Model Estimate for creation of 5.0 ha of Block Plantation
Northern Zone: Uttar Dinajpur, Dakshin Dinajpur, Jalpaiguri, Coochbehar & Darjeeling plains.
Spacing: 2.0 m x2.0 m
No. of seedlings / ha : 2500 Nos.
Total area to be planted: 5.0 ha
Total No. of seedlings to be planted: 12500 Nos.
Size of the pit: (0.45 m_X 0.45 mX.30 m
Wages of Labour : Rs 70/- per DL.
Species to be Planted: *Chukrasia tabularis* (Chikrasi) *Albizzia lebbeck* (Kalo siris) *Dalbergia Sissoo* (Sissoo), *Terminalia Arjuna* (Arjun), *Emblica officinalis* (Amlaki) , *Melia azadarach* (Neem), *Gmelina arborea* (Gamar), *Ailanthus grandis (Gakul)*, *Casia simea* (Minjiri), *Anthocephalus cadamba* (Kadam) *Michelia champaca* (Champ) & *Swietenia macrophylla* (Mehagani) other species if any according to the suitability & adoptability of the locality.

Sl. No.	Nature of works	Lab our required/ ha of plantation (Man days for 2500 seedlings)	Lab our required /100 seedlings (In man days)	Total cost of Lab our for 100 seedlings @ 70.00/ m.d	Cost of labour for12500 seedlings i.e. 5.0ha
1	Survey & demarcation & Plantation of map.	1	0.04	2.80	350.00
2	Initial Cleaning of plantation area by cutting jungle & bushes as where necessary	25 **400 m2 / m d**	1.00	70.00	8750.00
3	Alignment of pits	3	0.12	8.40	1050.00
4	Digging planting pits of size (0.45 x .45 m x.30 m)	20 **125 pits/ m d**	0.80	56.00	7000.00
5	Filling up of planting pits with application fertilizer with mother soil (basal dose 25 gram)	17 **145 pits/ m d**	0.68	47.60	5960.00
6	Live fencing by sowing seeds of Babla/ Khair/Boga medulla/cuttings of Ipomea	12	0.48	33.60	4200.00
7	Planting potted seedlings In pits including carriage of seedlings up to the site.	20 **125 plants/ m d**	0.80	56.00	7000.00

Sl. No.	Nature of works	Lab our required/ha of plantation (Man days for 2500 seedlings)	Lab our required /100 seedlings (In man days)	Total cost of Lab our for 100 seedlings @ 70.00/ m.d	Cost of labour for 12500 seedlings i.e. 5.0ha
8	1st time weeding cleaning & mulching including application of fertilizer (25 gram / plant)	16 **156 pits/ m d**	0.64	44.80	5600.00
9	2nd time mulching including weeding cleaning properly.	14 **178 pits / m d**	0.56	39.30	4900.00
10	3rd time mulching including weeding cleaning properly.	12 **208 pits/ m d**	0.48	33.60	4200.00
11	Filling vacancies with potted seedlings from nursery to plantation site.	2	0.08	5.60	700.00
12	Application of insecticides including carriage of water & mixing	3	0.12	8.40	1050.00
13	Watching over plantation ** for 3 months from August to October Over 30 days @ 1 labor/ month x 3 months	90	3.60	252.00	31500.00
	Total =	235 m d	**9.40**	**658.00**	**82250.00**

*Any other timber species can be planted according to the suitability & adoptability of the locality.

** Beneficiary committee is to be formed before taking up the plantation in the proposed area & after 3 months the plantation is to be handed over to the beneficiary committee.

Cost of creation of 1.0 ha of plantation = Rs. 82250.00/5= Rs 16450.00

Material Component:

a) Cost of fertilizer @ 40 grams per plant, the total fertilizer required over 1600 seedlings = 64 Kg.

b) Cost of fertilizer @ Rs 10.00 per Kg= 80 Kg x10.00 = Rs. 640.00

c) Cost of insecticides = Rs. 400.00

1040.00

d) Cost of seeds/ collection of cuttings of Ipomea = Rs 400.00

Wage Component:

a) Number of Man days = 228

b) Cash Component = 228 X Rs. 70.00 = Rs. **16450.00**

c)Material Component = **Rs 1440.00**

Total =**Rs. 17890.00**

Cost of seedlings (2500 Nos.+ 10% insurance)

= 2750 Nos @ Rs. 1.50 / seedling = Rs. 4125.00

Grand Total = 22015.00

For creation of successful plantation the following are guidelines, which should be strictly followed.

1. Planning for site selection & submission of initial proposal- up to February
2. Pit digging etc. – December to March
3. Pit Filling- May, June after 2-3 showers.
4. Planting – At onset Monsoon & by 31st July at the latest
5. 1st Mulching- after 21 days of Planting.
6. 2nd Mulching—after 45 days of planting
7. 3rd Mulching – after 65 days of planting
8. Digging well if required – March to June

Precautions before application of Inorganic fertilizer/ Bio fertilizer.

