COMPENSATORY AFFORESTATION SCHEME OVER AN AREA OF 115.981 HA. IN DEGRADED FOREST LAND IDENTIFIED IN SUNAJHARI R.F OF BHUBAN RANGE OF 43.519 HA.+ RAMEI R.F OF 72.462 HA. OF SADANGI RANGE UNDER DHENKANAL FOREST DIVISION.

AGAINST FOREST DIVERSION OF 57.18HA. FOR MINING PURPOSE AND DIVERSION OF 0.36HA. FOR SAFETY ZONE OF BHARATPUR OCP EXPN. OF MCL IN ANGUL DISTRICT UNDER ANGUL FOREST DIVISION.

Prepared by

DHENKANAL FOREST OFFICER

DHENKANAL DIVISION

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LAND SUITABILITY CERTIFICATE BY DIVISIONAL FOREST OFFICER, DHENKANAL FOREST DIVISION

This is to certify that, 43.519 Ha. of degraded Forest land in Sunajhari Reserve Forest of Bhuban Range 72.462 Ha. of degraded Forest land in Ramei R.F. of Sadangi Range are identified under Dhenkanal Forest Division. Both of the patches are suitable for the purpose of Compensatory Afforestation under Aided Natural Regeneration (ANR) Plantation @ 500 Plants per Hectare (18 months old seedlings) in lieu of Forest Diversion of 57.18ha. for mining purpose and Diversion of 0.36ha. for Safety Zone of Bharatpur OCP Expn. of MCL in Angul District under Angul Forest Division.

Place: Dhenkanal
Date : 9/5/2023

Divisional Forest Officer
Dhenkanal Division
Official Seal .....

Divisional Forest Officer
Dhenkanal Division

Compensatory Afforestation Scheme over an area of 115.981 ha. in degraded forest land identified in Sunajhari RF of Bhuban Range of 43.519 ha.+ Ramei RF of 72.462 ha. of Sadangi Range under Dhenkanal Forest Division against forest diversion of 57.18ha. for Mining purpose and diversion of 0.36ha for Safety Zone of Bharatpur OCP Expn. Of MCL in Angul District under Angul Forest Division.

1. INTRODUCTION:

The General Manager MCL, Bharatpur Area is process for submitting Forest Diversion proposal of 57.18 ha. of mining purpose and diversion of 0.36ha. for Safety Zone of Bharatpur OCP Expn. Of MCL in Angul District under Angul Forest Division. In this connection, the general manager MCL, Bharatpur Area has requested vide his Letter No.MCL/GM(BA)Envt/2020-21/319 dt.24.06.2020 and Letter No.MCL/GM(BA)/E/F-46/2022-23/586 dt.27.02.2023 to identify suitable Degraded Forest Land for Compensatory Afforestation purpose on the above project to adjust 57,180 saplings against forest diversion of 57.18 ha. forest land.

2. SCHEME FOR SITE SPECIFIC COMPENSATORY AFFORESTATION

As per provision to adjust 57,180 saplings for Compensatory Afforestation 43.519 Ha. Degraded Forest Land in Sunajhari R.F. under Bhuban Range and 72.462 Ha. Degraded Forest Land in Ramei R.F. under Sadangi Range have been identified. As per report of the Range Officer, Bhuban Range and Range Officer, Sadangi Range @500 no. of saplings per Ha. 18 months old seedlings can be accommodated. On due verification, the above degraded Forest land is suitable for ANR Plantation. Accordingly DGPS Survey has been taken up.

3.1 Selection of Site

The land particulars of the proposed Compensatory Afforestation area is depicted below

Patch	Division	Range	Section	Name of RF	Compartment No.	Area
1	Dhenkanal	Bhuban	Jiral	Sunajhari RF	6	43.519 Ha.
2	Dhenkanal	Sadangi	Sadangi	Ramei RF	2	72.462 Ha.
Total						115.981 Ha.

P.T.O.

The site Sunajhari Reserve Forest over an area of 43.519 Ha. is located on survey of India Topo Sheet No. F45T9 between starting Latitude: 20° 52' 21.41994" - Longitude: 85° 36' 05.19862" and ending with Latitude: 20° 52' 19.92396" - Longitude: 85° 35' 43.29359".

