

OFFICE OF THE DIVISIONAL FOREST OFFICER: JEYPORE FOREST DIVISION

Memo No. 6181 /4F-(Misc)-2023
Dated, Jeypore the 16 th November, 2023

To


The Regional Chief Conservator of Forests,
Koraput Circle, Koraput.

Sub:- Proposal for diversion of forest land 452.705 ha (Jeypore 47.362+ Malkangiri 405.343 ha) for construction to Jeypore-Malkangiri New BG Railway line of East Coast Railway coming under Koraput-Malkangiri District.

Ref:- Your Office Memo No.3733 dated.08.11.2023.

In inviting a kind reference to the above cited subject, I resubmit the revised Compensatory Afforestation scheme and Certificate of DSS and Diversion proposal four sets in respect of Jeypore Forest Division is sent herewith for favour of kind infoamtion and necessary action.

Encl: As above


Divisional Forest Officer
Jeypore Forest Division
16.11.23

**SCHEME FOR
COMPENSATORY AFFORESTATION
OVER FOREST LAND (63 Ha) OF KORAPUT DISTRICT,
JEYPORE FOREST DIVISION, ODISHA
AGAINST DIVERSION OF FOREST LAND (i.e. 47.362 Ha)
FOR
Construction of Jeypore-Malkangiri New BG Railway line of
East Coast Railway coming under Koraput District**

Prepared by

Divisional Forest Officer
Jeypore Forest Division

SUITABILITY CERTIFICATE

Certified that, **100.138 Ha. of Forest Land** is available in Koraput District, Jeypore Forest Division is out of which the following details of land is suitable for the purpose of Compensatory Afforestation in lieu of diversion of forest land (47.362 Ha.) for construction of Jeypore-Malkangiri New BG Railway line of East Coast Railway coming under Koraput District.

Sl. No.	Name of Range	Location	Area in Ha.	Remarks
1	Boipariguda	BANABEDA PRF Part 1	50.031	
2		BANABEDA PRF Part 2	50.107	
Total			100.138	

The following land details are available

Sl. No	Name of the Range	Name of the Forest Block (RF/PRF/PF/DPF/Revenue Forest)	Area identified for CA/AC A/PCA/ (in Ha)	Classification of identified land (in Ha.)							Area suitable for plantation in Ha
				Very Dense Forest	Moderately Dense Forest	Open Forest	Non Forest	Scrub	Water	Total	
1	2	3	4	5	6	7	8	9	10	11	
1	Boipariguda	Banabeda PRF	50.031	2	25	15	8.031	0	0	50.031	20
			50.107	0	7.107	24	13	6	0	50.107	43
		Total	100.138	2	32.107	39	21.031	6	0	100.138	63

Out of 100.138 Ha identified degraded forest land, 63.00 Ha is suitable for Compensatory Afforestation purpose and no plantation has been carried out in the identified Compensatory Afforestation land in any scheme previously.


Divisional Forest Officer,
 Jeypore Forest Division

**SCHEME FOR COMPENSATORY AFFORESTATION OVER DEGRADED FORESTLAND
(DFL) OF KORAPUT DISTRICT, JEYPURE FOREST DIVISION, ODISHA.**

01. INTRODUCTION:

The proposed new line between Jeypore-Malkangiri is part of rail connectivity from Juragam to Bhadrachalam (440kms) passing through major towns/District headquarters of Odisha viz. Nabarangpur, Jeypore (existing station on KK line), Malkangiri, Malkangiri district presently has no rail head and is one of the most backward districts of Odisha

As the new Railwayline from Lanjigarh Road to Junagarh already commissioned. Construction of Nabarangpur-Jeypore-Malkangiri will start shortly after landacquisition. It will be important & useful for the development of the area, and may later become important route for passenger trains in the state of Odisha.

Moreover, Govt of India has approved final location survey from Junagarh to Nabarangpur and Malkangiri to Bhadrachalam in AP. Hence, it will be major rail route from Raipur to Hyderabad/Vijaywada also.

The area from Jeypore to Malkangiri is passing through hilly terrain and thick forests. Efforts made to minimize damage to forests and wild life. The important place enroute are Boipariguda, Tanginiguda, Mathil and Pandripani Road. Major town Boipariguda is approximately 25 km from Jeypore via SH-25. There are a number of forest areas including Reserve Forests in the vicinity, and attempt has been made to keep interference with the forest area to the minimum extent.

The Malkangiri District have some industries, but the outgoing traffic and incoming traffic of these industries is neither source from or destined to these districts. The financial viability of the project has been assessed per freight traffic to mover over the project route viz. Agriculture produces, forest produce, industries and minerals.

State Govt of Odisha agreed to bear 25% of the total project cost and MOU made between Ministry of Railways and Govt. of Odisha to this extent. Considering the cost being shared by Govt. of Odisha, the Rate of Return on the project is assessed as 10.53%

Having considered the need for development of Malkangiri District, the most backward district of Odisha in Kalahandi-Bolangir-Koraput Division, need for movement of expected traffic on the proposed section and State Govt of Odisha's Interest to develop the area and willingness to share 25% cost of the project, future extension of line up to Bhadrachalam & other places in Telangana /Andhra Pradesh States Railway Board has considered for new line between Jeypore-Malkangiri.

Various routes were identified from Jeypore to Malkangiri, considering various aspects of Project works, Socio economic issue & Interference of Forest land, the most feasible route with maximum safety at minimum cost and involving bare minimum requirement of forest land has been considered. No other alternative route is feasible which avoids forest land interference. All out efforts made to pass the proposed new line near the periphery of the forest area.

In lieu of diversion of 47.362 ha of Revenue Forest; as per Para 3.1 (i) of Guideline to Forest (Conservation) Act, 1980 and Chapter 2 (Part B) of F(C) Act 2019, any proposal submitted by the State Govt. seeking prior approval of Central Govt. under F(C) Act shall have a comprehensive Scheme for compensatoryafforestation duly approved by the Chief Conservator of Forest Diversion and Nodal Officer.

