ha.		
(c)	10 to 20 ha.		
(d)	More than 20 ha.		
(iii)	Differential GPS:		
(a)	Up to 5 ha		
(b)	5 to 10 ha.		
(c)	10 to 20 ha.		
(d)	More than 20 ha.		
(iv)	Unarmed Areal Vehicle /Drone:		
(a)	Up to 5 ha		
(b)	5 to 10 ha.		
(c)	10 to 20 ha.		
(d)	More than 20 ha.		
44	Temporary demarcation of boundary by fixing of wooden pegs at each corner point and at intermediate points at an interval of every 100 meters	Length of perimeter (in meter)	
45	Fencing of plantation site by:		
(i)	Barbed wire fencing:		
(a)	Five strands (three horizontal and two crossed) of barbed wire fixed on 2.00 meters high (1.50 m above ground and 0.50 m grouted in ground) wooden posts of minimum ..mm dia.		
(b)	Seven strands (five horizontal and two crossed) of barbed wire fixed on 2.00 meters high (1.50 m above ground and 0.50 m grouted in ground) wooden posts		

	of minimum ..... mm dia.		
(c)	Five strands (three horizontal and two crossed) of barbed wire fixed on 2.00 meters high (1.50 m above ground and 0.50 m grouted in ground) RCC Posts of section provided with five numbers 8 mm dia MS road reinforcement provided with 6 mm dia MS rings at interval of every ....cm		
(d)	Seven strands (five horizontal and two crossed) of barbed wire fixed on 2.00 meters high (1.50 m above ground and 0.50 m grouted in ground) RCC Posts of section provided with five numbers 8 mm dia MS road reinforcement provided with 6 mm dia MS rings at interval of every ....cm		
(e)	Five strands (three horizontal and two crossed) of barbed wire fixed on 2.00 meters high (1.50 m above ground and 0.50 m grouted in ground) 50 mm x 50 mm x 6 mm MS Angle Iron Posts		
(f)	Seven strands (five horizontal and two crossed) of barbed wire fixed on 2.00 meters high (1.50 m above ground and 0.50 m grouted in ground) 50 mm x 50 mm x 6 mm MS Angle Iron Posts fixed in a PCC block of 50 mm x 50 mm x 50 mm size		
(ii)	Chain link fencing		
(a)			
(b)			
(c)			
(iii)	Trench cum bund fencing		
(a)			
(b)			
(c)			
46	Provision and fixing of a gate for plantation site:		
(i)	12 ft wide and 5 feet high Bamboo gate fixed on Bamboo Posts		
(ii)	12 feet wide and 5 feet high MS angle iron gate fixed on Stone masonry pillars		
(iii)	12 feet wide and 5 feet high MS angle iron gate fixed on MS Stone masonry pillars		
47	Construction of a Chowkidar Hut (10 ft (long) x 10 ft (width) x 8 ft (height))		
(i)	Wooden posts and thatch roof fixed on wooden purlins and rafters		
(ii)	Wooden posts and Tin roof fixed on wooden purlins and rafters		
48	Site clearance by clearing of weeds by cutting, uprooting, collection, drying and burning of existing vegetation in areas having:		

(i)	Very dense undergrowth		
(ii)	Moderately dense undergrowth		
(iii)	Poor undergrowth		
49	Identification and marking of the location of pits by erection of small wooden peg or by scraping the surface and making a small mound by a spade or a pick axe	Person days	
50	Manual digging of cubical pit by engagement of local labour (length x width x depth)		
A.	In ordinary soil:		
(i)	In more than 90 cm deep soil:		
(a)	30 cm x 30 cm x 30 cm		
(b)	30 cm x 30 cm x 45 cm		
(c)	30 cm x 30 cm x 60 cm		
(d)	45 cm x 45 x cm x 45 cm		
(e)	45 cm x 45 cm x 60 cm		
(f)	45 cm x 45 cm x 75 cm		
(g)	60 cm x 60 cm x 60 cm		
(h)	60 cm x 60 cm x 75 cm		
(i)	60 cm x 60 cm x 90 cm		
(j)	75 cm x 75 cm x 75 cm		
(k)	75 cm x 75 cm x 90 cm		
(l)	90 cm x 90 cm x 90 cm		
(ii)	In 60 cm to 90 cm deep soil:		
(a)	30 cm x 30 cm x 30 cm		
(b)	30 cm x 30 cm x 45 cm		
(c)	30 cm x 30 cm x 60 cm		
(d)	45 cm x 45 x cm x 45 cm		
(e)	45 cm x 45 cm x 60 cm		
(f)	45 cm x 45 cm x 75 cm		
(g)	60 cm x 60 cm x 60 cm		
(h)	60 cm x 60 cm x 75 cm		
(i)	60 cm x 60 cm x 90 cm		
(j)	75 cm x 75 cm x 75 cm		
(k)	75 cm x 75 cm x 90 cm		
(l)	90 cm x 90 cm x 90 cm		
(iii)	In 45 cm to 60 cm deep soil:		
(a)	30 cm x 30 cm x 30 cm		
(b)	30 cm x 30 cm x 45 cm		
(c)	30 cm x 30 cm x 60 cm		
(d)	45 cm x 45 x cm x 45 cm		
(e)	45 cm x 45 cm x 60 cm		
(f)	45 cm x 45 cm x 75 cm		
(g)	60 cm x 60 cm x 60 cm		
(h)	60 cm x 60 cm x 75 cm		

(i)	60 cm x 60 cm x 90 cm		
(j)	75 cm x 75 cm x 75 cm		
(k)	75 cm x 75 cm x 90 cm		
(l)	90 cm x 90 cm x 90 cm		
(iv)	In 30 cm to 45 cm deep soil:		
(a)	30 cm x 30 cm x 30 cm		
(b)	30 cm x 30 cm x 45 cm		
(c)	30 cm x 30 cm x 60 cm		
(d)	45 cm x 45 x cm x 45 cm		
(e)	45 cm x 45 cm x 60 cm		
(f)	45 cm x 45 cm x 75 cm		
(g)	60 cm x 60 cm x 60 cm		
(h)	60 cm x 60 cm x 75 cm		
(i)	60 cm x 60 cm x 90 cm		
(j)	75 cm x 75 cm x 75 cm		
(k)	75 cm x 75 cm x 90 cm		
(l)	90 cm x 90 cm x 90 cm		
(v)	In 30 cm to 45 cm deep soil		
(a)	30 cm x 30 cm x 30 cm		
(b)	30 cm x 30 cm x 45 cm		
(c)	30 cm x 30 cm x 60 cm		
(d)	45 cm x 45 x cm x 45 cm		
(e)	45 cm x 45 cm x 60 cm		
(f)	45 cm x 45 cm x 75 cm		
(g)	60 cm x 60 cm x 60 cm		
(h)	60 cm x 60 cm x 75 cm		
(i)	60 cm x 60 cm x 90 cm		
(j)	75 cm x 75 cm x 75 cm		
(k)	75 cm x 75 cm x 90 cm		
(l)	90 cm x 90 cm x 90 cm		
(vi)	In less than 15 cm deep soil		
(a)	30 cm x 30 cm x 30 cm		
(b)	30 cm x 30 cm x 45 cm		
(c)	30 cm x 30 cm x 60 cm		
(d)	45 cm x 45 x cm x 45 cm		
(e)	45 cm x 45 cm x 60 cm		
(f)	45 cm x 45 cm x 75 cm		
(g)	60 cm x 60 cm x 60 cm		
(h)	60 cm x 60 cm x 75 cm		
(i)	60 cm x 60 cm x 90 cm		
(j)	75 cm x 75 cm x 75 cm		
(k)	75 cm x 75 cm x 90 cm		
(l)	90 cm x 90 cm x 90 cm		
(vii)	In bare rocky surface with no soil cover		
(a)	30 cm x 30 cm x 30 cm		