The site Ramei Reserve Forest over an area of 72.462 Ha. is located on survey of India Topo Sheet No. F45T14 between starting Latitude: 20° 45' 00.87973" - Longitude: 85° 50' 2747868" and ending with Latitude: 20° 44' 57.24978" - Longitude: 85° 50' 23.87159".

3.2 Description of the existing vegetation

Some valuable trees are available in the proposed land.

3.3 Topography & Soil

The site Sunajhari RF under Bhuban Range and Ramei RF under Sadangi Range are shown in Topo-sheet Number F45T9 and F45T14 respectively. The soil type occurring in the area is shallow somewhat exclusively drained, calcareous soil on plane land with loamy surface, susceptible to erosion associated with deep and well drained.

3.4 Rainfall & Temperature

The annual rainfall varied from 75 cm to 100 cm. The maximum rainfall is received during the rainy season from July to September. The maximum temperature varied from 45°C. The summer season is from March to June, winter from November to February and rainy season is from July to September.

3.5 Objective of the scheme

The main objective of the present scheme is to (I) increase vegetation through taking up AR plantation, (ii) clearly demarcating the area with posting up RCC pillars, (iii) enforcing protection measures by involving people around under JFM and (iv) above all checking soil erosion and run off which will go in combination for enrichment of the vegetation and soil and building up ecosystem. The total area i.e. 115.981 Ha (Sunajhari RF = 43.519 Ha. + Ramei RF = 72.462 Ha.) CA Scheme shall be covered under ANR Plantation with 500 plants per hectare.

3.6 Items of work to be taken up

To achieve the above objectives, the following items of work are mainly prescribed to be taken up with the full involvement and co-operation of local forest dwellers.

P.T.O.

3.7 Survey and Demarcation

The boundary should be surveyed clearly with reference to the RF boundary and demarcated by posting pillars.

3.7.1 ANR Plantation

The total allotted area shall be covered by ANR Plantation. For protection of the plantation from grazing, green fencing will be provided around the plantation site. Care should be taken to select only indigenous species as far as possible keeping in view of the existing natural vegetation in and around the area and also the climatic and edaphic factors. The choices of species are as follows:

Local Name	Scientific Name
Tentuli	Terminalia belerica
Karanja	Pongomia pinnata
Aswastha	Ficus religiosa
Kusuma	Schleichera oleosa
Asana	Terminalia aomentosa
Kaitha	Limonia acidissimal
Chhatian	Alstonia scholaris
Bara	Ficus bengalensis
Ambeda	Spondias pinnata
Wild mango	Mangifera indica
Mundi	Mitragyna parvifolia
Kumbhi	Careya arborea
Pahadi sissoo	Dalbergia latifolia
Amla	Emblica officinalis
Bela	Jasminum sambac
Bahada	Terminalio bellirica
Arjuna	Terminalio arjuna
Sal	Shorea robusta
Neem	Azadirachta indica

It is proposed to take up pitting with a pit size of 45cm x 45cm x 45cm during February / March for allowing weathering of the soil. The planting should be taken up only with two years old seedlings having height more than one meter. The size of P. bags will be 12" x 10" ×300 with desired quantity of inputs. The seedlings will be graded and sorted at regular intervals to make those healthy and sound and avoid root coiling.

3.8 Planting

The best time of planting of the potted seedling is soon after the onset of regular monsoon or after a good shower of rain. Before planting, the pits are to be prepared by putting mixture of half cubic feet of alluvial soil and farmyard manure. Basal dose of 50 gram of NPK /Bio-fertilizer and Insecticide/Bio-pesticide 5 gram of Aldrin dust or Phorate pesticide are to be applied to the pits before planting as basal dose. The excavated earth from the pits already weathered and free from stones should be filled in the pits. Before removal of the plants from the Nursery the following precaution should be taken:

Roots escaping from the container should be trimmed.

i. Posts containing the plant are watered, if necessary.
ii. Maximum care should be taken at the time of transportation and handling of seedling so that the ball of earth of the poly pots does not get disturbed and the primary leading shoots are broken. Manual transportation should be given priority.

Planting should be taken up on rainy/cloudy days by adopting all standard techniques of plantation.