As per point no.f of para 2.5 of Guidelines to FC Act 1980, when the project is linear project and also implemented by the Central Govt., the Compensatory Afforestation could be carried out over Degraded Forest Land (DFL) twice in extent of the forest area being diverted. Therefore, 63Ha.of Degraded Forest Land (DFL)has been identified in Koraput District of Jeypore Forest Division for Compensatory Afforestation Purpose. Further, DSS has also been checked to find out the canopy density and accordingly the land has been finalized for Compensatory Afforestation purpose.

The details of the CA land is summarized as per below Table 1:

Table 1: Details of Land identified for CA Purpose

Sr. No.	Particular	Area (ha)
Land identified to meet the criteria of Compensatory Afforestation		
1	Forest Area applied for diversion	47.362
2	CA land identified	100.138

As per above Table no. 1, the DSS has been checked to finalize the plantation scheme as per the guidelines of MoEF & CC i.e. plantation of 1600nos trees per ha of Bald Hill plantation over 20 ha and ANR plantation per ha of 500 nos trees over 43 Ha of degraded forest land as identified under the applicable guidelines of Govt. of Odisha. The plantation to be carried out over forest land is provided below:

Table 2: Plantation scheme over Forest Land after DSS Check

Sr. No.	Particular	Area (ha) / Nos.
1	Total Area of Forest land identified for CA	100.138
2	Hence, 58,850 nos. of tree can be planted over forest land (63 ha) considering 1600nos trees per ha of Bald Hill plantation over 20 ha and ANR plantation per ha of 500 trees over 43.00 ha including (10% casualty Replacement)	58,850

DETAILS OF THE SITE SELECTED:

(a) Crop Composition:

The main species noticed in this area are Amba(Schleichera oleosa), Jackfruit (Artocarpus heterophyllus), Tentuli(Tamarindus indica),Mahula(Madhuca indica),Dhaura (*Anogeissus latifolia*), Moi (*Lannea coromandelica*), Kendu (*Diospyros melanoxylon*), Karada (*Cleistanthus collinus*),Tangan (*Albizia lebbek*), Char (*Buchmania lanzan*) and Salia bamboo (*Dendocalamus strictus*), etc. Crop density varies from <10% to 20%. In such areas, efforts are essential to deflect the biotic interference like grazing, fire, shifting cultivation etc. to maximum possible extent for restricting further degradationof the forestby providing fencing according to site condition.

(b) Temperature:

The average annual temperature varies from 13⁰C to 47⁰C, the minimum being in December- January and the maximum in May-June.

(c) Rain fall:

The annual average rainfall is about 1700mm. The maximum rainfall is received during the rainy season from July to September.

(d) Climate:

The climate of this area is characterized by a hot dry summer and well distributed rainfall by the South-West monsoon. The hot season starts from Februaryand continues till June, which is the hottest month of the year with mean daily maximum temperature of 36⁰C and the mean daily minimum temperature of 16⁰ C. The rainy season starts from July to September, July being the month with the heaviest shower. Relative humidity is high in the South-West monsoon season.

- (e) **Soil:** Wider ranging Soil – Wider ranging from Laterite soil to higher degraded and dominated by *Lantana camara* and *Eupatorium* species.

02. SPECIAL OBJECTIVES OF MANAGEMENT:

- i) To raise the species in Degraded Forest Land to improve the ecosystem and to support the local community's needs.
- ii) To improve the bio-diversity of the site.
- iii) To ensure participation of local communities i.e., Gadaba tribes (PVTGs) in protection and conservation of forests and wildlife.
- iv) Simultaneously to improve the socioeconomic conditions of the local people.
- v) To reduce the land degradation & restore to near normalcy especially.

07. NURSERY:

- A) A good nursery is the pre-requisite for a successful plantation. All care should be taken to raise healthy and sound seedlings of required size (152 cm height) before they are put to plantation site. Planting of Eighteen-month-old seedling of indigenous species shall be taken up. Nursery Program must be planned out as per the "Guide-lines" in the plantation manual 1977 so that a good stock of healthy seedling can be raised. 10% extra seedling is to be raised to cover the shortfall due to casualty in the nursery stage/Plantation Site.
- B) The temporary nursery should be raised near the plantation site as far as practicable for which significant logistics support is required.
- C) The seeds should be collected preferably from plus trees or purchased from State Silviculturist.
- D) Proper treatment of seeds should be done as per the Plantation manual.
- E) During nursery stage periodical shifting and grading is recommended to avoid roots interlacing/ coiling in to the ground soil.

08. PROTECTION:

The important element of successful plantation is Protection. Watchers are to be engaged for the various purposes such as protection, watering to prevent fire during summer season etc.

09. CONTROL:

The nursery journal, plantation journal and other records shall be maintained separately in accordance with the provision of "The Orissa Forest Plantation Manual 1977" indicating the physical and financial achievements. Necessary entries with regard to plantation activities undertaken shall be entered in the journals and shall be produced before the inspecting officers. In case of any eventuality like cyclone, thunderstorm, hail storm etc. if affect the plantation, this should also be noted. It is also necessary to note the distribution of rain fall which not only helps in monitoring the growth of plants at site but also acts as a guideline for the ensuing year's nursery schedule to be formulated.

Protection, measures shall be taken to save the plantation from fire/ grazing incidence. During February / March the cut materials are to be burnt (control burning) under strict supervision. The inspection path shall also have to be laid and weed growths are to be scrapped. Fallen leaves etc. are to be swept regularly.

10. SOIL & WATER CONSERVATION MEASURES:

The land is highly degraded because of continuous shifting cultivation by Gadaba Tribes. Hence site-specific soil moisture conservation measures are needed (The SMC measures has been proposed based on one time cost norms issued vide memo no. 1109 dated 08.11.2021 of PCCF, Odisha.