(b)	30 cm x 30 cm x 45 cm		
(c)	30 cm x 30 cm x 60 cm		
(d)	45 cm x 45 x cm x 45 cm		
(e)	45 cm x 45 cm x 60 cm		
(f)	45 cm x 45 cm x 75 cm		
(g)	60 cm x 60 cm x 60 cm		
(h)	60 cm x 60 cm x 75 cm		
(i)	60 cm x 60 cm x 90 cm		
(j)	75 cm x 75 cm x 75 cm		
(k)	75 cm x 75 cm x 90 cm		
(l)	90 cm x 90 cm x 90 cm		
B.	In hard soil:		
(i)	In more than 90 cm deep soil		
(a)	30 cm x 30 cm x 30 cm		
(b)	30 cm x 30 cm x 45 cm		
(c)	30 cm x 30 cm x 60 cm		
(d)	45 cm x 45 x cm x 45 cm		
(e)	45 cm x 45 cm x 60 cm		
(f)	45 cm x 45 cm x 75 cm		
(g)	60 cm x 60 cm x 60 cm		
(h)	60 cm x 60 cm x 75 cm		
(i)	60 cm x 60 cm x 90 cm		
(j)	75 cm x 75 cm x 75 cm		
(k)	75 cm x 75 cm x 90 cm		
(l)	90 cm x 90 cm x 90 cm		
(ii)	In 60 cm to 90 cm deep soil		
(a)	30 cm x 30 cm x 30 cm		
(b)	30 cm x 30 cm x 45 cm		
(c)	30 cm x 30 cm x 60 cm		
(d)	45 cm x 45 x cm x 45 cm		
(e)	45 cm x 45 cm x 60 cm		
(f)	45 cm x 45 cm x 75 cm		
(g)	60 cm x 60 cm x 60 cm		
(h)	60 cm x 60 cm x 75 cm		
(i)	60 cm x 60 cm x 90 cm		
(j)	75 cm x 75 cm x 75 cm		
(k)	75 cm x 75 cm x 90 cm		
(l)	90 cm x 90 cm x 90 cm		
(iii)	In 45 cm to 60 cm deep soil		
(a)	30 cm x 30 cm x 30 cm		
(b)	30 cm x 30 cm x 45 cm		
(c)	30 cm x 30 cm x 60 cm		
(d)	45 cm x 45 x cm x 45 cm		
(e)	45 cm x 45 cm x 60 cm		
(f)	45 cm x 45 cm x 75 cm		

(g)	60 cm x 60 cm x 60 cm		
(h)	60 cm x 60 cm x 75 cm		
(i)	60 cm x 60 cm x 90 cm		
(j)	75 cm x 75 cm x 75 cm		
(k)	75 cm x 75 cm x 90 cm		
(l)	90 cm x 90 cm x 90 cm		
(iv)	In 30 cm to 45 cm deep soil		
(a)	30 cm x 30 cm x 30 cm		
(b)	30 cm x 30 cm x 45 cm		
(c)	30 cm x 30 cm x 60 cm		
(d)	45 cm x 45 x cm x 45 cm		
(e)	45 cm x 45 cm x 60 cm		
(f)	45 cm x 45 cm x 75 cm		
(g)	60 cm x 60 cm x 60 cm		
(h)	60 cm x 60 cm x 75 cm		
(i)	60 cm x 60 cm x 90 cm		
(j)	75 cm x 75 cm x 75 cm		
(k)	75 cm x 75 cm x 90 cm		
(l)	90 cm x 90 cm x 90 cm		
(v)	In 30 cm to 45 cm deep soil		
(a)	30 cm x 30 cm x 30 cm		
(b)	30 cm x 30 cm x 45 cm		
(c)	30 cm x 30 cm x 60 cm		
(d)	45 cm x 45 x cm x 45 cm		
(e)	45 cm x 45 cm x 60 cm		
(f)	45 cm x 45 cm x 75 cm		
(g)	60 cm x 60 cm x 60 cm		
(h)	60 cm x 60 cm x 75 cm		
(i)	60 cm x 60 cm x 90 cm		
(j)	75 cm x 75 cm x 75 cm		
(k)	75 cm x 75 cm x 90 cm		
(l)	90 cm x 90 cm x 90 cm		
(vi)	In less than 15 cm deep soil		
(a)	30 cm x 30 cm x 30 cm		
(b)	30 cm x 30 cm x 45 cm		
(c)	30 cm x 30 cm x 60 cm		
(d)	45 cm x 45 x cm x 45 cm		
(e)	45 cm x 45 cm x 60 cm		
(f)	45 cm x 45 cm x 75 cm		
(g)	60 cm x 60 cm x 60 cm		
(h)	60 cm x 60 cm x 75 cm		
(i)	60 cm x 60 cm x 90 cm		
(j)	75 cm x 75 cm x 75 cm		
(k)	75 cm x 75 cm x 90 cm		
(l)	90 cm x 90 cm x 90 cm		

(vii)	In bare rocky surface with no soil cover		
(a)	30 cm x 30 cm x 30 cm		
(b)	30 cm x 30 cm x 45 cm		
(c)	30 cm x 30 cm x 60 cm		
(d)	45 cm x 45 x cm x 45 cm		
(e)	45 cm x 45 cm x 60 cm		
(f)	45 cm x 45 cm x 75 cm		
(g)	60 cm x 60 cm x 60 cm		
(h)	60 cm x 60 cm x 75 cm		
(i)	60 cm x 60 cm x 90 cm		
(j)	75 cm x 75 cm x 75 cm		
(k)	75 cm x 75 cm x 90 cm		
(l)	90 cm x 90 cm x 90 cm		
C.	In soil mixed with gravels		
(i)	In more than 90 cm deep soil		
(a)	30 cm x 30 cm x 30 cm		
(b)	30 cm x 30 cm x 45 cm		
(c)	30 cm x 30 cm x 60 cm		
(d)	45 cm x 45 x cm x 45 cm		
(e)	45 cm x 45 cm x 60 cm		
(f)	45 cm x 45 cm x 75 cm		
(g)	60 cm x 60 cm x 60 cm		
(h)	60 cm x 60 cm x 75 cm		
(i)	60 cm x 60 cm x 90 cm		
(j)	75 cm x 75 cm x 75 cm		
(k)	75 cm x 75 cm x 90 cm		
(l)	90 cm x 90 cm x 90 cm		
(ii)	In 60 cm to 90 cm deep soil		
(a)	30 cm x 30 cm x 30 cm		
(b)	30 cm x 30 cm x 45 cm		
(c)	30 cm x 30 cm x 60 cm		
(d)	45 cm x 45 x cm x 45 cm		
(e)	45 cm x 45 cm x 60 cm		
(f)	45 cm x 45 cm x 75 cm		
(g)	60 cm x 60 cm x 60 cm		
(h)	60 cm x 60 cm x 75 cm		
(i)	60 cm x 60 cm x 90 cm		
(j)	75 cm x 75 cm x 75 cm		
(k)	75 cm x 75 cm x 90 cm		
(l)	90 cm x 90 cm x 90 cm		
(iii)	In 45 cm to 60 cm deep soil		
(a)	30 cm x 30 cm x 30 cm		
(b)	30 cm x 30 cm x 45 cm		
(c)	30 cm x 30 cm x 60 cm		
(d)	45 cm x 45 x cm x 45 cm		