Casualty of seedlings occurs due to various causes, like heavy rains, drought, fire, grazing etc. But in a well-managed plantation, where the planting stock consists of healthy and stout seedlings, say, about 10% may die during the period between planning and 1st weeding. Sidings to be used for casualty replacement should be earmarked and kept reserved at the time of planting. Only healthy and stout seedlings slightly larger than those planted at the time of operation should be used. This is important because only such seedlings can catch up growth with those that have survived and are growing. Before planting for casualty replacement, the following operations are to be taken up:

a. The failure pit is to be properly dug again.
b. Another dose of fertilizer, and insecticide should be given to the pit.
c. If the casualties are due to white ant attack. Little more quantity of phorate pesticide may be applied to the pit.
d. If the casualties are due to water logging and wilting, care should be taken to drain out the pits by making small channels to downhill side.
e. Watering is to be done generally directly after planting, if the planting is done on a dry day.

Casualty replacement can also be taken up in the 2nd year formation and this time should not exceed 10%.

Soil and moisture Conservation Measures

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 requirement on LS.

Fencing.

1) To protect the plantation from grazing and other biotic interference, fencing shall be taken up inside the Forest area using Solar Fencing (400 pillars/Rkm), as per one-time cost norm in fencing model F-lll in Sunajhari RF & Ramei RF.

Watering.

Watering will be done for five years through solar system with Bore Well (1 system for 5 ha. plantation) fitted with Drip System by adopting Watering Modal-W-ll for the purpose., 23 bore wells will be excavated in the plantation site. Accordingly 23 nos of 0.5 HP submersible motor with Accessories with Drip System including all accessories will be procured for installation.

Peoples participation

It is experienced that, no scheme shall be effective if the local villagers are not involved in the implementation of the scheme itself. The villagers who are having a right on the NTFP items in the adjoining forest area are to be associated with the implementation of the scheme at all different levels. For that, Van Surakhyana Samittee (VSS) is proposed to the guidelines of the government of Odisha issued on 3rd July'1993, the villagers are to be motivated and inspired and above all, explained the benefits they will be getting if plantation is protected by them.

3.9 Monitoring and execution

The scheme shall be executed and monitored by the Divisional Forest Officer, Dhenkanal Division from time to time. To facilitate this, the User Agency shall bear the cost of infrastructure required and shall provide also the infrastructural facilities.

3.10 Total cost of the Scheme

The total cost of the project of Rs. **5,50,53,138/- or5,50,53,200 /-** shall be deposited by the User Agency in the State CAMPA Fund.

9/5/23

Divisional Forest Officer,
Dhenkanal Division

Divisional Forest Officer
Dhenkanal Division

ANNEXURE-7

Base Cost Norms for Compensatory Afforestation through Aided Natural Regeneration (ANR) @ 500 Seedlings/Ha.						
WAGE RATE Rs.-311/-Per Manday						
Sl. No	**Item of work**	**Preferable Period of Execution**	**No of Mandays**	**Labour Cost (In Rs.)**	**Material Cost (In Rs.)**	**Total Cost (In Rs.)**
0th Year (Advance work) Per-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	Nov/Dec	2	622	0	622
4	Silvicultural operations including clearance of weed, cutting of climber, High stump cutting, Singling of shoots & removal of cut out after drying from the field to blank space.	Jan/Feb	15	4665	0	4665
5	Alignment and stacking for digging of pits.	Feb/Mar	1	311	0	311
6	Digging of pits (45 cm × 45 cm × 45 cm) in hard and gravelly soil.	Feb/Mar	20	6220	0	6220
	Total		**41**	**12751**	**100**	**12851**
1th Year/Planting Year						
1	Refilling of pits by altering the dugout soil of the pits. Application of organic compounds/CDM/FYM & mixing the same perfectly.	June/Jul	4	1244	2500	3744
2	Transprtation of 18 months old polythene bag seedling 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/- seedling (550 nos.)	Jul/Aug	0	0	3300	3300
3	Watering polythene bag seedling at stacking site of plantation	Jul/Aug	1	311	0	311
4	Conveyance of polythene bag seedling on head load from the stacking site to individual dugout pits within the planting site applying insecticide, fertilizer & planting after scooping the soil with other applied materials and pressing the soil perfectly around the planted seedling.	Jul/Aug	11	3421	0	3421
5	Cost of Fertilizer & Insecticide A)NPK/Bio-fertilizer @ 50gms/plant as basal dose=25kg @Rs.30/-per kg=Rs.750.0 B)Urea/Vermicompost/Mo Khata/any other fertilizer @ Rs.375.00 C)Insecticide/Bio-pesticide @ 5 gms/plant=2.5 kg @ Rs.150/-per kg=Rs.375/-	Jul/Aug	0	0	1500	1500
6	Casualty Replacement @ 10% (50 nos.)	Jul/Aug	1.5	466.5	0.0	466.5
7	1st weeding & Manuring.	Aug/Sept	5	1555	0	1555
8	2nd weeding soil working(1mt. diameter around the plants) & Manuring	Oct/Nov	8	2488	0	2488
9	Fire line tracing & Inspection path	Feb/Mar	3	933	0	933
10	Watch & Ward including watering as per requirement.	Aug/Mar	8	2488	0	2488
	Total		**41.5**	**12906.5**	**7300.0**	**20206.5**