1. PLANTATION

The area will be restocked by planting adequate nos. of seedlings (58850 nos.) over the identified land for Compensatory Afforestation purpose. Taking into consideration of soil condition, requirement of local inhabitants and suitability of the site, the following local native species are recommended for plantation.

- a. Sisoo(Dalbergia Sissoo)
- b. Bija(Pterocarpus marsupium)
- c. Arjun(Terminalia arjuna)
- d. Karanja(Millettia pinnata)
- e. Neem(Azadirachta indica)
- f. Simili(Bombax ceiba)
- g. Kasi(Bridellia retusa)
- h. Teak (Tectona grandis)
- i. Tentuli(Tamarindus indica)
- j. Gambhar(Gmelina arborea)
- k. Mahula(Madhuca indica)
- l. Amala(Emblica officinalis)
- m. Asan (Terminalia alata)
- n. Dhaura (Anogeissus latifolia)
- o. Kendu (Diospyros melanoxylon)
- p. Jamun(Syzygium cumini)
- q. Tangan (Albizia lebbek)
- r. Salia bamboo (Dendocalamus strictus)(in highly degraded area of the CA Land & also has been demanded by local population)

12. PEOPLE'S PARTICIPATION

The local communities are to be involved for the protection of the plantation. The V.S.S. (Van Suraksha Samiti) is to be formed (if not done earlier) & incentives to be given to the V.S.S. for their active participation in protecting the plantation. Livelihood option and Entry Point Activities are to be taken to improve the socio-economic status of the people living around the forest. For effective protection of area watch and ward shall be provided during the project period (from inception to 10th year) and subsequently the plantation will be looked after by the V.S.S.; Certain Entry Point Activities (EPAs) will enhance the socioeconomic conditions of this local people (PVTGs) & also ensure the protection of the plantation.

13. **WATCH AND WARD**

Watchers (one watcher for every 10Ha of Plantation) should be engaged from the day of inception of the plantation. Also, extra provision for watch and ward will be considered if applicable towards the successful implementation of scheme and for better protection of plantation.

14. **FUNDING AGENCY**

The Deputy Chief Engineer / Con-I, East Coast Railway, Koraput will pay the cost of Compensatory Afforestation amounting to **Rs. 3,81,63,102/- (Rupees Three Crore Eighty One Lakhs Sixty three Thousand One Hundred Two) Only** on receipt of Demand Notice from D.F.O., Jeypore Division. However, Deputy Chief Engineer / Con-I, East Coast Railway, Koraput will furnish an undertaking to pay any additional amount in case any direction from the competent authority.

15. **EXECUTING AGENCY**

Divisional Forest Officer, Jeypore Forest Division.

16. **MONITORING AND EVALUATION**

Divisional Forest Officer, Jeypore Forest Division shall monitor and evaluate the scheme periodically.


Divisional Forest Officer
Jeypore Forest Division

FINANCIAL OUTLAY OF COMPENSATORY AFFORESTATION SCHEME

Financial outlay of Compensatory Afforestation scheme for plantation in an area of 63ha of Degraded Forest Land in Jeypore Forest Division under Koraput District, Odisha.

The financial outlay has been prepared as per the guidelines vide Order No 1109 dated 08.11.2021 of Principal.C.C.F & HoFF, Odisha, Bhubaneswar. During the finalization of financial outlay, onetime cost norm for CA has been considered and the **Compensatory Afforestation cost amounting to Rs. 3,81,63,102/- (Rupees Three Crore Eighty One Lakhs Sixty three Thousand One Hundred Two)Only** has been finalized including plantation over degraded forest land. The calculation detail of the proposed Compensatory Afforestation cost is provided below:

1	The Cost of Plantation Bald Hill over 20 ha. of Degraded Forest Land (DFL) in Jeypore Forest Division, 1600 plants per ha @ Rs.4,88,677 with 10% Casualty (i.e.35200 trees) & with 10 years maintenance [as per cost norm Annexure-13 of Pltn Cost Norm 2019 vide O.O No 1335/12F(Affn)25/2018 dated 18.12.2018] (Without bamboo throne fencing)	9773540
2	Fencing Model F-II (Fencing through Angle Iron & Chain Link wire mesh) 250 RMT/ Ha @ 485432/ Ha, Fencing for 20 Ha Bald Hill.	9708640
2	The Cost of Plantation ANR over 43.00 ha of Degraded Forest Land (DFL) in Jeypore Forest Division 500 plants per ha @ Rs.1,57,554 with 10% Casualty (i.e.23650 trees) & with 10 years maintenance [Matrix for ANR Plantation for Compensatory Afforestation (ANR) @ 500 plants per Ha with 10m Years Maintenance.]	6774822
	Total Plantation	26257002
3	Add 10% of the total plantation cost towards incentives to VSS / Entry Point Activities	2625700
	Total	28882702
4	Soil & Moisture Conservation Measures (Total 100.138-2 Ha VDF) (98.138 ha x Rs. 39284/Ha.)[as per cost norm for in Annexure 11]	4047996
5	Cost of Solar System with Bore Well (1 system for 5 Ha. Plantation) to CA plantation over 20 Ha. @ Rs. 234221/ system. So, 4 Nos. of Bore well are required= Rs. 234221/- x 4 Nos. = Rs. 9,36,884/- (as per Watering Provision W-I)	936884
	Total	33867582
6	An area over 63Ha. is identify for Compensatory Afforestation in Dasmantpur section of Boipaiguda Range. This area is habited by PVTGs like Gadaba Tribes. Due to repeated shifting cultivation by PVTGs the land is highly degraded and domination by laterite camone and eupatorium. Hence the plantation treatment of this area is reducing the soil erosion. Hence planting in this area is very essential. To ensure successful plantation in highly degraded land provision of fertile soil is required. A. Farm Soil / large quality of Sodiums Rs. 9200/- per Ha. (Rs. 9200.00 x 63 ha. = Rs. .5,79,600/-) B. As this area is very inaccessible for transportation of seedling to the plantation site is very difficult, hence a Temporary Nursery with watering along with Water Shed at plantation area is very essential for this (@Rs. 3000000/- per Temporary Nursery).(Total= Rs. 5,79,600/- + Rs. 3000000/-= Rs. 35,79,600/-	3579600
7	Add Escalation Cost (20%)	715920
	G. Total	38163102

(Rupees Three Crore Eighty One Lakhs Sixty three Thousand One Hundred Two)Only

Divisional Forest Officer
Jeypore Forest Division,
Jeypore Forest Division.