1. Note that there is sufficient moisture in the field before applying fertilizer.
2. Avoid hot hours while application of fertilizer.
3. Choose fair weather day for application of fertilizer.
4. Place fertilizer at least 8-10 cm below the soil surface.
5. Do not mix bio fertilizer with inorganic fertilizer.
6. Do not keep bio fertilizer directly in the sun keep it in cool place

Abstract :

1. Creation of Plantation = Rs 16450.00

2. Material Component = Rs. 1440.00

3. Cost seedlings (including 10% insurance) i.e. 2500 seedlings/ ha+ 250 seedlings = 2750 seedling @ Rs. 1.5 / seedling =Rs. 4125.00

Total = Rs. 22015.00

05/09/2007

Technical Officer,

Panchyat & Rural Development Depatment

MEMO NO. – 7461(19)/RD/NREGA/186-09/06
Date – 3rd oct, 07

Model estimate for Strip Plantation, Roadside & Canal Bank etc.

Northern Zone: Uttar Dinajpur, Dakshin Dinajpur, Jalpaiguri, Coochbehar & Darjeeling plains.

No of seedlings/ Row Km =400 (at a spacing of 2.5 m)
No of rows/ Km in each side of the road = 2
No. of seedlings required for 2 rows =400 x2 rows = 800 Nos.
No. of seedlings required for 1 Km having 2 rows in both the sides = 800Nos x 2= 1600
Species may be planted: -

1. Flowering trees = 40% [*Casia fistula*, (Sonalu), *Casia simea* (Minjiri), *Delonex regia* (Krishnachura), *Alostronia scholaris* (Chatian) *Bahaunia* species (Kanchan), *Bombax cieba* (Simul)]
2. Decorative plants = 20%[*Anthocephalus cadamba* (Kadam) , Debdaru, *Casurina equsetifolia* (Jhaw), Kushum]
3. Timber Yielding = 30 % [*Dalbergia sissoo* (Sissoo), *Gmelina arborea (Gamar) Swietenia macrophylla* (Mehagani) *Albizzia lebbeck* (Siris) , *Tectona grandis* (Segun) , *Ailanthus grandis* (Gakul) , Chukrasia tabularis (Chikrasi) &(Neem)
4. Fruit yielding = 10% [***Syzygium cumini*** (jam), ***Ziziphus jujuba*** (Kul) , ***Mangifera indica*** (Mango)

Sl No.	Particulars of work	**Lab our required/ha of plantation (Man days for 1600 seedlings)**	**Lab our required /100 seedlings (In man days)**	**Total cost of Lab our for 100 seedlings @ 70.00/ m.d**	**Cost of labour for 8000 seedlings i.e. 5.0ha**
1	Survey & demarcation	1	0.0625	4.375	350.00
2	Initial Cleaning planting site by cutting bushes, weeds & removing the same	16 **625 m2 / m d**	1.125	78.75	6300.00
3	Digging planting pits (0.45x 0.45x 0.30 m (2.5 m apart)	25 **64 pits/ m d**	1.5625	109.375	8750.00
4	Filling planting pits with basal dose application 20 days before planting (50 gram per pit)	16 **100 pits/ m d**	1.00	70.00	5600.00
5	Planting potted seedlings including carriage from nursery	20 **80 plants/ m d**	1.25	87.50	7000.00
7	Live fencing by sowing seeds of Babla/ Khair/Boga medulla/cuttings of Ipomea	12	0.75	52.50	4200.00
8	Filling up vacancies by planting potted seedlings	4	0.160	11.20	896.00

Sl No.	Particulars of work	**Lab our required/ha of plantation (Man days for 1600 seedlings)**	**Lab our required /100 seedlings (In man days)**	**Total cost of Lab our for 100 seedlings @ 70.00/ m.d**	**Cost of labour for 8000 seedlings i.e. 5.0ha**
9	1st cleaning, mulching with fertilizer	16 **100 pits/ md**	1.00	70.00	5600.00
10	2nd cleaning, mulching weeding etc.	14 **114 pits/ m d**	0.875	61.25	4900.00
11	3rd cleaning, mulching weeding etc.	12 **133 pits / m d**	0.7500	52.50	4200.00
12	Biological protection of plantation by engaging Mazdoor from August to October 3 months @ 1 labor/month **	90	5.625	393.75	31500.00
	Total labour cost =	**226**	**14.125**	**988.75**	**79100.00**
	Material component				
13	Cost of fertilizer N: P: K (10:26:26) @ 40 grams/pit	64 kg			3200.00
14	Cost of insecticides	LS			2000.00
15	Cost of raising seedling (1600 + 10%)= 1760 x 1.5/- seedling x 5 ha				13200.00
16	Cost of seeds/ collection of Ipomea cuttings (5 ha)				2000.00
	Total=				**99500.00**

*Any other timber species can be planted according to the suitability & adoptability of the locality.

** Beneficiary committee is to be formed before taking up the plantation in the proposed area & after three months the plantation is to be handed over to the beneficiary committee.