	2nd Year Maintenance					
1	Transportation of 50 seedlings from Nursery to plantation site including loading, unloading & conveyance by Tractor @ Rs.6/- per seedlings.	Jul	0.0	0.0	300.0	300.0
2	Casualty replacement	Jul	1.5	466.5	0.0	466.5
3	Cost of Fertilizer & Insecticide A)Cost of Insecticide/Bio-pesticide (Themet/Forate)@ 5 gms/plant=2.5 kg @ Rs.150/- per kg=Rs.37.50/- B)Urea/NPK/Bio-fertilizer/Vermicompost/Mo Khata/any other fertilizer @ Rs.1400/-	July/Aug	0	0	1437.5	1437.5
4	Weeding (Complete weeding), Manuring & Soil working,(1mt. diameter around the plants)	Sep/Oct	8	2488	0	2488
5	Fire line tracing(2m. wide fire line) & Inspection path	Feb/Mar	3	933	0	933
6	Watch & ward including watering as per requirement.	Apr/Mar	12	3732	0	3732
	Total		**24.5**	**7619.5**	**1737.5**	**9357**
	3nd Year Maintenance					
3	Cost of fertilizer Urea/NPK/Bio-fertilizer/Vermicompost/Mo Khata/any other fertilizer=Rs.1400/-	July/Aug	0	0	1400.0	1400.0
4	Weeding (Complete weeding), Manuring & Soil working,(1mt. diameter around the plants)	Sep/Oct	8	2488	0	2488
5	Fire line tracing(2m. wide fire line) & Inspection path	Feb/Mar	3	933	0	933
6	Watch & ward including watering as per requirement.	Apr/Mar	12	3732	0	3732
	Total		**23.0**	**7153.0**	**1400.0**	**8553.0**
	4th Year Maintenance					
1	Fire line tracing(2m. wide fire line) & Inspection path	Feb/Mar	3	933	0	933
2	Watch & ward including watering as per requirement.	Apr/Mar	12	3732	0	3732
	Total		**15.0**	**4665.0**	**0.0**	**4665.0**
	5th Year Maintenance					
1	Fire line tracing(2m. wide fire line) & Inspection path	Feb/Mar	3	933	0	933
2	Watch & ward including watering as per requirement.	Apr/Mar	12	3732	0	3732
	Total		**15.0**	**4665.0**	**0.0**	**4665.0**
	6th Year Maintenance					
1	Fire line tracing(2m. wide fire line) & Inspection path	Feb/Mar	3	933	0	933
2	Watch & ward including watering as per requirement.	Apr/Mar	12	3732	0	3732
	Total		**15.0**	**4665.0**	**0.0**	**4665.0**
	7th Year Maintenance					
1	Fire line tracing(2m. wide fire line) & Inspection path	Feb/Mar	3	933	0	933
2	Watch & ward including watering as per requirement.	Apr/Mar	12	3732	0	3732
	Total		**15.0**	**4665.0**	**0.0**	**4665.0**
	8th Year Maintenance					
1	Fire line tracing(2m. wide fire line) & Inspection path	Feb/Mar	3	933	0	933
2	Watch & ward including watering as per requirement.	Apr/Mar	12	3732	0	3732
	Total		**15.0**	**4665.0**	**0.0**	**4665.0**