COST NORM FOR BALD HILL PLANTATION @ 1600 PLANTS PER HECTARE (Based on the "Per Ha Cost Norm for Bald Hill Plantation (Annexure-13)", vide Office Order no 1335/12F(Affn) 25/2018, dated 18.12.2018 of State Forest Headquarter, Odisha, Office of the Principal Chief Conservator of Forests, Odisha, Bhubaneswar and Plantation for Compensatory Afforestation 1600 Nos of Plant/ Ha with 10 Years Maintenance)

(Labour cost @ ₹311/- per manday)

Sl.No.	Item of Work	Preferable Period of execution	Manday	Labour Cost (₹)	Material Cost (₹)	Total Cost in (₹)
PREPARATORY OPERATION (0TH YEAR)						
1	Survey and demarcation	June	2	622	0	622
2	(ii) To be strengthened by planting of bamboo and other seedlings in two rows. Bamboo to be planted at 2 meters spacing in staggered manner on the two rows, and the rest of the species to be planted at 1/2 meter spacing along the two rows, the rows being 2m apart. Thus 500 plant (125 bamboo and 375 others) to be planted in two rows to cover 126 m of periphery/Ha by the vegetative fence (Bamboo seedlings @ Rs.12.43 per seedling X 125 = Rs.1553.75, Agave seedling @ Rs.4.90 per seedling X 375 = Rs.1837.5)	June-Sept	11	3421	3391.25	6812
3	Pitting (1600 per ha) each pit-45 cm ³	Nov-Dec	128	39808	0	39808
4	Soil and water conservation measures (a) Staggered trench along the contour @ 300 per ha (2.5mx0.5 m x0.5m); digging of percolation pits @ 600 per ha in lieu of staggered trenches, gully plugging and Drainage line treatment, half moon trench on the uphill side of each planting pit (100 MD for staggered trench / percolation pits and 30 MD for gully plugging, drainage line treatment and half moon trench). (b) Site clearance- 8 MD, alignment and staking of contour lines on ground, planting pits, contour trenches / percolation pits and check dam sites, etc.- 2 MD	Sept-Nov	130	40430	0	40430
		July-Aug	10	3110	0	3110
	TOTAL 0th year		281.00	87391	3391	90782
PLANTING OPERATION (1ST YEAR)						
2	Freshening of pits -64 MD, filling with fertile soil and farm yard manure (FYM) -24 MD, application of insecticide and planting of 60 cm tall saplings including carriage of plants- 21 MD	June-July	109	33899	0	33899
3	Cost of Fertile Soil 0.25 cft @ Rs.8 per cft/FYM 0.25 cft @ Rs.15 per cft per pit		0	0	9200	9200
4	Sowing of seeds on dug out earth of trench	June	6	1866	200	2066
5	Carriage -6 MD, Planting including Casualty replacement-6 MD, fertilizer application- 5 MD, 1st weeding-7 MD, 2nd weeding -5 MD, soil working- 7 MD	July-Aug	36	11196	0	11196
6	cost of Fertilizer and insecticide (Granular Insecticide @ 5 gms/plant @ Rs.80/- per kg=Rs.640.00, NPK 100 gms/plant in two doses @ Rs.24 per kg= 3840		0	0	4480	4480
7	Maintenance of soil and Moisture Conservation measures (20% of cost)	Oct-Dec	26	8086	0	8086
8	Closure to grazing fire and other biotic interference by engaging watch & ward	April-Mar	30	9330	0	9330
9	Fire tracing and control, display board construction, painting / writing, other miscellaneous cost	Jan-Feb	10	3110	360	3470
	TOTAL (1st Year)		217	67487	14240	81727


