SCHEME FOR RAISING OF COMPENSATORY AFFORESTATION OVER 5 Ha. OF DEGRADED FOREST LAND

IDENTIFIED IN MANKADAKHESA RESERVED FOREST IN MANAMUNDA RANGE OF BOUDH FOREST DIVISION

IN LIEU OF

DIVERSION OF 6.098 Ha. OF FOREST LAND FOR IMPROVEMENT OF ROAD FROM KHARABHUIN PWD ROAD CHHAK TO KHANDAHATA P.S ROAD VIA-SANKULEI, GHANTABANIA, PANASAPUTULI ROAD

Land Suitability Certificate

6.11 ha. of non-forest land (Patita kissam) identified in Kuchpaju village of Adenigarh R.I Circle bearing Khata No. 20 & Plot. No. 59 of Harabhanga Tahasil of Boudh Dist. The canopy density of the said land is measured more than 0.4 as per Decision Support System (VDF 2 Ha. and MDF 4 Ha.). Thus, 5.00 Ha. of degraded forest land has been identified in Mankadakhesa R.F. under Manamunda Range in Boudh Forest Division for Additional Compensatory Afforestation to accommodate required seedlings and the said land is classified as Non-Forest (NF) as per canopy density found in Decision Support System (DSS) developed by FSI.

This is to certify that 5.00 Ha. of degraded forest land identified in Mankadakhesa R.F. under Manamunda Range in Boudh Forest Division for Additional Compensatory Afforestation in lieu of diversion of 6.098 Ha. of forest land for Improvement of Road from Kharabhuin PWD road chhak to Kahandahata P.S Road via-Sankulei, Ghantabania, Panasaputuli road has been found suitable for plantation from management point of view. No plantation has been carried out in the aforesaid area during the last 10 years.

13/X/2022

Divisional Forest Officer
Boudh Division

COMPENSATORY AFFORESTATION SCHEME OVER 5.00 HA OF DEGRADED FOREST LAND IDENTIFIED IN MANKADAKHESA RESERVED FOREST UNDER MANAMUNDA RANGE IN BOUDH DISTRICT IN LIEU OF DIVERSION OF 6.098 Ha. FOR IMPROVEMENT OF ROAD FROM KHARABHUIN PWD ROAD CHHAK TO KAHANDAHATA P.S ROAD VIA-SANKULEI, GHANTABANIA, PANASAPUTULI ROAD

INTRODUCTION

The Road connecting Kharbhuin PWD Chhak to Khandahata road leading to Harbhanga block Head Qr. & District head Qr. At Boudh connecting with 4 nos. Gram Panchayat (GP) Head Qr. Most of people depend upon this road for their day to day Marketing, Education & Health services at Boudh.

LAND INVOLVED

This project extents over an area of 6.098Ha. forest land for Improvement of Road from Kharabhuin PWD road chhak to Kahandahata P.S Road via-Sankulei, Ghantabania, Panasaputuli road. Hence, this 6.098 Ha. of forest land has been proposed for Diversion under Forest (Conservation) Act, 1980.

ALLOCATION OF COMPENSATORY AFFORESTATION LAND

6.11 ha. of non-forest land (Patita kissam) has been identified in Kuchpaju village of Adenigarh R.I Circle bearing Khata No. 20 & Plot. No. 59 under Harabhanga Tahasil of Boudh Dist. On checking with the DSS system the xanopy density of the said area comes to be more than 0.4 (A copy of the DSS Analysis report is enclosed in DP) and found unsuitable for further afforestation activities. However, as this is a non forest (Patita kissam) land it is selected as a CA land and for fulfilling tree by tree compensation additional area of 5 Ha. of degraded forest land has been identified in Mankadakhesa RF of Manamunda Range of this Division. The said land is classified as Non-Forest (NF) as per canopy density found in Decision Support System (DSS) developed by FSI and has been found suitable for plantation from management point of view. A copy of the DSS Analysis report is enclosed in DP. Moreover, in 8000 nos. of seedlings will be raised against the minimum requirement of 6098 nos. of seedlings.

DETAILS OF SELECTION OF SITE

Description of Area: The identified Degraded Forest area is under the possession of Forest Department and classified as Reserve Forest.

Soil type: Laterite. Some patches support shallow soil, mixed sand and exposed rock within the site.

Topography:

Hilly/Undulating/Plain: The topographical configuration of the identified site is plain as well as undulating.

Slope: The site selected for Compensatory Afforestation have gentle slope.

Whether the area is bearing any root stock of vegetation: The site selected for Compensatory Afforestation has very little root stock and vegetation.

Temperature: The area experiences cold weather between November – January when the temperature drops to less than 13° C. the temperature rises steadily from January onwards reaching 32° C to 45° C in summer (May). So, it is under typically tropical condition with limited rainy days.