(e)	45 cm x 45 cm x 60 cm		
(f)	45 cm x 45 cm x 75 cm		
(g)	60 cm x 60 cm x 60 cm		
(h)	60 cm x 60 cm x 75 cm		
(i)	60 cm x 60 cm x 90 cm		
(j)	75 cm x 75 cm x 75 cm		
(k)	75 cm x 75 cm x 90 cm		
(l)	90 cm x 90 cm x 90 cm		
(iv)	In 30 cm to 45 cm deep soil		
(a)	30 cm x 30 cm x 30 cm		
(b)	30 cm x 30 cm x 45 cm		
(c)	30 cm x 30 cm x 60 cm		
(d)	45 cm x 45 x cm x 45 cm		
(e)	45 cm x 45 cm x 60 cm		
(f)	45 cm x 45 cm x 75 cm		
(g)	60 cm x 60 cm x 60 cm		
(h)	60 cm x 60 cm x 75 cm		
(i)	60 cm x 60 cm x 90 cm		
(j)	75 cm x 75 cm x 75 cm		
(k)	75 cm x 75 cm x 90 cm		
(l)	90 cm x 90 cm x 90 cm		
(v)	In 30 cm to 45 cm deep soil		
(a)	30 cm x 30 cm x 30 cm		
(b)	30 cm x 30 cm x 45 cm		
(c)	30 cm x 30 cm x 60 cm		
(d)	45 cm x 45 x cm x 45 cm		
(e)	45 cm x 45 cm x 60 cm		
(f)	45 cm x 45 cm x 75 cm		
(g)	60 cm x 60 cm x 60 cm		
(h)	60 cm x 60 cm x 75 cm		
(i)	60 cm x 60 cm x 90 cm		
(j)	75 cm x 75 cm x 75 cm		
(k)	75 cm x 75 cm x 90 cm		
(l)	90 cm x 90 cm x 90 cm		
(vi)	In less than 15 cm deep soil		
(a)	30 cm x 30 cm x 30 cm		
(b)	30 cm x 30 cm x 45 cm		
(c)	30 cm x 30 cm x 60 cm		
(d)	45 cm x 45 x cm x 45 cm		
(e)	45 cm x 45 cm x 60 cm		
(f)	45 cm x 45 cm x 75 cm		
(g)	60 cm x 60 cm x 60 cm		
(h)	60 cm x 60 cm x 75 cm		
(i)	60 cm x 60 cm x 90 cm		
(j)	75 cm x 75 cm x 75 cm		

(k)	75 cm x 75 cm x 90 cm		
(l)	90 cm x 90 cm x 90 cm		
(vii)	In bare rocky surface with no soil cover		
(a)	30 cm x 30 cm x 30 cm		
(b)	30 cm x 30 cm x 45 cm		
(c)	30 cm x 30 cm x 60 cm		
(d)	45 cm x 45 x cm x 45 cm		
(e)	45 cm x 45 cm x 60 cm		
(f)	45 cm x 45 cm x 75 cm		
(g)	60 cm x 60 cm x 60 cm		
(h)	60 cm x 60 cm x 75 cm		
(i)	60 cm x 60 cm x 90 cm		
(j)	75 cm x 75 cm x 75 cm		
(k)	75 cm x 75 cm x 90 cm		
(l)	90 cm x 90 cm x 90 cm		
51	Digging of cylindrical pits by tractor mounted auger (diameter x depth)		
A.	In ordinary soil		
(i)	In more than 90 cm deep soil		
(a)	30 cm x 30 cm		
(b)	30 cm x 45 cm		
(c)	30 cm x 60 cm		
(d)	45 cm x 45 cm		
(e)	45 cm x 60 cm		
(f)	45 cm x 75 cm		
(g)	60 cm x 60 cm		
(h)	60 cm x 75 cm		
(i)	60 cm x 90 cm		
(j)	75 cm x 75 cm		
(k)	75 cm x 90 cm		
(l)	90 cm x 90 cm		
(ii)	In 60 cm to 90 cm deep soil		
(a)	30 cm x 30 cm		
(b)	30 cm x 45 cm		
(c)	30 cm x 60 cm		
(d)	45 cm x 45 cm		
(e)	45 cm x 60 cm		
(f)	45 cm x 75 cm		
(g)	60 cm x 60 cm		
(h)	60 cm x 75 cm		
(i)	60 cm x 90 cm		
(j)	75 cm x 75 cm		
(k)	75 cm x 90 cm		
(l)	90 cm x 90 cm		
(iii)	In 45 cm to 60 cm deep soil		

(a)	30 cm x 30 cm		
(b)	30 cm x 45 cm		
(c)	30 cm x 60 cm		
(d)	45 cm x 45 cm		
(e)	45 cm x 60 cm		
(f)	45 cm x 75 cm		
(g)	60 cm x 60 cm		
(h)	60 cm x 75 cm		
(i)	60 cm x 90 cm		
(j)	75 cm x 75 cm		
(k)	75 cm x 90 cm		
(l)	90 cm x 90 cm		
(iv)	In 30 cm to 45 cm deep soil		
(a)	30 cm x 30 cm		
(b)	30 cm x 45 cm		
(c)	30 cm x 60 cm		
(d)	45 cm x 45 cm		
(e)	45 cm x 60 cm		
(f)	45 cm x 75 cm		
(g)	60 cm x 60 cm		
(h)	60 cm x 75 cm		
(i)	60 cm x 90 cm		
(j)	75 cm x 75 cm		
(k)	75 cm x 90 cm		
(l)	90 cm x 90 cm		
(v)	In 30 cm to 45 cm deep soil		
(a)	30 cm x 30 cm		
(b)	30 cm x 45 cm		
(c)	30 cm x 60 cm		
(d)	45 cm x 45 cm		
(e)	45 cm x 60 cm		
(f)	45 cm x 75 cm		
(g)	60 cm x 60 cm		
(h)	60 cm x 75 cm		
(i)	60 cm x 90 cm		
(j)	75 cm x 75 cm		
(k)	75 cm x 90 cm		
(l)	90 cm x 90 cm		
(vi)	In less than 15 cm deep soil		
(a)	30 cm x 30 cm		
(b)	30 cm x 45 cm		
(c)	30 cm x 60 cm		
(d)	45 cm x 45 cm		
(e)	45 cm x 60 cm		
(f)	45 cm x 75 cm		