	9th Year Maintenance					
1	Fire line tracing(2m. wide fire line) & Inspection path	Feb/Mar	3	933	0	933
2	Watch & ward including watering as per requirement.	Apr/Mar	12	3732	0	3732
	Total		**15.0**	**4665.0**	**0.0**	**4665.0**
	10th Year Maintenance					
1	Fire line tracing(2m. wide fire line) & Inspection path	Feb/Mar	3	933	0	933
2	Watch & ward including watering as per requirement.	Apr/Mar	12	3732	0	3732
	Total		**15.0**	**4665.0**	**0.0**	**4665.0**

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 seedling**	**Total Cost**
1	**2**	**3**	**4**	**5**	**6**	**7**	**8**
1	0th Year	41	12751.0	100.0	549.00	0.00	13400.00
2	1st Year	41.5	12906.5	7300.0	993.50	27671.00	48871.00
3	2nd Year	24.5	7619.5	1737.5	443.00	2516.00	12316.00
4	3rd Year	23.0	7153.0	1400.0	347.00	0.00	8900.00
5	4th Year	15	4665.0	0.0	135.00	0.00	4800.00
6	5th Year	15	4665.0	0.0	135.00	0.00	4800.00
7	6th Year	15	4665.0	0.0	135.00	0.00	4800.00
8	7th Year	15	4665.0	0.0	135.00	0.00	4800.00
9	8th Year	15	4665.0	0.0	135.00	0.00	4800.00
10	9th Year	15	4665.0	0.0	135.00	0.00	4800.00
11	10th Year	15	4665.0	0.0	135.00	0.00	4800.00
	Total	**235.0**	**73085.0**	**10537.5**	**3277.5**	**30187.00**	**117087.00**

ANNEXURE-II

Cost Norms for creation of Compensatory Afforestation with Stabilization of Soil & Conservation of Moisture (1000)			
WAGE RATE Rs.311/-per day			
Sl.No.	**Item of Works**	**Preferable Peroid of Execution**	**Total Cost**
0th Year (Pre-Planting Operation)			
1	Nil		0
1th 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 requirement on LS	Apr/Sept.	20,215
2th 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
5th Year			
6	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	0.0	0.0	0.0	0.0
2	1th	0.0	0.0	20,215.00	20,215.00
3	2th	0.0	0.0	3,032.00	3,032.00
4	3th	0.0	0.0	3,032.00	3,032.00
5	4th	0.0	0.0	3,032.00	3,032.00
6	5th	0.0	0.0	3,032.00	32,343.00
	Total	**0.00**	**0.00**	**32,343.00**	**32,343.00**

Watering Model-W=I			
Watering Provision to CA Plantation			
Solar System with Bore Well (1 system for 5 Ha. Plantation) fitted with Drip System, Wage rate @ Rs.311/-			
Year of Installation (0th Year)			
1	Cost of Borewell	1,50,000	
2	Installation of Solar Panel & other system	3,00,000	
3	Cost of 0.5 HP submersible motor with accessories	50,000	
4	Water Storage Tanks/Flexible Pipes	15,000	
5	Cost of laying Drip System including all accessories, Fitting etc. with 12% GST	3,02,431	
Total		**8,17,431**	
6	Cost of water & watering per Ha.(8,17,431/5)=Rs.1,63,486/-		1,63,486
1st Year Watering			
7	No maintenance required		0
		Total	**0**
2st Year Watering			
8	Maintenance of System @ 5% of initial cost of installation		8,174
		Total	**8,174**
3rd Year Watering			
9	Maintenance of System @ 5% of initial cost of installation		8,174
		Total	**8,174**
4th Year Watering			
10	Maintenance of System @ 5% of initial cost of installation		8,174
		Total	**8,174**
5th Year Watering			
11	Maintenance of System @ 5% of initial cost of installation		8,174
		Total	**8,174**

Abstract					
Sl. No	**Year**	**No. Person days**	**Labour cost @ Rs. 311/-per day**	**Material Cost**	**Total Cost (Rs.)**
1	0th Year	0	0.0	163486.0	163486.0
2	1st Year	0	0.0	0.0	0.0
3	2nd Year	0	0.0	8174.0	8174.0
4	3rd Year	0	0.0	8174.0	8174.0
5	4th Year	0	0.0	8174.0	8174.0
6	5th Year	0	0.0	8174.0	8174.0
Total		**0**	**0**	**196182**	**1,96,182**