Climate & Rainfall: The area has tropical climate with monsoon rains from June to September and occasional rains during the autumn. This area also experiences occasional gutsy wind to heavy thunderstorms during summer season (April to June). Monsoon breaks out in early to middle of June and continues up to September. The average annual rainfall is about 1600 mm under the influence of south west monsoon. On average, there are about 100 rainy days. The humidity is maximum in the month of July to August (90%) and minimum in February (36%).

Plantation Model

According to edaphic, climatic and existing vegetation a proposal for raising block plantation @ 1600 Plants per Ha. has been proposed.

Special Objects of Compensatory Afforestation Scheme are as follows:

- To address the degradation by reducing the biotic interference to barest minimum and hasten the resilience process.
- To facilitate natural regeneration and ensure their establishment.
- To enhance the soil and moisture regime of the area by adopting appropriate soil moisture conservation (SMC) measures.
- To improve the bio-diversity of these blocks.
- To cater the basic needs of the local villagers with respect to food, fodder, fuel wood and small timber as obtained from different silvicultural operation in timeline.

Item of works to be taken up:

To achieve the above objectives, the following items of works are mainly prescribed to be taken up

- Survey & Demarcation of Boundary.
- Alignment and stacking
- Fencing.
- Site Clearance, Pitting & Planting
- Watering
- Soil & Moisture Conservation Measures
- Protection of Plantation
- People's Participation
- Monitoring & Evaluation Mechanism

Survey & Demarcation of Boundary: The area has been demarcated through pillars posting along the periphery at visible distance (Geo-referenced map is enclosed in DP).

Fencing: The area is full of small rodents and ungulates and the saplings of the plantation would be susceptible to damage by root digging and hence it is needed to provide wire mesh fence.

Site Clearance & Planting: Plantation over 5.00 Ha. shall be taken up with planting model of AR 1600 plants/Ha. All the weeds are to be cleaned before plantation. All post planting measures like casualty replacement, soil working, manuring, watering, fire protection etc. will be undertaken.

Species: Indigenous species are preferred plantation. The following indigenous species suitable for this site are selected for planting.

Name of species	Common name	Name of species	Common name
Acacia catechu	Khaira	*Emblica oficinalis*	Amla
Aegle marmelos	Bela	*Ficus Auriculata*	Dimiri
Annona squamosa	Atta	*Ficus benghalensis*	Bara
Mangifera Indica	Mango	*Limonia Acidissima*	Kaitha
Artocarpus heterophyllous	Panasa	*Madhuca indica*	Mahul
Azadirachta indica	Neem	*Dendrocalamus strictus*	Salia Bamboo
Bridelia retusa	Asana/ Garo Khasi	*Dillenia aurea*	Rai
Buchanania lanzan	Chara	*Dillenia indica*	Oau
Phyllanthus emblica	Amla	*Shorea robusta*	Sala
Cordia dichotoma	Bahala	*Spondias pinnata*	Ambada
Pterocarpus marsupium	Bija sala	*Syzygium cumini*	Jamu
Dalbergia latifolia	Rosewood	*Tamarindus indica*	Tentuli
Pterocarpus santalinus	Rakta chandan	*Terminalia arjuna*	Arjun
Pongamia pinata	Karanja	*Ficus benghalensis*	Bara
Psidium guajava	Guava	*Ficus hispida*	Bai Dimiri
Schleichera oleosa	Kusuma	*Ficus racemosa*	Bada Dimiri
Terminalia belerica	Bahada	*Ficus religiosa*	Pipal
Terminalia tomentosa	Asana	*Gardenia gummifera*	Kurudu
Terminalia chebula	Harida	*Ziziphus marutiana*	Barakoli

Soil and Moisture Conservation Works: Since the area is plain as well as undulating, half-moon trenches on up-hill side of plants should be constructed. In the slopes, staggered trenches of 2m x 50Cm x 50Cm should be dug in between the planting line along the contours, and the excavated earth be piled on the downhill side to form a bond. The staggered contour trenches will act as place of deposit of eroded soil and check soil erosion.

Protection of the plantation: Iron Mesh & Chain Link Wire along the periphery of the plantation will be provided. Few watchers will also be engaged for protection of the plantation. Assistance of V.S.S is necessary for better protection of plantation.

Watering: As this area selected is completely arid and natural vegetation indicates that without proper watering it would be too difficult to survive the saplings planted. Hence, as per the One Time Cost Norm for Compensatory Afforestation as approved by PCCF, Odisha Bhubaneswar vide his O.O No. 1109 dt. 08.11.2021 watering provision has been prescribed.

People's Participation: Consequent upon the change in the approach of the Forest Department people's participation has been an inherent part in the protection and management of the forest and the local VSS members would be involved in the execution of the scheme.