(g)	60 cm x 60 cm		
(h)	60 cm x 75 cm		
(i)	60 cm x 90 cm		
(j)	75 cm x 75 cm		
(k)	75 cm x 90 cm		
(l)	90 cm x 90 cm		
(vii)	In bare rocky surface with no soil cover		
(a)	30 cm x 30 cm		
(b)	30 cm x 45 cm		
(c)	30 cm x 60 cm		
(d)	45 cm x 45 cm		
(e)	45 cm x 60 cm		
(f)	45 cm x 75 cm		
(g)	60 cm x 60 cm		
(h)	60 cm x 75 cm		
(i)	60 cm x 90 cm		
(j)	75 cm x 75 cm		
(k)	75 cm x 90 cm		
(l)	90 cm x 90 cm		
B.	In hard soil		
(i)	In more than 90 cm deep soil		
(a)	30 cm x 30 cm		
(b)	30 cm x 45 cm		
(c)	30 cm x 60 cm		
(d)	45 cm x 45 cm		
(e)	45 cm x 60 cm		
(f)	45 cm x 75 cm		
(g)	60 cm x 60 cm		
(h)	60 cm x 75 cm		
(i)	60 cm x 90 cm		
(j)	75 cm x 75 cm		
(k)	75 cm x 90 cm		
(l)	90 cm x 90 cm		
(ii)	In 60 cm to 90 cm deep soil		
(a)	30 cm x 30 cm		
(b)	30 cm x 45 cm		
(c)	30 cm x 60 cm		
(d)	45 cm x 45 cm		
(e)	45 cm x 60 cm		
(f)	45 cm x 75 cm		
(g)	60 cm x 60 cm		
(h)	60 cm x 75 cm		
(i)	60 cm x 90 cm		
(j)	75 cm x 75 cm		
(k)	75 cm x 90 cm		

(l)	90 cm x 90 cm		
(iii)	In 45 cm to 60 cm deep soil		
(a)	30 cm x 30 cm		
(b)	30 cm x 45 cm		
(c)	30 cm x 60 cm		
(d)	45 cm x 45 cm		
(e)	45 cm x 60 cm		
(f)	45 cm x 75 cm		
(g)	60 cm x 60 cm		
(h)	60 cm x 75 cm		
(i)	60 cm x 90 cm		
(j)	75 cm x 75 cm		
(k)	75 cm x 90 cm		
(l)	90 cm x 90 cm		
(iv)	In 30 cm to 45 cm deep soil		
(a)	30 cm x 30 cm		
(b)	30 cm x 45 cm		
(c)	30 cm x 60 cm		
(d)	45 cm x 45 cm		
(e)	45 cm x 60 cm		
(f)	45 cm x 75 cm		
(g)	60 cm x 60 cm		
(h)	60 cm x 75 cm		
(i)	60 cm x 90 cm		
(j)	75 cm x 75 cm		
(k)	75 cm x 90 cm		
(l)	90 cm x 90 cm		
(v)	In 30 cm to 45 cm deep soil		
(a)	30 cm x 30 cm		
(b)	30 cm x 45 cm		
(c)	30 cm x 60 cm		
(d)	45 cm x 45 cm		
(e)	45 cm x 60 cm		
(f)	45 cm x 75 cm		
(g)	60 cm x 60 cm		
(h)	60 cm x 75 cm		
(i)	60 cm x 90 cm		
(j)	75 cm x 75 cm		
(k)	75 cm x 90 cm		
(l)	90 cm x 90 cm		
(vi)	In less than 15 cm deep soil		
(a)	30 cm x 30 cm		
(b)	30 cm x 45 cm		
(c)	30 cm x 60 cm		
(d)	45 cm x 45 cm		

(e)	45 cm x 60 cm		
(f)	45 cm x 75 cm		
(g)	60 cm x 60 cm		
(h)	60 cm x 75 cm		
(i)	60 cm x 90 cm		
(j)	75 cm x 75 cm		
(k)	75 cm x 90 cm		
(l)	90 cm x 90 cm		
(vii)	In bare rocky surface with no soil cover		
(a)	30 cm x 30 cm		
(b)	30 cm x 45 cm		
(c)	30 cm x 60 cm		
(d)	45 cm x 45 cm		
(e)	45 cm x 60 cm		
(f)	45 cm x 75 cm		
(g)	60 cm x 60 cm		
(h)	60 cm x 75 cm		
(i)	60 cm x 90 cm		
(j)	75 cm x 75 cm		
(k)	75 cm x 90 cm		
(l)	90 cm x 90 cm		
C.	In soil mixed with gravels		
(i)	In more than 90 cm deep soil		
(a)	30 cm x 30 cm		
(b)	30 cm x 45 cm		
(c)	30 cm x 60 cm		
(d)	45 cm x 45 cm		
(e)	45 cm x 60 cm		
(f)	45 cm x 75 cm		
(g)	60 cm x 60 cm		
(h)	60 cm x 75 cm		
(i)	60 cm x 90 cm		
(j)	75 cm x 75 cm		
(k)	75 cm x 90 cm		
(l)	90 cm x 90 cm		
(ii)	In 60 cm to 90 cm deep soil		
(a)	30 cm x 30 cm		
(b)	30 cm x 45 cm		
(c)	30 cm x 60 cm		
(d)	45 cm x 45 cm		
(e)	45 cm x 60 cm		
(f)	45 cm x 75 cm		
(g)	60 cm x 60 cm		
(h)	60 cm x 75 cm		
(i)	60 cm x 90 cm		

(j)	75 cm x 75 cm		
(k)	75 cm x 90 cm		
(l)	90 cm x 90 cm		
(iii)	In 45 cm to 60 cm deep soil		
(a)	30 cm x 30 cm		
(b)	30 cm x 45 cm		
(c)	30 cm x 60 cm		
(d)	45 cm x 45 cm		
(e)	45 cm x 60 cm		
(f)	45 cm x 75 cm		
(g)	60 cm x 60 cm		
(h)	60 cm x 75 cm		
(i)	60 cm x 90 cm		
(j)	75 cm x 75 cm		
(k)	75 cm x 90 cm		
(l)	90 cm x 90 cm		
(iv)	In 30 cm to 45 cm deep soil		
(a)	30 cm x 30 cm		
(b)	30 cm x 45 cm		
(c)	30 cm x 60 cm		
(d)	45 cm x 45 cm		
(e)	45 cm x 60 cm		
(f)	45 cm x 75 cm		
(g)	60 cm x 60 cm		
(h)	60 cm x 75 cm		
(i)	60 cm x 90 cm		
(j)	75 cm x 75 cm		
(k)	75 cm x 90 cm		
(l)	90 cm x 90 cm		
(v)	In 30 cm to 45 cm deep soil		
(a)	30 cm x 30 cm		
(b)	30 cm x 45 cm		
(c)	30 cm x 60 cm		
(d)	45 cm x 45 cm		
(e)	45 cm x 60 cm		
(f)	45 cm x 75 cm		
(g)	60 cm x 60 cm		
(h)	60 cm x 75 cm		
(i)	60 cm x 90 cm		
(j)	75 cm x 75 cm		
(k)	75 cm x 90 cm		
(l)	90 cm x 90 cm		
(vi)	In less than 15 cm deep soil		
(a)	30 cm x 30 cm		
(b)	30 cm x 45 cm		