 Divisional Forest Officer
 Jeypore Forest Division

S.N o.	Item of Work	Preferable Period of execution	Manday	Labour Cost (₹)	Material Cost (₹)	Total Cost in (₹)
MAINTENANCE OPERATION (2ND YEAR)						
1	Casualty replacement- 6 MD including seedling cost @Rs.12.43 per seedling and its transportation	June-July	10	3110	1988.00	5098.00
2	Soil working- 7 MD, 1st weeding-6 MD, 2nd weeding -6 MD and fertilizer application -4 MD	Aug-Oct	23	7153	0	7153
3	Cost of fertilizer @ 50 gms NPK per plant @ Rs.24/- per kg for 1600 plants =Rs.1920.00 Insecticide @ 5 gm per plant for 160 nos. of plants @ Rs. 80 per KG = Rs. 64.00		0	0	1984	1984
4	Maintenance of Soil and Moisture Conservation measures (20% of cost)	Aug-Oct	26	8086	0	8086
5	Fire tracing and control and other miscellaneous cost	Feb-Mar	10	3110	0	3110
6	Closure to grazing, fire and other biotic interference by engaging watch and ward	April-Mar	30	9330	0	9330
TOTAL 2nd Year			99	30789	3972	34761
MAINTENANCE OPERATION (3RD YEAR)						
1	SMC measures (Renovation)-26 MD and maintenance of plantation-14 MD as per requirement	April- Mar	40	12440	0	12440
2	Closure to grazing, fire and other biotic interference by engaging watch and ward	April- Mar	18	5598	0	5598
TOTAL 3rd Year			58	18038	0	18038
MAINTENANCE OPERATION (4TH YEAR)						
1	SMC measures - 21 MD and maintenance of plantation-14 MD	April- Mar	35	10885	500	11385
2	Closure to grazing, fire and other biotic interference by engaging watch and ward	April- Mar	18	5598	0	5598
TOTAL 4th Year			53	16483	500	16983
MAINTENANCE OPERATION (5TH YEAR)						
1	Closure to grazing, fire and other biotic interference by engaging watch and ward	April- Mar	18	5598	0	5598
TOTAL 5th Year			18	5598	0	5598
MAINTENANCE OPERATION (6TH YEAR)						
1	Closure to grazing, fire and other biotic interference by engaging watch and ward	April- Mar	18	5598	0	5598
TOTAL 6th Year			18	5598	0	5598
MAINTENANCE OPERATION (7TH YEAR)						
1	Closure to grazing, fire and other biotic interference by engaging watch and ward	April- Mar	18	5598	0	5598
TOTAL 7th Year			18	5598	0	5598
MAINTENANCE OPERATION (8TH YEAR)						
1	Closure to grazing, fire and other biotic interference by engaging watch and ward	April- Mar	18	5598	0	5598
TOTAL 8th Year			18	5598	0	5598
MAINTENANCE OPERATION (9TH YEAR)						
1	Closure to grazing, fire and other biotic interference by engaging watch and ward	April- Mar	18	5598	0	5598
TOTAL 9th Year			18	5598	0	5598
MAINTENANCE OPERATION (10TH YEAR)						
1	Closure to grazing, fire and other biotic interference by engaging watch and ward	April- Mar	18	5598	0	5598
TOTAL 10th Year			18	5598	0	5598


 Divisional Forest Officer
 Jeypore Forest Division

ABSTRACT

Sl. No.	Year	No. Person Day	Labour cost @ ₹ 311/-per day	Material cost (₹)	Total cost in (₹)	MELD and other contingency 5% (4+5+6)	Seedling Cost @ 50.31	Total Cost
1	0th Year	281	87391	3391	90782	4539		95321
2	1st Year	217	67487	14240	81727	4086	88546	174359
3	2nd Year	99	30789	3972	34761	1738	8050	44549
4	3rd Year	58	18038	0	18038	902		18940
5	4th Year	53	16483	500	16983	849		17832
6	5th Year	18	5598	0	5598	280		5878
7	6th Year	18	5598	0	5598	280		5878
8	7th Year	18	5598	0	5598	280		5878
9	8th Year	18	5598	0	5598	280		5878
10	9th Year	18	5598	0	5598	280		5878
11	10 th Year	18	5598	0	5598	280		5878
	Total	816	253776	22103	275879	13794	96596	386269

In case of Bald Hill Plantation, the hills having more than 30% slope will qualify for Bald Hill Plantation norm. In remaining areas of the hill, cost norm for normal plantation @ 1600 plants per hectare will be applicable. In case of highly refractory sites having rocky out crop having less than 30% slope, the concerned CFs/RCCFs I/C circle will have to certify specifically about the Bald Hill characteristics of the site. In case of high hills, the upper portion may quality for Bald Hill Cost Norm and the foot hill with normal soil depth may be taken up at per with norms applicable for normal plantation. But the provision of fencing Bald Hill Plantation Norms will be available for the entire plantation in such case also.

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, Countour Trench, Graded Bund, etc may be taken up
- Chain link fencing can be adopted in the CA plantatin taken up outside the forest area and Bamboo twings fencing may be preferred to CA plantation
- 4 taken up in degraded forest area.
- 5 Watering facilities for procurement of water & watering may be adopted as per the avaiability of water.
- 6 The Cost Norm of various items can be changed with the approval of the concerned RCCF's keeping the overall cost norm fixed for each Financial Year.

Matrix for Conventional CA Plantation (BALD HILL) 1600 plants per Ha Prepared from the Cost Norm for Bald Hill Plantation published vide office Order No 1335/12F (Affm)25/2018 Dated 18.12.2018 of State Forest Headquarters, O/O the Principal C.C.F., Odisha, Bhubaneswar.

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	95321	174359	44549	18940	17832	5878	5878	5878	5878	5878	5878											386269
1	2021-22	95321	183077	49112	21925	21674	7502	7876	8271	8685	9118	9575											422136
2	2022-23		100087	192231	51567	23022	22757	7877	8270	8684	9119	9574	10054										443242
3	2023-24			105091	201843	54145	24173	23895	8271	8684	9118	9575	10053	10557									465405
4	2024-25				110346	211935	56852	25382	25090	8685	9118	9574	10054	10558	11085								488677
5	2025-26					115863	222532	59695	26651	26345	9119	9574	10053	10557	11084	11639							513112
6	2026-27						121656	233659	62680	27984	27662	9575	10053	10556	11085	11638	12221						538769
7	2027-28							127739	245342	65814	29383	29045	10054	10556	11084	11639	12220	12832					565708
8	2028-29								134126	257609	69105	30852	30497	10557	11084	11638	12221	12831	13474				593994
9	2029-30									140832	270489	72560	32395	32022	11085	11638	12220	12832	13473	14148			623694
10	2030-31										147874	284013	76188	34015	3623	11639	12220	12831	13474	14147	14855		654879


Divisional Forest Officer
Jeypore Forest Division

Fencing for Compensatory Plantation raised outside the Forest Areas using Angle Iron & Chain Link wire mesh (The Cost Norm is based on the Cost Norm for Fencing Model F-II (Fencing through Angle Iron & Chain Link Wire mesh) with 10 Years Maintenance Wage rate Rs.352 per mandays published vide office Order No 1109/9F-(Misc)-387/2021 dated 08.11.2021 of State Forest Head quarter, O/O the Principal Chief Conservator of Forests, Odisha, Bhubaneswar.)