Monitoring & Evaluation Mechanism: The scheme shall be executed by the Divisional Forest Officer, Boudh Division with his staff and all prescribed records are to be maintained. In addition to internal monitoring by Forest Officers of State Government, a Monitoring Committee under item no. 3.4 (iii) of consolidated guidelines under F.C Act 1980 issued by MoEF, shall be established with a nominee of the Central Government to oversee that the stipulations, including those pertaining to Compensatory Afforestation are carried out.

13/X/2022

Divisional Forest Officer
Boudh Division

Financial Outlay for raising of **Compensatory Afforestation Scheme** over an area of **5.00 Ha. in AR Plantation mode @ 1600 plants/ Ha.** of degraded forest land **in Mankadakhesa RF of Manamunda Range of Boudh Forest Division** to accommodate **8000 nos. of plants.** The said scheme has been prepared as per **One Time Cost Norm for Compensatory Afforestation as approved by PCCF, Odisha Bhubaneswar vide his O.O No. 1109 dt. 08.11.2021 with commencement of plantation from 2023-24.**

Sl. No.	Description	Amount (Rs.)
1.	**AR (Block) Plantation @ 1600 plants** per Ha. over 5.00Ha. without fencing @ Rs. 3,41,903/- per Ha. with provision of 10 years maintenance	17,09,515.00
2.	**SMC Activities** like Staggered Trench, Percolation pit, Contour trench, Graded earthen bund, LBCD, Wire mesh LBCD, Sub surface Dyke & WHS as per the slope & site requirement @ Rs. 39,284/- per Ha. over 5.00Ha.	1,96,420.00
3.	**Watering Provision** with Diesel pump set with Bore Well (1 pump set + Bore well) @ Rs. 5,27,321/- per Ha. over 5.00Ha. (8000 nos. seedling) with 5 years maintenance	26,36,605.00
4.	**Cost of Fencing** with Angel Iron & Chain Link Wire Mesh over **1226 mtr.** @ Rs. 4,62,316/- per Ha. with 10 years maintenance	22,67,198.00
	Sub-Total	68,09,738.00
5.	15% of the total plantation cost towards EPA/Incentive to VSS & Monitoring, Evaluation	10,21,461.00
	Grand Total	78,31,199.00 Or round off to **78,31,200.00**

13/X/2022

Divisional Forest Officer
Boudh Division

CA will be raised in an arid area at the foot hill of the Mankadakhesa Reserved Forest which is susceptible to heavy biotic pressure. So, to raise successful CA, provision of watering & fencing is a *sine qua non* for which watering & fencing provision is adopted.

Countersigned

Regional Chief Conservator of Forests,
Berhampur Circle

ANNEXURE-5

BASE COST NORM FOR COMPENSATORY AFFORESTATION (BLOCK PLANTATION) @ 1600 PLANTS PER HECTARE (18 months old seedling)						
WAGE RATE Rs- 311/- PER MANDAY						
Sl. No	Items of work	Preferable Period of Execution	No of Mandays	Labour Cost (In Rs.)	Matrial Cost (In Rs.)	Total cost (In Rs.)
1	2	3	4	5	6	7
0th Year (Advance work) Pre-Planting Operation						
1	Survey, Demarcation and Pillar posting	Nov/Dec	2	622	0	622
2	Preparation of Treatment Map (Digital Map)	Nov/Dec	1	311	100	411
3	Site preparation (Cleaning & removal of debrises)	Nov/Dec	12	3732	0	3732
4	Creation of 4.00 mt wide Inspection Path	Feb/Mar	1	311	0	311
5	Alignment and stacking	Feb/Mar	2	622	0	622
6	Digging of pits (45 cm x 45 cm X 45 cm) in hard and gravelly soil	Feb/Mar	64	19904	0	19904
7	Construction of Temporary Labour Shed, Drinking water facility and First-Aid etc.	Jan/Mar	0	0	3500	3500
	Total		82	25502	3600	29102
1st Year/Planting Year						
1	Refilling of pits by altering the dug-out soil of the pits, application of Organic compounds/ CDM/ FYM & mixing the same properly.	Jun/Jul	12	3732	8000	11732
2	Transportation of 18 months old polypot seedlings in hired truck /tractor from the permanent/Mega nursery to planting site including Loading & unloading. (Average lead of 10 Rkm) & Stacking the seedling @ Rs.6/- per Seedling. (1760 nos.)	Jul/Aug	0	0	10560	10560
3	Watering the polypot seedlings at planting site	Jul/Aug	3	933	0	933
4	Conveyance of polypot seedlings on head load from the stacking site to individual dugout pits within the planting site, applying insecticide, fertilizers & planting after scooping the soil with other applied materials & pressing the soil properly around the planted seedlings.	Jul/Aug	36	11196	0	11196
5	Cost of Fertilizer & Insecticide (a)NPK/Bio-fertilizer @ 50 gms/plant as basal dose = 80kg @ Rs.30/- per kg = Rs. 2400.00 (b) Urea/Vermicompost/Mo Khata/any other fertilizer in two subsequent doses @ Rs. 1,200.00 (c) Insecticide/ Bio-pescticide @ 5 gms/plant= 8 kg @ Rs.150/- per kg = Rs. 1200.00	Jul/Aug	0	0	4800	4800