(c)	30 cm x 60 cm		
(d)	45 cm x 45 cm		
(e)	45 cm x 60 cm		
(f)	45 cm x 75 cm		
(g)	60 cm x 60 cm		
(h)	60 cm x 75 cm		
(i)	60 cm x 90 cm		
(j)	75 cm x 75 cm		
(k)	75 cm x 90 cm		
(l)	90 cm x 90 cm		
(vii)	In bare rocky surface with no soil cover		
(a)	30 cm x 30 cm		
(b)	30 cm x 45 cm		
(c)	30 cm x 60 cm		
(d)	45 cm x 45 cm		
(e)	45 cm x 60 cm		
(f)	45 cm x 75 cm		
(g)	60 cm x 60 cm		
(h)	60 cm x 75 cm		
(i)	60 cm x 90 cm		
(j)	75 cm x 75 cm		
(k)	75 cm x 90 cm		
(l)	90 cm x 90 cm		
52	Construction of gabion structures by collection of locally available boulders for soil conservation and control of river bank erosion excluding the cost of wire	Cum	

C. AFFORESTATION AND RESTOCKING

Item No.	Particulars of the Work	Unit	Rate (Rs/Unit)
53	Transportation of polypot seedlings from nursery to road head nearest to the plantation site including cost of loading and unloading:		
A.	By using Departmental vehicle		
(i)	Up to 5 km		
(a)	10 cm x 12.5 cm		
(b)	10 cm x 15 cm		
(c)	12.5 cm x 12.5 cm		
(d)	12.5 cm x 15 cm		
(e)	12.5 cm x 17.5 cm		
(f)	15 cm x 22.5 cm		
(g)	17.5 cm x 17.5 cm		
(h)	17.5 cm x 20 cm		
(i)	17.5 cm x 22.5 cm		
(j)	20 cm x 20 cm		
(k)	20 cm x 25 cm		
(l)	22.5 cm x 27.5 cm		
(m)	25 cm x 25 cm		
(n)	25 cm x 30 cm		
(o)	30 cm x 30 cm		
(p)	30 cm x 35 cm		
(q)	32.5 cm x 32.5 cm		
(r)	37.5 cm x 37.5 cm		
(s)	45 cm x 45 cm		
(t)	53.5 cm x 53.5 cm		
(u)	62.5 cm x 62.5 cm		
(v)	75 cm x 75 cm		
(w)	100 cm x 100 cm		
(x)	Used Cement bag		
(ii)	Additional amount payable for every additional km beyond the initial 5 kms		
(a)	10 cm x 12.5 cm		
(b)	10 cm x 15 cm		
(c)	12.5 cm x 12.5 cm		
(d)	12.5 cm x 15 cm		
(e)	12.5 cm x 17.5 cm		
(f)	15 cm x 22.5 cm		
(g)	17.5 cm x 17.5 cm		
(h)	17.5 cm x 20 cm		
(i)	17.5 cm x 22.5 cm		
(j)	20 cm x 20 cm		

(k)	20 cm x 25 cm		
(l)	22.5 cm x 27.5 cm		
(m)	25 cm x 25 cm		
(n)	25 cm x 30 cm		
(o)	30 cm x 30 cm		
(p)	30 cm x 35 cm		
(q)	32.5 cm x 32.5 cm		
(r)	37.5 cm x 37.5 cm		
(s)	45 cm x 45 cm		
(t)	53.5 cm x 53.5 cm		
(u)	62.5 cm x 62.5 cm		
(v)	75 cm x 75 cm		
(w)	100 cm x 100 cm		
(x)	Used Cement bag		
B.	By using hired vehicles:		
(i)	Up to 5 km		
(a)	10 cm x 12.5 cm		
(b)	10 cm x 15 cm		
(c)	12.5 cm x 12.5 cm		
(d)	12.5 cm x 15 cm		
(e)	12.5 cm x 17.5 cm		
(f)	15 cm x 22.5 cm		
(g)	17.5 cm x 17.5 cm		
(h)	17.5 cm x 20 cm		
(i)	17.5 cm x 22.5 cm		
(j)	20 cm x 20 cm		
(k)	20 cm x 25 cm		
(l)	22.5 cm x 27.5 cm		
(m)	25 cm x 25 cm		
(n)	25 cm x 30 cm		
(o)	30 cm x 30 cm		
(p)	30 cm x 35 cm		
(q)	32.5 cm x 32.5 cm		
(r)	37.5 cm x 37.5 cm		
(s)	45 cm x 45 cm		
(t)	53.5 cm x 53.5 cm		
(u)	62.5 cm x 62.5 cm		
(v)	75 cm x 75 cm		
(w)	100 cm x 100 cm		
(x)	Used Cement bag		
(ii)	Additional amount payable for every additional km beyond the initial 5 kms		
(a)	10 cm x 12.5 cm		
(b)	10 cm x 15 cm		
(c)	12.5 cm x 12.5 cm		

(d)	12.5 cm x 15 cm		
(e)	12.5 cm x 17.5 cm		
(f)	15 cm x 22.5 cm		
(g)	17.5 cm x 17.5 cm		
(h)	17.5 cm x 20 cm		
(i)	17.5 cm x 22.5 cm		
(j)	20 cm x 20 cm		
(k)	20 cm x 25 cm		
(l)	22.5 cm x 27.5 cm		
(m)	25 cm x 25 cm		
(n)	25 cm x 30 cm		
(o)	30 cm x 30 cm		
(p)	30 cm x 35 cm		
(q)	32.5 cm x 32.5 cm		
(r)	37.5 cm x 37.5 cm		
(s)	45 cm x 45 cm		
(t)	53.5 cm x 53.5 cm		
(u)	62.5 cm x 62.5 cm		
(v)	75 cm x 75 cm		
(w)	100 cm x 100 cm		
(x)	Used Cement bag		
54	Transportation of root trainer seedlings from nursery to road head nearest to the plantation site including cost of loading and unloading:		
A.	By using Departmental vehicle:		
(i)	Up to 5 km		
(a)	100 cc root trainer		
(b)	150 cc root trainer		
(c)	200 cc root trainer		
(d)	250 cc root trainer		
(e)	300 cc root trainer		
(f)	350 cc root trainer		
(g)	400 cc root trainer		
(h)	450 cc root trainer		
(i)	500 cc root trainer		
(ii)	Additional amount payable for every additional km beyond the initial 5 kms.		
(a)	100 cc root trainer		
(b)	150 cc root trainer		
(c)	200 cc root trainer		
(d)	250 cc root trainer		
(e)	300 cc root trainer		
(f)	350 cc root trainer		
(g)	400 cc root trainer		
(h)	450 cc root trainer		