Fencing Model-F-III

Estimate for Solar Fencing (400 Pillars/Rkm)		
WAGE RATE Rs-311/-PER DAY		
0TH Year (PPO)		
a)	Earth Excavation of foundation in hard soil with initial lead of 50 mtr and lift of 1.5 mtr and finishing the base =400 nos. ×0.45 mtr length ×0.40 mtr depth ×0.25 mtr width =18.00 cum @ Rs.133.73/-per Cum=	2,407.00
b)	Fixing of Pillars with 4cm Hg metals in C.M 1.4.8 Pit size 400 NOS.×0.45mtr×0.40 mtr×0.25mtr=18.00cum Deduct 1/3rd but of pillars i.e 6cum 18 cum-6cum=12 cum×Rs.3755.94 per cum	45,071.00
c)	Construction of RCC pillars (1:2:4) cement concreate works of 400 nos. (I)Base of the pillars of the size (Underground) 0.35 length ×0.075 in width ×0.2m hight×400 nos. =2.1cum. (II)Pillar above ground size. 400×1.5mtr. ×(0.1mtr+0.075mtr/2)×0.075 mtr=3.94 cum Total 6.04 cum Cost of 400 pillars=6.04 cum ×@Rs.5486.77	33,140.00
d)	Cost of rods including cutting, bending & binding of 6.04 cum ×0.09 quintals M.s rod=5.436 quintals @ Rs.11621.44	63,174.00
e)	Contingency including curing, stacking and provision of insulator hooks etc on L.S	14,800.00
f)	Stand wire: 5 steps. 1000×5=5000 Rmt 5000 Rmt× 0.375 kg=1875 kg =1875 kg×@ Rs.85/- kg	1,59,375.00
g)	Labour for straightening of the stand wire, fixing and clipping with pillars-50 MD per KM @ 311/-per.	15,550.00
h)	Carriage of RCC pillars and stand wire from Range Officer Campus to work site @ Rs.1000 per TLD and cost of loading and unloading with 5 km distance approximately-8 TLD @Rs.800/-TLD	14,400.00
	Total	**3,47,917.00**
	Cost of one energizer for each 3 km length	**55,000.00**
	Total	**4,02,917.00**
	Cost/Ha.(250 Rmt)-4,02,917/4=1,00,729/-	
1st Year Maintenance		
	Nil	0.0
2nd Year Maintenance		
	Maintenance cost @ 5% of initials year cost of installation	5,036.00
3rd Year Maintenance		
	Maintenance cost @ 5% of initials year cost of installation	5,036.00
4th Year Maintenance		
	Maintenance cost @ 5% of initials year cost of installation	5,036.00
5th Year Maintenance		
	Maintenance cost @ 5% of initials year cost of installation	5,036.00
6th Year Maintenance		
	Maintenance cost @ 5% of initials year cost of installation	5,036.00
7th Year Maintenance		
	Maintenance cost @ 5% of initials year cost of installation	5,036.00
8th Year Maintenance		
	Maintenance cost @ 5% of initials year cost of installation	5,036.00
9th Year Maintenance		
	Maintenance cost @ 5% of initials year cost of installation	5,036.00
10th Year Maintenance		
	Maintenance cost @ 5% of initials year cost of installation	5,036.00

Abstract

Sl No.	Year	No. Person days	Labour cost @ Rs. 311/-per day	Material Cost	T otal Cost (Rs.)
1	0th Year	0.0	0.0	1,00,729.00	1,00,729.00
2	1th Year	0.0	0.0	0.0	0.00
3	2nd Year	0.0	0.0	5,036.00	5,036.00
4	3rd Year	0.0	0.0	5,036.00	5,036.00
5	4th Year	0.0	0.0	5,036.00	5,036.00
6	5th Year	0.0	0.0	5,036.00	5,036.00
7	6th Year	0.0	0.0	5,036.00	5,036.00
8	7th Year	0.0	0.0	5,036.00	5,036.00
9	8th Year	0.0	0.0	5,036.00	5,036.00
10	9th Year	0.0	0.0	5,036.00	5,036.00
11	10th Year	0.0	0.0	5,036.00	5,036.00
	Total	**0.0**	**0.0**	**1,46,053.00**	**1,46,053.00**

Matrix for Model-II A (ANR- 500 PLANTS PER Ha.)