BASE COST NORM FOR COMPENSATORY AFFORESTATION (BLOCK PLANTATION) @ 1600 PLANTS PER HECTARE (18 months old seedling)						
WAGE RATE Rs- 311/- PER MANDAY						
Sl. No	Items of work	Preferable Period of Execution	No of Mandays	Labour Cost (In Rs.)	Matrial Cost (In Rs.)	Total cost (In Rs.)
1	2	3	4	5	6	7
6	Casualty Replacement @ 10% (160 nos.)	Jul/Aug	4	1244	0	1244
7	1st weeding & Manuing	Aug/Sept	15	4665		4665
8	2nd Weeding, Soil working (1mt. diametre around the plants) and Manuring	Oct/Nov	20	6220	0	6220
9	Fire line tracing (2 m. wide fire line over 400 m long) including maintenance of inspection path	Feb/Mar	3	933	0	933
10	Watch & Ward including watering as per requirement	Aug-Mar	12	3732	0	3732
	Total		**105**	**32655**	**23360**	**56015**
2nd Year Maintenance						
1	Transportation of 160 seedlings from Nursery to plantation site including loading, unloading & conveyance by Tractor @ Rs.6/- per seedlings	Jul	0	0	960	960
2	Causality replacement- 10%	Jul	4	1244	0	1244
3	Cost of Fertilizer & Insecticide- A) Cost of Insecticide/ Bio-pesticide @ 5 gms/plant = 0.8 Kg @ Rs.150/- per kg = Rs.120/- B)Urea/NPK/Bio-fertilizer/Vermicompost/Mo Khata/any other fertilizer @Rs. 4486/-	Aug/Sept	0	0	4606	4606
4	Weeding (Complete weeding), Manuring & Soil working (1mt. diametre around the plants)	Sep/Oct	20	6220	0	6220
5	Fire line tracing (2 m. wide fire line over 400 m long) including maintenance of inspection path	Feb/Mar	3	933	0	933
6	Watch & Ward including watering as per requirement	Apr-Mar	18	5598	0	5598
7	Maintenance of Temporary Labour Shed, Drinking water facility and First-Aid etc.				1000	1000
	Total		**45**	**13995**	**6566**	**20561**

BASE COST NORM FOR COMPENSATORY AFFORESTATION (BLOCK PLANTATION) @ 1600 PLANTS PER HECTARE (18 months old seedling)						
WAGE RATE Rs- 311/- PER MANDAY						
Sl. No	Items of work	Preferable Period of Execution	No of Mandays	Labour Cost (In Rs.)	Matrial Cost (In Rs.)	Total cost (In Rs.)
1	2	3	4	5	6	7
3rd Year Maintenance						
3	Cost of FertilizerUrea/NPK/Bio-fertilizer/Vermicompost/Mo Khata/any other fertilizer	Sept/Oct	0	0	4486	4486
4	Weeding, Manuring & Soil working, (1mt. diametre around the plants)	Sep/Oct	20	6220	0	6220
5	Fire line tracing (2 m. wide fire line over 400 m long) including maintenance of inspection path	Feb/Mar	3	933	0	933
6	Watch & Ward including watering as per requirement	Apr/Mar	18	5598	0	5598
7	Maintenance of Temporary Labour Shed, Drinking water facility and First-Aid etc.	Apr/Mar			1000	1000
	Total		41	12751	5486	18237
4th Year Maintenance						
1	Fire line tracing (2 m. wide fire line over 400 m long) including maintenance of inspection path	Feb/Mar	3	933	0	933
2	Watch & Ward	Apr-Mar	18	5598	0	5598
	Total		21	6531	0	6531
5th Year Maintenance						
1	Fire line tracing (2 m. wide fire line over 400 m length)	Feb/Mar	3	933.00	0	933
2	Watch & Ward	Apr/Mar	18	5598.00	0	5598
	Total		21	6531	0	6531
6th Year Maintenance						
1	Fire line tracing (2 m. wide fire line over 400 m length)	Feb/Mar	3	933.00	0	933.0
2	Pruning of branches, Singling out of multiple shoots	Jan/Mar	5	1555.00	0	1555.0
3	Watch & Ward	Apr/Mar	18	5598.00	0	5598.0
	Total		26	8086	0	8086.0
7th Year Maintenance						
1	Fire line tracing (2 m. wide fire line over 400 m length)	Feb/Mar	3	933.00	0	933
2	Watch & Ward	Apr/Mar	18	5598.00	0	5598
	Total		21	6531	0	6531
8th Year Maintenance						
1	Fire line tracing (2 m. wide fire line over 400 m length)	Feb/Mar	3	933.00	0	933
2	Watch & Ward	Apr/Mar	18	5598.00	0	5598
	Total		21	6531	0	6531
9th Year Maintenance						
1	Fire line tracing (2 m. wide fire line over 400 m length)	Feb/Mar	3	933.00	0	933
2	Watch & Ward	Apr/Mar	18	5598.00	0	5598