(i)	500 cc root trainer		
B.	By using hired vehicle:		
(i)	Up to 5 km		
(a)	100 cc root trainer		
(b)	150 cc root trainer		
(c)	200 cc root trainer		
(d)	250 cc root trainer		
(e)	300 cc root trainer		
(f)	350 cc root trainer		
(g)	400 cc root trainer		
(h)	450 cc root trainer		
(i)	500 cc root trainer		
(ii)	Additional amount payable for every additional km beyond the initial 5 kms.		
(a)	100 cc root trainer		
(b)	150 cc root trainer		
(c)	200 cc root trainer		
(d)	250 cc root trainer		
(e)	300 cc root trainer		
(f)	350 cc root trainer		
(g)	400 cc root trainer		
(h)	450 cc root trainer		
(i)	500 cc root trainer		
55	Transportation of root shoot cuttings and naked root seedlings from nursery to nearest road head including cost of loading and unloading:		
A.	By using Departmental vehicle:		
(i)	Up to 5 km		
(ii)	Additional amount payable for every additional km beyond the initial 5 kms.		
B.	By using hired vehicle		
(i)	Up to 5 km		
(ii)	Additional amount payable for every additional km beyond the initial 5 kms.		
56	Collection of bamboo rhizomes from the existing bamboo clumps		
57	Manual transportation of bamboo rhizomes collected from existing bamboo clumps to the nearest road head		
(i)	Upto 200 meters		
(ii)	Additional amount payable for every additional 100 meters		
58	Transportation of bamboo rhizomes from the road head nearest to the place of their collection to the road nearest to the plantation site including cost of loading and unloading:		

A.	By using Departmental vehicle:		
(i)	Up to 5 km		
(ii)	Additional amount payable for every additional km beyond the initial 5 kms.		
B.	By using hired vehicle		
(i)	Up to 5 km		
(ii)	Additional amount payable for every additional km beyond the initial 5 kms.		
59	Manual Transportation of polybag seedlings from road head to designated locations within the plantation site for pre-plantation storage and acclimatization:		
(i)	Upto 200 meters		
(a)	10 cm x 17.5 cm (4" x 7")		
(b)	12.5 cm x 22.5 cm (5" x 9")		
(c)	15 cm x 30 cm (6" x 12")		
(d)	20 cm x 30 cm (8" x 12")		
(e)	Used cement bag		
(ii)	Additional amount payable for every additional 100 m beyond the initial 200 meters		
(a)	10 cm x 17.5 cm (4" x 7")		
(b)	12.5 cm x 22.5 cm (5" x 9")		
(c)	15 cm x 30 cm (6" x 12")		
(d)	20 cm x 30 cm (8" x 12")		
(e)	Used cement bag		
60	Manual Transportation of root trainer seedlings from road-head to plantation site for pre-plantation storage and acclimatization:		
(i)	Upto 200 meters		
(a)	100 cc root trainer		
(b)	150 cc root trainer		
(c)	200 cc root trainer		
(d)	250 cc root trainer		
(e)	300 cc root trainer		
(f)	350 cc root trainer		
(ii)	Additional amount payable for every additional 100 m beyond the initial 200 meters		
(a)	100 cc root trainer		
(b)	150 cc root trainer		
(c)	200 cc root trainer		
(d)	250 cc root trainer		
(e)	300 cc root trainer		
(f)	350 cc root trainer		
61	Manual Transportation of root shoot cuttings from road-head to plantation site for pre-plantation storage and acclimatization:		

(i)	Up to 200 m		
(ii)	Additional amount payable for every additional 100 meters beyond the initial 200 meters		
62	Manual Transportation of bamboo rhizomes from road-head to plantation site for pre-plantation storage and acclimatization:		
(i)	Up to 200 m		
(ii)	Additional amount payable for every additional 100 m beyond the initial 200 m.		
63	Care of poly bag and root trainer seedlings at temporary pre-plantation storage and acclimatization sites established within plantation area		
64	Care of root shoot cuttings and naked root seedlings at temporary pre-plantation storage and acclimatization sites established within plantation area		
65	Care of bamboo rhizomes at temporary pre-plantation storage and acclimatization sites established within plantation area		
66	Planting of seedling including carriage of seedling from temporary storage sites established within the plantation area, refilling of pit, compacting and making a mound of soil around stem of the seedling planted etc. complete:		
(i)	In manually dug cubical pits of size (length x width x depth):		
(a)	30 cm x 30 cm x 30 cm		
(b)	30 cm x 30 cm x 45 cm		
(c)	30 cm x 30 cm x 60 cm		
(d)	45 cm x 45 x cm x 45 cm		
(e)	45 cm x 45 cm x 60 cm		
(f)	45 cm x 45 cm x 75 cm		
(g)	60 cm x 60 cm x 60 cm		
(h)	60 cm x 60 cm x 75 cm		
(i)	60 cm x 60 cm x 90 cm		
(j)	75 cm x 75 cm x 75 cm		
(k)	75 cm x 75 cm x 90 cm		
(l)	90 cm x 90 cm x 90 cm		
(ii)	In a cylindrical pit dug by a tractor mounted augur of the size (diameter x depth):		
(a)	30 cm x 30 cm		
(b)	30 cm x 45 cm		
(c)	30 cm x 60 cm		
(d)	45 cm x 45 cm		
(e)	45 cm x 60 cm		
(f)	45 cm x 75 cm		

(g)	60 cm x 60 cm		
(h)	60 cm x 75 cm		
(i)	60 cm x 90 cm		
(j)	75 cm x 75 cm		
(k)	75 cm x 90 cm		
(l)	90 cm x 90 cm		
67	Planting of root-shoot cutting and naked root seedlings including refilling of pit, compacting of soil and making a small lump around the stump		
68	Planting of bamboo rhizome collected from the existing bamboo clump including refilling of pit, compacting of soil and making a small lump around the rhizome		
69	Direct sowing of seeds in pits dug at the plantation site including refilling of pits		
70	Weeding in plantation area by:		
(i)	Cutting/uprooting of weeds in the entire plantation area having:		
(a)	Very dense weed growth		
(b)	Moderately dense weed growth		
(c)	Poor weed growth		
(ii)	Cutting/uprooting of weeds in an area located within one (1) meter distance from the seedlings planted in the plantation area having:		
(a)	Very dense weed growth		
(b)	Moderately dense weed growth		
(c)	Poor weed growth		
71	Re-digging of a pit for vacancy filing/ replacement of plant who have died:		
(i)	Manual re-digging of cubical pits		
(a)	30 cm x 30 cm x 30 cm		
(b)	30 cm x 30 cm x 45 cm		
(c)	30 cm x 30 cm x 60 cm		
(d)	45 cm x 45 x cm x 45 cm		
(e)	45 cm x 45 cm x 60 cm		
(f)	45 cm x 45 cm x 75 cm		
(g)	60 cm x 60 cm x 60 cm		
(h)	60 cm x 60 cm x 75 cm		
(i)	60 cm x 60 cm x 90 cm		
(j)	75 cm x 75 cm x 75 cm		
(k)	75 cm x 75 cm x 90 cm		
(l)	90 cm x 90 cm x 90 cm		
(ii)	Manual Re-digging a cylindrical pit (diameter x depth)		
(a)	30 cm x 30 cm		