(250 Rmt/Ha.)

Sl. No	Item of work	Preferable Period of Execution	Man days	Wages	Material cost	Total Cost (Rs.per Ha.)
0th Year						
1	Earth work (Excavation of pits) in Hard soil at a distance 3 mt. $0.40m \times 0.40m = 0.064 \times 84 = 5.376$ cum @ Rs.140/ cum=Rs.753.		2.42	851.84	0	851.84
2	Cement concrete (1:4:8) using 40 mm BHC metal $84 \times 0.40m \times 0.10m = 1.344 @ 3755.94/cum$		0	0	5,047.40	5,047.40
3	Angle Iron pole of size 50mm X 50 mm X 6mm of height 2.40mt. $84 \times 2.40 = 201.60$ Sqmt. @4.50/kg/Sq.mt.= 907.20 kg@ 69.50 per kg				63,050.00	63,050.00
4	Cement Concrete (1:2:4) for fixing the iron angle pole using 12mm BHG Chips $84 \times 0.40m \times 0.40m \times 0.30m = 4.032$ cum @5486.77/cum				22,123.00	22,123.00
5	Cost of Chain link mesh using 4mm Dia GI wire having gap size 50mm X 50mm 250 Rmt X				173775	173775
6	Double cost painting of Iron angle pole over a $84 \times 2.10 \times 0.20 = 35.28$ sqmt. @ Rs.108.80/Sq.mt				3,838.00	3,838.00
7	Painting of GI chain link mess $250 \times 2.10 \times 2 = 1050/10 = 105$ Sqmt. @108.80Sq.mt.				11,424.00	11,424.00
8	Transportation of Chain link mesh, Iron angle, Straightening & tying of chain link mess etc. @ 2% of the total cost.				5,600.00	5,600.00
	Total		2.42	851.84	284857.4	285709.24
Rate						
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 $1142 \times 1\% = 1142$ 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. $1142 \times 1\% = 1142$ 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. $1142 \times 1\% = 1142$ 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. $1142 \times 1\% = 1142$ say Rs.11	Sept / Oct	0	0	11000	11000
6th Year Maintenance						

		Execution				
1	Maintenance of wire mess fence @ 1% per running mt. cost of installation in 1st yr.	Sept / Oct	0	0	11000	11000
	1142 x 1% = 1142 say Rs.11					
7th Year Maintenance						
1	Maintenance of wire mess fence @ 1% per running mt. cost of installation in 1st yr.	Sept / Oct	0	0	11000	11000
	1142 x 1% = 1142 say Rs.11					
8th Year Maintenance						
1	Maintenance of wire mess fence @ 1% per	Sept / Oct	0	0	11000	11000
	1142 x 1% = 1142 say Rs.11					
9th Year Maintenance						
1	Maintenance of wire mess fence @ 1% per	Sept / Oct	0	0	11000	11000
	1142 x 1% = 1142 say Rs.11					
10th Year Maintenance						
1	Maintenance of wire mess fence @ 1% per	Sept / Oct	0	0	11000	11000
	1142 x 1% = 1142 say Rs.11					

Abstract

SL. No	Year	No. person days	Labour cost @ Rs.352/- per days	Material Cost	Total cost
1	0 th year	2.42	851.84	284857	285709
2	1 st year	0	0	0	0
3	2 nd year	0	0	11000	11000
4	3 rd year	0	0	11000	11000
5	4 th year	0	0	11000	11000
6	5 th year	0	0	11000	11000
7	6 th year	0	0	11000	11000
8	7 th year	0	0	11000	11000
9	8 th year	0	0	11000	11000
10	9 th year	0	0	11000	11000
11	10 th year	0	0	11000	11000
	Total	2.42	851.84	383857	384709


Divisional Forest Officer
Jeypore Forest Division

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

Sl. No.	Commen t Year	Total																							
		I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	XIII	XIV	XV	XVI	XVII	XVIII	XIX	XX	XXI	Cost		
1	2021-22	285610	0	11000	11000	11000	11000	11000	11000	11000	11000	11000	11000	11000	11000	11000	11000	11000	11000	11000	11000	11000	11000	11000	419331
2	2022-23	285610	0	12126	12734	13370	14039	14740	15478	16252	17064	17918													440299
3	2023-24		299891	0	12732	13371	14039	14741	15477	16252	17065	17917	18814												462316
4	2024-25			314886	0	13369	14040	14741	15478	16251	17065	17918	18813	19755											462316
5	2025-26				330630	0	14037	14742	15478	16252	17064	17918	18814	19754	20743										485432
6	2026-27					347162	0	14739	15479	16252	17065	17917	18814	19755	20742	21780									509705
7	2027-28						364520	0	15476	16253	17065	17918	18813	19755	20743	21779	22869								535191
8	2028-29							382746	0	16250	17068	17918	18814	19754	20743	21780	22868	24012							561951
9	2029-30								401883	0	17063	17919	18814	19755	20742	21780	22869	24011	25213						590049
10	2030-31									421977	0	17916	18815	19755	20743	21779	22869	24012	25212	26474					619552
											443076	0	18812	19756	20743	21780	22868	24012	25213	26473	27798				650531

Divisional Forest Officer
Jeypore Forest Division

COST NORM FOR AIDED NATURAL REGENERATION (ANR) @ 500 PLANTS PER HECTARE) WITH 10 YEAR MAINTENANCE

Wage rate ₹ 311/Day.

(The Cost Norm is based on the Cost Norm for Comensatory Afforestation, Odisha @ 200 Plants / Ha. with 10 Years Maintenance Wage rate Rs.352 per mandays vide office Order No 1109/9F-(Misc)-387/2021 dated 08.11.2021 of State Forest Head quarter, O/O the Principal Chief Conservator of Forests, Odisha, Bhubaneswar.)