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BASE COST NORM FOR COMPENSATORY AFFORESTATION (BLOCK PLANTATION) @ 1600 PLANTS PER HECTARE (18 months old seedling)							
WAGE RATE Rs- 311/- PER MANDAY							
Sl. No	Items of work	Preferable Period of Execution	No of Mandays	Labour Cost (In Rs.)	Matrial Cost (In Rs.)	Total cost (In Rs.)	
1	*2*	*3*	*4*	*5*	*6*	*7*	
	Total		**21**	**6531**	**0**	**6531**	
10th Year Maintenance							
1	Fire line tracing (2 m. wide fire line over 400 m length)	Feb/Mar	3	933	0	933	
3	Watch & Ward	Apr/Mar	18	5598.00	0	5598	
	Total		**21**	**6531**	**0**	**6531**	

Year wise Abstract of Cost Norm (showing seedling cost separately)

Sl. No	Year	No. person days	Labour cost @ Rs. 311/- per day (Rs)	Material Cost	Monitoring, Evaluation, Learning, Documentation and Other Contingency (5%) of (4+5)	Cost of Seedlings @Rs.50.31 per seedlings	TOTAL COST
1	2	3	4	5	6	7	8
1	0th year	82	25502	3600	1398.00	0	30500.00
2	1st year	105	32655	23360	2800.00	88546	147361.00
3	2nd year	45	13995	6566	1028.00	8050	29639.00
4	3rd year	41	12751	5486	911.00	0	19148.00
5	4th year	21	6531	0	326.00	0	6857.00
6	5th year	21	6531	0	326.00	0	6857.00
7	6th year	26	8086	0	404.00	0	8490.00
8	7th year	21	6531	0	326.00	0	6857.00
9	8th year	21	6531	0	326.00	0	6857.00
10	9th year	21	6531	0	326.00	0	6857.00
11	10th year	21	6531	0	326.00	0	6857.00
	Total:	**425**	**132175**	**39012**	**8497**	**96596**	**276280**

Note:

1. Priority must be given to the indigenous local species available nearby to the site of plantation.
2. 10 % indigenous fruit bearing trees must be preferred to Plantation.
3. Site specific Soil conservation work like LBCD, Gully Plugging, Staggered Trench, Contour Trench, Graded Bund, etc. may be
4. Chain link fencing can be adopoted in the CA plantation taken up outside the forest area and Bamboo twigs fencing may be
5. Watering facilites for procurement of water & watering may be adopted as per the availability of water.
6. The Cost Norm of various items can be changed with the approval of the concerned RCCFs keeping the overall cost norm fixed for each Financial Year

APCCF (Forest Diversion & NO, FC Act)

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Matrix for Model-I B Conventional CA Plantation (AR) 1600 plants per Ha

In Rupees

Sl. NO.	Commencement Year	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	XIII	XIV	XV	XVI	XVII	XVIII	XIX	XX	XXI	Total Cost (10 Years)
Base Norm		30500	147361	29639	19148	6857	6857	8490	6857	6857	6857	6857											
1	2021-22	30500	154729	32674	22166	8335	8751	11377	9648	10131	10637	11169											310117
2	2022-23		32025	162465	34308	23274	8752	9189	11946	10130	10638	11169	11727										325623
3	2023-24			33626	170588	36023	24438	9190	9648	12543	10637	11170	11727	12313									341903
4	2024-25				35307	179117	37824	25660	9650	10130	13170	11169	11729	12313	12929								358998
5	2025-26					37072	188073	39715	26943	10133	10637	13829	11727	12315	12929	13575							376948
6	2026-27						38926	197477	41701	28290	10640	11169	14520	12313	12931	13575	14254						395796
7	2027-28							40872	207351	43786	29705	11172	11727	15246	12929	13578	14254	14967					415587
8	2028-29								42916	217719	45975	31190	11731	12313	16008	13575	14257	14967	15715				436366
9	2029-30									45062	228605	48274	32750	12318	12929	16808	14254	14970	15715	16501			458186
10	2030-31										47315	240035	50688	34388	12934	13575	17648	14967	15719	16501	17326		481096

APCCF (Forest Diversion & NO, FC Act)