(b)	30 cm x 45 cm		
(c)	30 cm x 60 cm		
(d)	45 cm x 45 cm		
(e)	45 cm x 60 cm		
(f)	45 cm x 75 cm		
(g)	60 cm x 60 cm		
(h)	60 cm x 75 cm		
(i)	60 cm x 90 cm		
(j)	75 cm x 75 cm		
(k)	75 cm x 90 cm		
(l)	90 cm x 90 cm		
(iii)	Re-digging of a cylindrical pit by a tractor mounted auger (diameter x depth)		
(a)	30 cm x 30 cm		
(b)	30 cm x 45 cm		
(c)	30 cm x 60 cm		
(d)	45 cm x 45 cm		
(e)	45 cm x 60 cm		
(f)	45 cm x 75 cm		
(g)	60 cm x 60 cm		
(h)	60 cm x 75 cm		
(i)	60 cm x 90 cm		
(j)	75 cm x 75 cm		
(k)	75 cm x 90 cm		
(l)	90 cm x 90 cm		
72	Provision and fixing of a tree guard excluding the cost of materials:		
(i)	Untreated bamboo tree guard		
(a)	120 cm high -30 cm dia.		
(b)	120 cm high – 45 cm dia.		
(ii)	Treated bamboo tree guard		
(a)	120 cm high -30 cm dia.		
(b)	120 cm high – 45 cm dia.		
(iii)	MS Mesh- MS Flat – Ms Angle Iron Tree Guard		
(a)	120 cm high -30 cm dia.		
(b)	120 cm high – 45 cm dia.		
73	Watering of plants with 30 litres of water per plant per watering by		
(i)	A Tanker fitted with PVC Pipe		
(ii)	Head load involving manual carriage of water from the source		
(a)	up to 50 meters		
(b)	50 meters to 100 meters		
(c)	100 meters to 150 meters		
(d)	150 meters to 200 meters		

(e)	250 meters to 300 meters		
(f)	300 meters to 350 meters		
(g)	350 meters to 400 meters		
74	Singling by removal of additional seedlings where more than one directly sown seeds have germinated and grown into seedlings		
75	Identification and marking on the ground location of 3 meters wide fire lines		
76	Creation of new fire line by removal/uprooting of all existing plants and removal/sweeping of litter		
(i)	in areas having poor/sparse undergrowth of shrubs and herbs		
(ii)	in areas having moderate undergrowth of shrubs and herbs		
(iii)	in areas having high undergrowth of shrubs and herbs		
(iv)	in areas having very high undergrowth of shrubs and herbs		
77	Cleaning of existing fire line by freshly grown herbs, shrubs and removal and sweeping of litter accumulated on the fire line		
(i)	in areas having poor regeneration of shrubs and herbs		
(ii)	in areas having moderate regeneration of shrubs and herbs		
(iii)	in areas having high regeneration of shrubs and herbs		
(iv)	in areas having very high regeneration of shrubs and herbs		

PART-III: SPECIFICATIONS, DRAWINGS, PICTORIAL ILLUSTRATIONS AND TESTING PROTOCOLS

Part-IV: MODEL ESTIMATES FOR DIFFERENT TYPES OF NURSERIES

Model NNRT: Naked Root Plants in Temporary Nursery

Model NNRP: Naked Root Plants in Permanent Nursery

Model NRST: Root Shoot Cuttings in Temporary Nursery

Model NRSP: Root Shoot Cuttings in Permanent Nursery

Model NPBT: Polybag Plants in Temporary Nursery

Model NPBP: Polybag Plants in Permanent Nursery

Model NRTT: Root Trainer Plants in Temporary Nursery

Model NRTP: Root Trainer Plants in Permanent Nursery

Model NRCT: Rooted Cuttings in Temporary Nursery

Model NRCP: Rooted Cuttings in Permanent Nursery

Model NBCT: Rooted Bamboo Culm Cuttings in Temporary Nursery

Model NBCP: Rooted Bamboo Culm Cuttings in Permanent Nursery

Model NBBT: Rooted Bamboo Branch Cuttings in Temporary Nursery

Model NBBP: Rooted Bamboo Branch Cuttings in Permanent Nursery

PART-V: MODEL ESTIMATES FOR AFFORESTATION AND RESTOCKING IN DIFFERENT AFFORESTATION ZONES

Model ACBA:	Afforestation in Completely Blank Areas
Model AMRA:	Afforestation of Mining Affected and Other Refractory Areas
Model AROP:	Restocking of Open Forest having Adequate Seed, Root and Young Regenerating Stock
Model AROB:	Restocking of Open Forest with Deficient Seed, Root and Young Regenerating Stock
Model ARDD:	Restocking of Dense Forest Showing Signs of Degradation
Model ARSP:	Raising of Road Side Plantations
Model APDS:	Plantation of dwarf Species
Model DPNS:	Dense Plantation of Native Species (Miyawaki Model)

Cost-Estimates for Preparation of Detailed Schedule of Rates for Afforestation Works

Sl. No.	Items of Work	Unit	Rate (Rs. per unit)	First Year		Second Year		Total	
				Qty.	Amt. (Rs. in lakh)	Qty.	Amt. (Rs. in lakh)	Qty.	Amt. (Rs. in lakh)
1	Procurement of equipment, tools and machineries								
1.1	Four Wheel Drive Tractor of Farmtrac, Sonalika or any other reputed make	No.	10,00,000	1.00	10.000	-	-	1.00	10.000
1.2	Tractor operated Augur	No.	1,20,000	2.00	2.400	-	-	2.00	2.400
1.3	Extra augur bits of different sizes								
1.3.1	30 cm dia	No.	18,000	4.00	0.720	-	-	4.00	0.720
1.3.2	45 cm dia	No.	25,000	4.00	1.000	-	-	4.00	1.000
1.3.3	60 cm dia	No.	30,000	4.00	1.200	-	-	4.00	1.200
1.3.4	75 cm dia	No.	38,000	4.00	1.520	-	-	4.00	1.520
1.3.5	90 cm dia	No.	45,000	4.00	1.800	-	-	4.00	1.800
1.4	Procurement of potting media mixture	No.	1,20,000	1.00	1.200	-	-	1.00	1.200
1.5	Sets of pit digging tools each consisting of a spade, pick-axe and shovel	Number of sets	1,000	100.00	1.000	-	-	100.00	1.000
1.6	Measuring Tape (100 ft)	No.	500	8.00	0.040	-	-	8.00	0.040
1.7	Nylon rope (100 meters long)	No.	1,000	40.00	0.400	-	-	40.00	0.400
1.8	Sets of nursery tools, each consisting of a spade, a pick axe, a dao, a watering cans, a knapsack spray machine.	No.	5,000	20.00	1.000	-	-	20.00	1.000
1.9	30 meter long 1 inch dia. plastic pipe for watering of plants	Nos.	1,500	8.00	0.120	-	-	8.00	0.120