Year→	2023-24 (Pre-Plantation Operation)	2024-25 (1st Year Creation)	2025-26 (2nd Year) Maintenance	2026-27 (3rd Year) Maintenance	2027-28 (4th Year) Maintenance	2028-29 (5th Year) Maintenance	2029-30 (6th Year) Maintenance	2030-31 (7th Year) Maintenance	2031-32 (8th Year) Maintenance	3032-33 (9th Year) Maintenance	2033-34 (10th Year) Maintenance	Total per Ha.
Cost of Plantation per Ha.	14774	56575	14969	11359	6432	6754	7092	7447	7819	8209	8621	150051

Matrix for (SMC)

Year→	2023-24 (Pre-Plantation Operation)	2024-25 (1st Year Creation)	2025-26 (2nd Year) Maintenance	2026-27 (3rd Year) Maintenance	2027-28 (4th Year) Maintenance	2028-29 (5th Year) Maintenance	Total per Ha.
Cost of SMC per Ha.	0	23401	3684	3870	4062	4267	39284

Matrix for Watering Model-W-I (Solar Borewell) Fitted with Drip System (per Ha.)

Year →	2023-24 (Pre-Plantation Operation)	2024-25 (1st Year Creation)	2025-26 (2nd Year) Maintenance	2026-27 (3rd Year) Maintenance	2027-28 (4th Year) Maintenance	2028-29 (5th Year) Maintenance	Total per Ha.
Cost of Watering per Ha.	180243	0	9935	10433	10954	33911	245476

Matrix for Fencing Model-III (Solar Fencing with RCC Pillars)

Year→	2023-24 (Pre-Plantation Operation)	2024-25 (1st Year Creation)	2025-26 (2nd Year) Maintenance	2026-27 (3rd Year) Maintenance	2027-28 (4th Year) Maintenance	2028-29 (5th Year) Maintenance	2029-30 (6th Year) Maintenance	2030-31 (7th Year) Maintenance	2031-32 (8th Year) Maintenance	3032-33 (9th Year) Maintenance	2033-34 (10th Year) Maintenance	Total per Ha.
Cost of Fencing per Ha.	111053	0	6122	6428	6748	7085	7439	7812	8203	8613	9044	178547

Matrix for Fencing Modal-F-I Fencing (Solar System)

Sunajhari RF-43.519 Ha.= 2801.758 Perimeter_MT.

Ramei RF- 72.462 Ha. = 3671.852 Perimeter_MT.

Fencing- 01Ha.=250MT.

Fencing- 01Ha.= Rs. 178547

250MT.= Rs. 178547

01 MT.= Rs. 178547 ÷ 250= Rs.- 714.18

Sunajhari RF -Rs.-714.18 × 2801.758 MT.= Rs.-20,00,960

Ramei RF- Rs.714.18 × 3671.852 MT. = Rs.-26,,22,363

Total- Rs.- 46,23,323

TOTAL FINANCIAL OUTLAY OF THE 10 YEARS PLANTATION PROGRAMME WITH MAINTENANCE ONE TIME COST NORM

ABSTRACT

Sl. No	Item	Base Cost Per Ha. (Rs.)	Total Cost Per Hectare for 10 years plantation from 2024-25 to 2034-35(Rs.)	Total cost of 115.981 Ha. from 2024-25 to 2034-35 (Rs.)
1	ANR Plantation	1,17,087/-	1,50,051/-	1,74,03,065/-
2	SMC	32,343/-	39,284 /-	45,56,198/-
3	Fencing (Solar)	1,46,053/-	178547/- 43.519 Ha.= 2801.758 MT. 72.462 Ha. =3671.852 MT.	46,23,323/-
4	Watering(Solar)	1,96,182/-	2,45,476/-	2,84,70,552/-
	Total			**5,50,53,138/- or 5,50,53,200/-**

9/8/23

Divisional Forest Officer,
Dhenkanal Division.

Divisional Forest Officer
Dhenkanal Division