SMC Works Model-C			
Cost Norms for creation of Compensatory Afforestation with Stabilization of Soil & Conservation of Moisture (1000 Plants/ Ha.)			
WAGE RATE Rs- 311/- PER DAY			
Sl.No	**Item of Works**	**Preferable Period of Execution**	**Total Cost**
	0th Year (Pre-Planting Operation)		
1	Nil		0
	1st Year		
2	Soil Conservation measure structures like Staggered Trench, Percolation pit, Contour trench, Graded earthen bund, LBCD, Wire mesh LBCD, Sub surface Dyke & WHS as per the slope & site requirment on LS	Apr/Sept.	20,215
	2nd Year		
3	Maintenance of SMC structures @ 15 % of initial year cost	Apr/Jul	3,032
	3rd Year		
4	Maintenance of SMC structures @ 15 % of initial year cost	Apr/Jul	3,032
	4th Year		
5	Maintenance of SMC structures @ 15 % of initial year cost	Apr/Jul	3,032
	4th Year		
5	Maintenance of SMC structures @ 15 % of initial year cost	Apr/Jul	3,032
	Total		**32,343.0**

Abstract

Sl. No	Year	No. person days	Labour cost @ Rs. 311/-per day	Material Cost	Total cost (Rs.)
1	0th year	0.0	0.0	0.0	0.0
2	1st year	0.0	0.0	20,215.0	20,215.00
3	2nd year	0.0	0.0	3,032.00	3,032.00
4	3rd year	0.0	0.0	3,032.00	3,032.00
5	4th year	0.0	0.0	3,032.00	3,032.00
6	5th year	0.0	0.0	3,032.00	3,032.00
	Total	**0.00**	**0.00**	**32,343.0**	**32,343.0**

Different types of SMC structures may be taken up as per the scope & requirements of the plantation site out of the design & specification of different structures annexed along this document.

APCCF (Forest Diversion & NO, FC Act)

Matrix for (SMC)

In Rupees

Sl. NO.	Commencement Year	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	XIII	XIV	XV	XVI	Total Cost
Base Norm		0	20215	3032	3032	3032	3032											
1	2021-22	0	21226	3342	3510	3685	3870											35633
2	2022-23		0	22287	3509	3686	3869	4064										37415
3	2023-24			0	23401	3684	3870	4062	4267									39284
4	2024-25				0	24571	3868	4064	4265	4480								41248
5	2025-26					0	25800	4061	4267	4478	4704							43310
6	2026-27						0	27090	4264	4480	4702	4939						45475
7	2027-28							0	28445	4477	4704	4937	5186					47749
8	2028-29								0	29867	4701	4939	5184	5445				50136
9	2029-30									0	31360	4936	5186	5443	5717			52642
10	2030-31										0	32928	5183	5445	5715	6003		55274

APCCF (Forest Diversion & NO, FC Act)

Fencing Model-F-II

Fencing for Compensatory Plantation raised outside the Forest Areas using Angle Iron & Chain Link wire mesh (250 Rmt/ Ha.)

WAGE RATE Rs- 311/- PER DAY

Sl. No	Items of work	Preferable Period of Execution	Man days	Wages	Material cost (Rs)	Total Cost (Rs. per Ha.)
	0th Year (PPO)					
1	Earth work (Excavation of hole) in Hard soil at a distance 3 mt. 0.40m x 0.40m x 0.40m = 0.064 x 84 = 5.376 cum @ Rs. 140/ cum = Rs. 753.		2.42	752.62	0.0	752.6
2	Cement concrete (1: 4: 8) using 40 mm BHG metal 84 X 0.40m X 0.40m X 0.10m = 1.344 @ 3755.94/cum		0	0	5,047.4	5,047.4
3	Angle Iron pole of size 50 mm X 50 mm X 6 mm of height 2.40 mt. 84 x 2.40 = 201.60 Sqmt. @ 4.50/kg/ Sqmt. = 907.20 kg @ 69.50 per kg				63,050.0	63,050.0
4	Cement concrete (1: 2: 4) for lixing the iron angel pole using 12mm BHG Chips 84 X 0.40m X 0.40m X 0.30m = 4.032 cum @ 5486.77/cum				22,123.0	22,123.0
5	Cost of Chain link mess using 4 mm Dia GI wire having gap size 50 mm X 50 mm 250 Rmt X 2.10 mt. = 525 Sq.mt @ 331/Sqmt = Rs. 1,73,775				1,73,775.0	1,73,775.0
6	Double cost painting of iron angel pole over a coat of primer using good quality enamale paint 84 x 2.10 x 0.20 = 35.28 sqmt. @ Rs.108.80/Sqmt				3,838.0	3,838.0
7	Painting of GI chain link mess 250 x 2.10 x 2 = 1050/10 = 105 Sqmt. @ Rs. 108.80 Sqmt.				11,424.0	11,424.0
8	Transpotation of Chain link mess, Iron angle, Straighening & tieing of chain link mess etc. @ 2% of the total cost.				5,600.0	5,600.0
	TOTAL		**2.42**	**752.62**	**2,84,857.4**	**2,85,610.0**
Rate per running mt. 2,85,610/ 250= Rs. 1142/Rmt						
	1st Year Maintenance					
1	No Maintenance is required.	Sept./Oct	0	0	0	0
	2nd Year Maintenance					
1	Maintenance of wire mess fence @ 1% per running mt. cost of installation in 1st yr. 1142x 1% = 11.42 say Rs. 11	Sept./Oct	0	0	11000	11000
	3rd Year Maintenance					
1	Maintenance of wire mess fence @ 1% per running mt. cost of installation in 1st yr. 1142x 1% = 11.42 say Rs. 11	Sept./Oct	0	0	11000	11000
	4th Year Maintenance					
1	Maintenance of wire mess fence @ 1% per running mt. cost of installation in 1st yr. 1142x 1% = 11.42 say Rs. 11	Sept./Oct	0	0	11000	11000
	5th Year Maintenance					
1	Maintenance of wire mess fence @ 1% per running mt. cost of installation in 1st yr. 1142x 1% = 11.42 say Rs. 11	Sept./Oct	0	0	11000	11000
	6th Year Maintenance					
1	Maintenance of wire mess fence @ 1% per running mt. cost of installation in 1st yr. 1142x 1% = 11.42 say Rs. 11	Sept./Oct	0	0	11000	11000
	7th Year Maintenance					
1	Maintenance of wire mess fence @ 1% per running mt. cost of installation in 1st yr. 1142x 1% = 11.42 say Rs. 11	Sept./Oct	0	0	11000	11000
	8th Year Maintenance					
1	Maintenance of wire mess fence @ 1% per running mt. cost of installation in 1st yr. 1142x 1% = 11.42 say Rs. 11	Sept./Oct	0	0	11000	11000
	9th Year Maintenance					
1	Maintenance of wire mess fence @ 1% per running mt. cost of installation in 1st yr. 1142x 1% = 11.42 say Rs. 11	Sept./Oct	0	0	11000	11000
	10th Year Maintenance					