Sl. No.	Items of Work	Unit	Rate (Rs. per unit)	First Year		Second Year		Total	
				Qty.	Amt. (Rs. in lakh)	Qty.	Amt. (Rs. in lakh)	Qty.	Amt. (Rs. in lakh)
1.10	Electronic weighing scale	No.	20,000	4.00	0.800	-	-	4.00	0.800
1.11	Pit Measurement Gauge	No.	500	200.00	1.000	-	-	200.00	1.000
1.12	Procument of video camera	No.	25,000	4.00	1.000	-	-	4.00	1.000
1.13	Other miscellaneous equipment, tools and machineries			Lump-sum	2.000	-	-	Lump-sum	2.000
2	Procurement of consumables						-	-	0.000
2.1	MS Angle Iron	Kg	75.00	1,000.00	0.750	-	-	1,000.00	0.750
2.2	Cement	Bags	400.00	250.00	1.000	-	-	250.00	1.000
2.3	Stone Aggregates	Lump-Sum			1.000	-	-	Lump-sum	1.000
2.4	Barbed wire	Kg	90.00	1,500.00	1.350	-	-	1,500.00	1.350
2.5	MS Tie Wire	Kg	90.00	100.00	0.090	-	-	100.00	0.090
2.6	Agronet	Lump-sum		Lump-sum	5.000	-	-	Lump-sum	5.000
2.7	Seeds	Lump-sum		Lump-sum	2.000	-	-	Lump-sum	2.000
2.8	Polythene Bag	Lump-sum		Lump-sum	4.000	-	-	Lump-sum	4.000
2.9	Root Trainer	Lump-sum		Lump-sum	4.000	-	-	Lump-sum	4.000
2.10	Wooden Pole	Lump-sum		Lump-sum	4.000	-	-	Lump-sum	4.000
2.11	Bamboo Pole	Lump-sum		Lump-sum	3.000		-	Lump-sum	3.000
2.12	Ordinary Soil	Lump-sum		Lump-sum	0.250		-	Lump-sum	0.250
2.13	Sand	Lump-sum		Lump-sum	1.000		-	Lump-sum	1.000
2.14	Farmyard Manure	Lump-sum		Lump-sum	3.000		-	Lump-sum	3.000
2.15	Pesticide	Lump-sum		Lump-sum	1.000		-	Lump-sum	1.000
2.16	Plant Growth Promoting Rhizobactirium	Lump-sum		Lump-sum	0.750	Lump-sum	0.250	Lump-sum	1.000

Sl. No.	Items of Work	Unit	Rate (Rs. per unit)	First Year		Second Year		Total	
				Qty.	Amt. (Rs. in lakh)	Qty.	Amt. (Rs. in lakh)	Qty.	Amt. (Rs. in lakh)
2.17	PoL for Tractor	Lump-sum		Lump-sum	1.500	Lump-sum	1.500	Lump-sum	3.000
2.18	Other Miscellaneous items	Lump-sum		Lump-sum	3.000	Lump-sum	1.000	Lump-sum	4.000
3	Manpower						-		
3.1	Field Enumerators cum Data Entry Operators to take field observations (8 persons for 21 months)	Person Months	25,000.00	72.00	18.000	96.00	24.000	168.00	42.000
3.2	Unskilled workers to undertake the field work (On an average five persons for each Study Team for 15 months)	Person days	395.00	4,500.00	17.775	4,500.00	17.775	9,000.00	35.550
4	Travel Expenses	Lump-Sum		Lump-sum	7.500	7.50	7.500	Lump-sum	15.000
5	Stakeholder consultations						-		0.000
5.1	Inception workshop to finalize draft format and methodology of the SoR	No.	4,00,000	1.00	4.000		-	1.00	4.000
5.2	Pre Finalization Workshop to Consider Draft SoR	No.	5,00,000	1.00			5.000	1.00	5.000
6	Printing of 500 copies of SoR	Lump-Sum				Lump-sum	5.000	Lump-sum	5.000
7	Other miscellaneous and unforeseen expenses including expenses on account of increase in wage rates	Lump-Sum		Lump-sum	4.835		5.975	Lump-sum	10.810
Total					**116.000**		**68.000**		**184.000**

(Rupees one crore eighty four lakh only)

Annexure-III

Quarterly Time Schedule for Preparation of Schedule of Rates for Afforestation Works

Sl. No.	Activity	Q 1	Q 2	Q 3	Q 4	Q 5	Q6	Q7	Q 8
1	Hosting a copy of draft format and contents of the proposed SoR as given in **Annexure-I** on website of Forest and Environment Department to invite comments and suggestions from interested stakeholders								
2	Sending a copy of draft format and contents of the proposed SoR as given in Annexure-I to participants to Inception Workshop								
3	Organisation of inception workshop to finalise format and contents of proposed SoR								
4	Preparation of the final Format and contents of proposed SoR by incorporating comments and suggestions received from participants of Inception Workshop and other stakeholders								
5	Procurement of equipment, tools and machineries								
6	Procurement of consumables								
7	Recruitment of Field Enumerator cum Data Entry Operators								
8	Collection and compilation of information on activities and operations included in the draft SoR, including the latest tool, equipments, plants and machineries which may be used to undertake these activities								

Sl. No.	Activity	Q 1	Q 2	Q 3	Q 4	Q 5	Q6	Q7	Q 8
9	Critical examination and standardization of each operation to be included in the proposed SoR by eliminating avoidable and wasteful activities and avoidable and wasteful movements in each unavoidable activity in each operation								
10	Preparation of written description along with drawings, specifications and pictorial description (wherever required) of operations standardized through method study included in the SoR are thereof will be prepared.								
11	Development of protocols to test and ascertain that the materials and products required for afforestation confirm to the prescribed standards								
12	Identification of nurseries for measurement of standardised nursery operations								
13	Identification of existing afforestation sites in various afforestation zones for measurement of standardised afforestation operations								
14	Identification of fresh afforestation sites for measurement of standardised afforestation operations in the afforestation zones where no such existing site is located								

Sl. No.	Activity	Q 1	Q 2	Q 3	Q 4	Q 5	Q6	Q7	Q 8
15	Measurement of materials, services and man-power required for various standardised nursery and afforestation operations								
16	Market survey to ascertain rates of various materials sand servicers required for standardised nursery and afforestation operations								
16	Analysis of data collected during measurement of materials, services and man-power required and market survey to ascertain rates of various materials sand servicers required for standardised nursery and afforestation operations to estimate/assess the cost of execution of each standardised nursery and afforestation operations								
17	Observation of nurseries of various types to ascertain the requirement and frequency of various standardised nursery operations								
18	Observation of afforestation sites located in various afforestation zones to ascertain requirement and frequency of various standardised afforestation operations								
19	Preparation of model estimates for nurseries of different types								
20	Preparation of model estimates for afforestation and restocking in different afforestation zones								

Sl. No.	Activity	Q 1	Q 2	Q 3	Q 4	Q 5	Q6	Q7	Q 8
21	Preparation of draft SoR based on information collected during the Study								
22	Circulation of draft SoR to participants to the Pre-Finalisation Workshop								
23	Hosting a copy of the draft SoR on website of Forests and Environment Department to seek comments from stakeholders								
24	Organization of a Pre-Finalization Workshop to examine the draft SoR and to suggest appropriate amendment(s) therein								
25	Preparation of Final Draft of SoR by incorporating comments and suggestions received from participants of Pre-Finalization Workshop and other stakeholders								
26	Submission of the Final Draft of the SoR to the State Government for consideration and approval								
27	Approval of the Final Draft of the SoR by the State Government with such amendment(s), as it may consider necessary								
28	Preparation of Approved SoR by incorporating amendment(s), if any made by the Government								
29	Printing of 500 hard copies of the Approved SoR								
30	Distribution of copies of Approved SoR to various stakeholders								

Sl. No.	Activity	Q 1	Q 2	Q 3	Q 4	Q 5	Q6	Q7	Q 8
31	Hosting a copy of the Approved SoR on website of the Forest and Environment Department for public reference								

*****