Cost of creation of **1.0 ha** of plantation: **Rs 99500/ 5 = 19900.00** including cost of material & cost seedlings.

DETAILS OF SEED

Sl. No.	Name of seed	No. of seed per kg.(Approx)	Germination percentage	Time of seed collection
1.	Sonajhuri (Acacia auriculiformis)	38700	50	January - February
2.	Jarul (Lagerstroemia flosreginae)	116000	90	- do -
3.	Arjun (Terminalia arjuna)	175	80	- do -
4.	Segun (Tectona grandis)	1400	60	- do -
5.	Chikrashi (Chukrasia tabularis)	53000	80	- do -
6.	Panisaj (Terminalia myrioarpa)	310000	20	- do -
7.	Black Siris (Albizzia lebbeck)	8000	60	January - March
8.	Harituki (Terminalia chebula)	200	60	- do -
9.	Sonalu (Casia fistula)	6000	50	March - April
10.	Gokul (Ailanthus grandis)	900	60	- do -
11.	Babla (Acacia nilotica)	9150	75	April - May
12.	Minjiri (Casia siamea)	2300	90	- do -
13.	Subabul (Leucenia leucocefala)	30000	50	- do -
14.	Gamar (Gmelina arborea)	1750	80	May - June
15.	Sal (Shorea robusta)	650	60	- do -
16.	Neem (Melia azadirachta)	1750	80	July - August
17.	Kadam (Anthocephalus cadamba)	900000	60	August - Sept.
18.	Champ (Michelia champaca)	10000	70	- do -
19.	Amlaki (Emblica officinalis)	60000	35	Oct.- Feb.
20.	Bahera (Terminalia bellerica)	400	50	Nov. - Dec.
21.	Mehagini (Swetenia mehagonai)	2275	90	Dec. - Jan.

PREPARATION OF NURSERY MONTHWISE

1.	Kartick (Oct.-Nov.)	Selection of nursery site, fencing, water source
2.	Aghrahayan (Nov. - Dec.)	Cleaning of site & preparation of mother & tube beds.
3.	Poush (Dec. - Jan.)	Selection of SHG, if any; preparation of drainage system at nursery.
4.	Magh (Jan.-Feb.)	Filling up poly pots with cow dung (dust & screened): good earth (1 : 3)
5.	Falgun (Feb. - March)	Spreading / sowing seeds in mother / tube beds, watering regularly.
6.	Chaitra (March - April)	Pricking out seedling from mother bed to tube bed, watering, & Shed
7.	Baishakh (Apr.- May.)	Weeding/Cleaning beds, spraying of insecticides, digging planting pits.
8.	Jaishtha (May - June)	Sorting-shifting seedlings, infilling vacancies, filling up planting pits.
9.	Ashar (June - July)	Sorting-shifting and Planting seedlings in filled up planting pits.
10.	Sraban (July - Aug.)	Mulching & application of fertilizer to planted seedlings, infilling va cancies, if any, give protection from grazing.
11.	Bhadra (Aug. - Sept.)	Mulching & application of fertilizer to planted seedlings, 2nd. Time.
12.	Ashwin (Sept. - Oct.)	Necessary arrangement for watch & ward to planted seedlings

PREPARATION / TREATMENT OF SEEDS

1.	Anthocephalus cadamba	Kadam	Soak the seeds (after rubbing with sand paper) in a solution of water and Potassium Nitrate (0.5%) for 12 hours.
2.	Acacia nilotica	Babla	Soak in water for 2 days.
3.	Acacia auriculiformis	Akashmoni	Soak in water for 24-36 hours.
4.	Albizzia lebbeck	Siris	Soak in hot water for few minutes then in cold water for 24 hours.
5.	Cassia fistula	Sonalu	-Do -
6.	Dalbergia sissoo	Sissoo	Soak in water for 1 day.
7.	Emblica officinalis	Amlaki	Soak in a paste of cow dung for 2-3 days then take out seeds for sowing in tube beds.
8.	Gmelina arborea	Gamar	Soak in water for 1 day.
9.	Leucaena leucocephala	Subabul	Soak in hot water for 2-3 minutes then soak in water for 48 hours.
10.	Lagerstroemia flosreginae	Jarul	Soak in water for 1 day.
11.	Melia azadirachta	Neem	Soak in water for 2-3 days.
12.	Swetenia mehagonai	Mehagini	Soak in water for 1 day.
13.	Terminalia arjuna	Arjun	Soak in a paste of cow dung for 2-3 days
14.	Terminalia bellerica	Bahera	-Do -
15.	Terminalia chebula	Harituki	-Do -
16.	Tectona grandis	Teak	Soak in water for 1 day and bake in sunlight for next day continue the process for 10 - 15 days.
17.	Casia siamea	Minjiri	Soak in water for 1 day.
18.	Michelia champaca	Chaap	Soak in water doe 12 hours.
19.	Ailanthis grandis	Gokul	Soak in water for 1 day.