Sl. No	Items of work	Preferable Period of Execution	Man days	Wages	Material cost (Rs)	Total Cost (Rs. per Ha.)
1	Maintenance of wire mess fence @ 1% per running mt. cost of installation in 1st yr. 1142x 1% = 11.42 say Rs. 11	Sept./Oct	0	0	11000	**11000**

Abstract

Sl. No	Year	No. person days	Labour cost @ Rs. 311/- per day	Material Cost	Total cost (Rs.)
		2.42	752.6	284857.4	285610.0
1	0th year	0.0	0.0	0.0	0.0
2	1st year	0.0	0.0	11000.0	11000.0
3	2nd year	0.0	0.0	11000.0	11000.0
4	3rd year	0.0	0.0	11000.0	11000.0
5	4th year	0.0	0.0	11000.0	11000.0
6	5th year	0.0	0.0	11000.0	11000.0
7	6th year	0.0	0.0	11000.0	11000.0
8	7th year	0.0	0.0	11000.0	11000.0
9	8th year	0.0	0.0	11000.0	11000.0
10	9th year	0.0	0.0	11000.0	11000.0
11	10th year	**2.42**	**752.62**	**383857.4**	**3,84,610.0**
	Total:				

APCCF (Forest Diversion & NO, FC Act)

Matrix for Fencing Model-F- II (Iron angle with Chainlink wire mesh)

In Rupees

Sl. NO.	Commencement Year	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	XIII	XIV	XV	XVI	XVII	XVIII	XIX	XX	XXI	Total Cost
Base Norm		285610	0	11000	11000	11000	11000	11000	11000	11000	11000	11000											
1	2021-22	285610	0	12126	12734	13370	14039	14740	15478	16252	17064	17918											419331
2	2022-23		299891	0	12732	13371	14039	14741	15477	16252	17065	17917	18814										440299
3	2023-24			314886	0	13369	14040	14741	15478	16251	17065	17918	18813	19755									462316
4	2024-25				330630	0	14037	14742	15478	16252	17064	17918	18814	19754	20743								485432
5	2025-26					347162	0	14739	15479	16252	17065	17917	18814	19755	20742	21780							509705
6	2026-27						364520	0	15476	16253	17065	17918	18813	19755	20743	21779	22869						535191
7	2027-28							382746	0	16250	17066	17918	18814	19754	20743	21780	22868	24012					561951
8	2028-29								401883	0	17063	17919	18814	19755	20742	21780	22869	24011	25213				590049
9	2029-30									421977	0	17916	18815	19755	20743	21779	22869	24012	25212	26474			619552
10	2030-31										443076	0	18812	19756	20743	21780	22868	24012	25213	26473	27798		650531

APCCF (Forest Diversion & NO, FC Act)