Sl. No.	Item of Work	Preferable period of Execution	Labour in Mandays	Labour Cost (₹)	Material Cost (₹)	Total Cost in (₹)
0TH YEAR						
1	Survey, Demarcation and Pillar Posting, GPS Reading with mapping	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 Operation including clearance of weed, climber cutting, high stump cutting, singling of shoots etc & 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 x 45 cm x 45 cm)	Feb/Mar	20	6220	0	6220
	SUB TOTAL		41	12751	100	12851
7	Monitoring , Evaluation, Learning, Documentation any other contivity 5% of the total cost					549
	GRAND TOTAL		41	12751	100	13400
1ST YEAR OPERATION						
1	Refilling of pits by altering the dugout soil of the pits, application of Organic compounds / CDM/ FYM & mixing the same properly	June/July	4	1244	2500	3744
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 theseedling @ Rs6/- per seedling (220 Nos)	Jul/Aug	0	0	3300	3300
3	Watering polypot seedlings at stacking site of plantation	Jul/Aug	1	311.0	0	311.0
4	Conveyance of polypot seedlings on head load from the stacking site to individual dug out pits within the planting site, applying insecticide, fertilizer & planting after scooping the soil with other applied materials & pressing the soil properly around the planted seedling	Jul/Aug	11.0	3421	0	3421
5	Cost of fertiliser & insecticide Cost of insecticide and fertilizer (a)NPK/ Bio fertilizer @ 50 gms/plant as basal dose =80kg @ Rs.30/- per kg = Rs.750 (b) Urea/ Vermi compost/ Mo Khata / any other in two subsequent doses @ Rs.375/- (c) Insecticide/ Bio pesticide @ 5 gms/plant @ Rs.150/- per kg = Rs.375/-	Jul/Aug	0	0	1500	1500
6	Casulty Replacement @ 10% (20 Nos)	Jul/Aug	1.5	467	0	467
7	1st Weeding and Manuring	Aug/Sep	5	1555	0	1555
8	2nd Weeding, soil working (1 mt diameter around the plants(& Manuring	Oct/ Nov	8	2488	0	2488
9	Fireline Tracing and Inspection Path	Feb/Mar	3	933	0	933
10	Watch & Ward including watering as per requirement	Aug-Mar	8	2488	0	2488
	SUB TOTAL		41.5	12907	7300	20207
11	Monitoring & Supervision charge 5% of the total cost					994
	GRAND TOTAL		41.5	12906.5	7300	21200
2ND YEAR OPERATION						
1	Transportation of 20 seedlings from Nursery to plantation site including loading unloading & conveyance by Tractor @ Rs6/- per seedling	Jul	0	0	300	300.00
2	Casulty Replacement	Jul	1.5	467	0.00	466.50
3	Cost of Fertilizer & Insecticide Cost of Insecticide / Bio pesticide @ 5 Gms / Plant=0.25 Kg@ Rs.150/- KG=37.50/- Urea/NPK/Bio Fertilizer/ Vermi Compost/ Mo Khata/ any other fertilizer @ Rs1400/-	Jul	0	0	1437.50	1437.50
4	Weeding (complete weeding) Manuring and Soil working (1 Mt Diameter around the plant)	Sep/Oct	8	2488	0	2488

Sl. No.	Item of Work	Preferable period of Execution	Labour in Mandays	Labour Cost (₹)	Material Cost (₹)	Total Cost in (₹)
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	12	3732	0	3732
SUB TOTAL						
7	Monitoring & Supervision charge 5% of the total cost		24.5	7619.5	1737.5	9357
GRAND TOTAL						443
3RD YEAR OPERATION						
1	Cost of Fertilizer Cost of Urea/NPK/Bio Fertilizer/ Vermi Compost/ Mo Khata/ any other fertilizer =1400/-	Sep/Oct	0	0	1400	1400
2	Weeding (complete weeding) Manuring and Soil working (1 Mt Diameter around the plant)	Aug/Sep	8	2488	0	2488
3	Fire line tracing (2 m. wide fire line over 400 m long) including maintenance of Inspection Path	Feb/Mar	3	933	0	933
4	Watch & Ward including watering as per requirement	Apr-Mar	12	3732	0	3732
SUB TOTAL						
5	Monitoring & Supervision charge 5% of the total cost		23	7153	1400	8553
GRAND TOTAL						347
4TH YEAR OPERATION						
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 including watering as per requirement	Apr-Mar	12	3732	0	3732
SUB TOTAL						
3	Monitoring & Supervision charge 5% of the total cost		15	4665	0	4665
GRAND TOTAL						135
5TH YEAR OPERATION						
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 including watering as per requirement	Apr-Mar	12	3732	0	3732
SUB TOTAL						
3	Monitoring & Supervision charge 5% of the total cost		15	4665	0	4665
GRAND TOTAL						135
6TH YEAR OPERATION						
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 including watering as per requirement	Apr-Mar	12	3732	0	3732
SUB TOTAL						
3	Monitoring & Supervision charge 5% of the total cost		15	4665	0	4665
GRAND TOTAL						135
7TH YEAR OPERATION						
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 including watering as per requirement	Apr-Mar	12	3732	0	3732
SUB TOTAL						
3	Monitoring & Supervision charge 5% of the total cost		15	4665	0	4665
GRAND TOTAL						135
8TH YEAR OPERATION						
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 including watering as per requirement	Apr-Mar	12	3732	0	3732
SUB TOTAL						
3	Monitoring & Supervision charge 5% of the total cost		15	4665	0	4665
GRAND TOTAL						135
9TH YEAR OPERATION						

Sl. No.	Item of Work	Preferable period of Execution	Labour in Mandays	Labour Cost (₹)	Material Cost (₹)	Total Cost in (₹)
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 including watering as per requirement	Apr-Mar	12	3732	0	3732
SUB TOTAL			15	4665	0	4665
3	Monitoring & Supervision charge 5% of the total cost					135
GRAND TOTAL			15	4665	0	4800
10TH YEAR OPERATION						
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 including watering as per requirement	Apr-Mar	12	3732	0	3732
SUB TOTAL			15	4665	0	4665
3	Monitoring & Supervision charge 5% of the total cost					135
GRAND TOTAL			15	4665	0	4800


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A B S T R A C T										
Sl. No.	Item of Work	No. Person Day	Labour cost @ ₹ 311/- per day	Material cost (₹)	Monitoring & Supervision charge 5% of the total cost	Total cost in (₹)	Seedling Cost @ 50.31	Total Cost		
1	0th Year operation	41	12751	100	549	13400		13400		
2	1st Year operation	41.5	12906.5	7300	993.5	21200	27670.5	48870.5		
3	2nd Year operation	24.5	7619.5	1737.5	443	9800	2515.5	12315.5		
4	3rd Year operation	23	7153	1400	347	8900		8900		
5	4th Year operation	15	4665	0	135	4800		4800		
6	5th Year operation	15	4665	0	135	4800		4800		
7	6th Year operation	15	4665	0	135	4800		4800		
8	7th Year operation	15	4665	0	135	4800		4800		
9	8th Year operation	15	4665	0	135	4800		4800		
10	9th Year operation	15	4665	0	135	4800		4800		
11	10th Year operation	15	4665	0	135	4800		4800		
TOTAL		235	73085	10537.5	3277.5	86900	30186	117086		


 Divisional Forest Officer
 Jeypore Forest Division

Matrix for ANR Plantation for Compensatory Afforestation (ANR) @ 500 plants per Ha with 10m Years Maintenance.

Sl. NO.	Commencement	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)
1	2021-22	13400	48871	12316	8900	4800	4800	4800	4800	4800	4800	4800											136098
		13400	51315	13577	10303	5834	6126	6432	6754	7092	7446	7819											
2	2022-23		14070	53881	14256	10818	6126	6432	6754	7092	7447	7818	8210										142904
3	2023-24			14774	56575	14969	11359	6432	6754	7092	7447	7819	8209	8621									150051
4	2024-25				15513	59404	15717	11927	6754	7092	7447	7819	8210	8619	9052								157554
5	2025-26					16289	62374	16503	12523	7092	7447	7819	8210	8621	9050	9505							165433
6	2026-27						17103	65493	17328	13149	7447	7819	8210	8621	9052	9503	9980						173705
7	2027-28							17958	68768	18194	13806	7819	8210	8621	9052	9505	9978	10479					182390
8	2028-29								18856	72206	19104	14496	8210	8621	9052	9505	9980	10477	11003				191510
9	2029-30									19799	75816	20059	15221	8621	9052	9505	9980	10479	11001	11553			201086
10	2030-31										20789	79607	21062	15982	9052	9505	9980	10479	11003	11551	12131		211141

Divisional Forest Officer
Jeypore Forest Division

MATRIX FOR WATERING MODEL W-1 (solar bore well) fitted with drip system (Per Ha)

Sl. No.	Comment Year	Watering Model W-1 (solar bore well) fitted with drip system (Per Ha)																Total Cost
		I 2E+05	II 0	III 8174	IV 8174	V 8174	VI 8174	VII	VIII	IX	X	XI	XII	XIII	XIV	XV	XVI	
1	2021-22	163486	0	9011	9463	9935	10432											202327
2	2022-23		171660	0	9462	9936	10432	10954	0	0	0	0						212444
3	2023-24			180243	0	9935	10433	10954	11502	0	0	0	0					223067
4	2024-25				189255	0	10432	10955	11502	12077	0	0	0	0				234221
5	2025-26					198718	0	10954	11503	12077	12681	0	0	0	0			245933
6	2026-27						208654	0	11502	12078	12681	13315	0	0	0	0		258230
7	2027-28							219087	0	12077	12682	13315	13981	0	0	0	0	271142
8	2028-29							230041	0	12681	13316	13981	14680	0	0	0	0	284699
9	2029-30								241543	0	13315	13982	14680	15414	0	0	0	298934
10	2030-31									253620	0	13981	14681	15414	16185	0	0	313881

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Matrix for (SMC)

Sl. No.	Comment cement Year Base Norm															Total		
		I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	XIII	XIV	XV	XVI	Cost
1	2021-22	0	21226	3342	3510	2685	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	34571	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	4636	5186	5443	5717			52642
10	2030-31										0	32928	5183	5445	5715	6003		55274

Divisional Forest Officer
Jeypore Forest Division

CERTIFICATE ON DSS ANALYSIS FOR CA/ACA/PCA

This is certify that DSS Analysis of land identified for CA/ACA/PCA and subsequent ground truthing have been done. The outcome is as mentioned below:

Sl. No	Name of the Range	Name of the Forest Block (RF/RRF/PF/DPF /Revenue Forest)	Area identified for CA/ACA/PCAV (in Ha)	Classification of indented land (in Ha.)											Area suitable for plantation (in Ha.)					Plantation Model (Bald Hill/ANR)	Remarks
				Very Dense Forest	Moderately Dense Forest	Open Forest	Non Forest	Scrub	Water	Total	Open Forest	Non-Forest	Scrub	Total	16	17					
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17					
			50.031	2	25	15	8.031	0	0	50.031	12	8		20	Bald Hill-20 Ha @ 1600=32000 No of Trees	Requirement of tree for 47.362 Ha of diverted land is 47.362 x 1000= 47362 Nos					
	1	Boiparigunda	50.107	0	7.107	24	13	6	0	50.107	24	13	6	43	ANR 43 Ha @500=21500 No of Trees						
		Banabeda PRF																			
		Total	100.138	2	32.107	39	21.031	6	0	100.138	36	21	6	63	53500						


Divisional Forest Officer
 Jeyapore Forest Division