Watering Model-W-II			
Watering provision to CA Plantation			
Diesel pump set with Bore well (1 pump set + Bore well for 5 Ha Plantation), Wage rate @ Rs.311/-			
Year of Installation (0th Year)			
1	Cost of Borewell	1,50,000	
2	Cost of Diesel pump set 5HP	60,000	
3	Diesel pump set & assessories like commander, Pipes, etc.	30,000	
4	Water Storage Tanks/ Flexible pipes	15,000	
		2,55,000	
Cost of Water per Plant (2,55,000/ 5000)= Rs. 51/- Cost of Water per Ha. = Rs. 51,000/-			51,000
1st Year Watering			
1	Recurring expenditure i.e Diesel, Mobil, Engine Oil, etc. for pumping Water -21 x 1000=		21,000
2	Watering 1000 Plants (Nov-Mar.) @ 200 plants/MD with 7 days rotation 20 MD x 5 months = 100 MD x 311 =		31,100
		Total	**52,100**
2nd Year Watering			
1	Recurring expenditure i.e Diesel, Mobil, Engine Oil, etc. for pumping Water -21 x 1000=		21,000
	Maintenance Diesel pump set etc. @ 15 % of the installation cost.		7,650
2	Watering 1000 Plants (April- June & Nov-Mar.- 8 months) @ 200 plants/MD with 7 days rotation 20 MD x 8 months = 160 MD x 311 =		49,760
		Total	**78,410**
3rd Year Watering			
1	Recurring expenditure i.e Diesel, Mobil, Engine Oil, etc. for pumping Water -21 x 1000=		21,000
	Maintenance Diesel pump set etc. @ 15 % of the installation cost.		7,650
2	Watering 1000 Plants (April- June & Nov-Mar.- 8 months) @ 200 plants/MD with 7 days rotation 20 MD x 8 months = 160 MD x 311 =		49,760
		Total	**78,410**
4th Year Watering			
1	Recurring expenditure i.e Diesel, Mobil, Engine Oil, etc. for pumping Water -21 x 1000=		21,000
	Maintenance Diesel pump set etc. @ 15 % of the installation cost.		7,650
2	Watering 1000 Plants (April- June & Nov-Mar.- 8 months) @ 200 plants/MD with 7 days rotation 20 MD x 8 months = 160 MD x 311 =		49,760
		Total	**78,410**
5th Year Watering			
1	Recurring expenditure i.e Diesel, Mobil, Engine Oil, etc. for pumping Water -21 x 1000=		21,000
	Maintenance Diesel pump set etc. @ 15 % of the installation cost.		7,650
2	Watering 1000 Plants (April- June & Nov-Mar.- 8 months) @ 200 plants/MD with 7 days rotation 20 MD x 8 months = 160 MD x 311 =		49,760
		Total	**78,410**

Abstract					
Sl. No	**Year**	**No. person days**	**Labour cost @ Rs. 311/-per day**	**Material Cost**	**Total cost (Rs.)**
1	0th year	0	0.0	51000.0	51000.0
2	1st year	100.0	31100.0	21000.0	52100.0
3	2nd year	160	49760.0	28650.0	78410.0
4	3rd year	160	49760.0	28650.0	78410.0
5	4th year	160	49760.0	28650.0	78410.0
6	5th year	160	49760.0	28650.0	78410.0
	Total:	**740**	**230140**	**186600**	**4,16,740**

APCCF (Forest Diversion & NO, FC Act)

Matrix for Watering Model-W-II (Diesel Pumpset Fitted with Borewell) per Ha

In Rupees

Sl. NO.	Commencement Year	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	XIII	XIV	XV	XVI	Total Cost
Base Norm		5100	52100	78410	78410	78410	78410											
1	2021-22	51000	54705	86439	90771	95307	100072											478294
2	2022-23		53550	57440	90761	95310	100072	105076										502209
3	2023-24			56228	60312	95299	100076	105076	110330									527321
4	2024-25				59039	63328	100064	105080	110330	115847								553688
5	2025-26					61991	66494	105067	110334	115847	121639							581372
6	2026-27						65091	69819	110320	115851	121639	127721						610441
7	2027-28							68346	73310	115836	121644	127721	134107					640964
8	2028-29								71763	76976	121628	127726	134107	140812				673012
9	2029-30									75351	80825	127709	134112	140812	147853			706662
10	2030-31										79119	84866	134094	140818	147853	155246		741996

ARCCF (Forest Diversion & NO, FC Act)

GPS Co-ordinate of Addl. Compensatory Afforestation Land identified in Mankadakhesa RF of Manamunda Range of Boudh Forest Division over 5 Ha.

Sl. No.	Latitude	Longitude
1	20.78921	83.91613
2	20.78851	83.91608
3	20.78883	83.91762
4	20.78876	83.91863
5	20.78846	83.9197
6	20.78816	83.92029
7	20.78848	83.92039
8	20.78904	83.9204
9	20.7898	83.91968
10	20.78991	83.91909
11	20.78965	83.9187
12	20.78946	83.91835
13	20.78945	83.91785
14	20.78977	83.91758
15	20.78982	83.91707
16	20.78994	83.91633
17	20.78949	83.91603

13/X/2022

Divisional Forest Officer
Boudh Division