

SCHEME FOR
COMPENSATORY AFFORESTATION LAND
(Total 434.102 Ha)
OVER NON-FOREST GOVT. LAND (264.424 Ha), DLC LAND
(69.078 Ha) AND ADDITIONAL DLC LAND (100.600 Ha) OF
SUNDARGARH DISTRICT,
SUNDERGARH FOREST DIVISION, ODISHA
AGAINST DIVERSION OF FOREST LAND (i.e. 342.87 Ha)
FOR

Development of Dip side Manoharpur Coal Mine

By

Odisha Coal and Power Ltd

Prepared by

Divisional Forest Officer
Sundargarh Forest Division

SUITABILITY CERTIFICATE

Certified that (i) **Non-Forest Govt. Land (effective area available for plantation – 88 Ha out of identified 264.424 Ha)** identified in villages Keshrijima, Bendrichua, Kunjanala, Laxmanpa, Etama, , Phateimunda, Gambharidihi, Budhabahal, Telendihi of Tahasil Hemgir, Lephripa, Badagaon, , Balisankara and Tangarpali of Dist. Sundargarh, (ii) **DLC land (69.078 Ha)** in villages Kunjnala, and Galeibahal of Tahasil Lephripa and Badagaon of Dist. Sundargarh (iii) **Additional DLC Land (effective area available for plantation – 95 Ha out of identified 100.600 Ha)** in villages Karuabahal, Khaturbahal, Kandeimunda, Tunumura, Bailama, of Tahasil Balisankara & Kutra of Sundergarh District , Sundargarh Forest Division is suitable for the purpose of Compensatory Afforestation in lieu of Forest Land over 342.87 ha to be diverted for the development of Dip side Manoharpur Coal Mine by Odisha Coal and Power Ltd. The identified area for CA purpose is suitable for plantation and no plantation has been carried out in the identified CA land in any scheme previously. In addition to above, balance seedlings to meet the criteria of "Tree by Tree", plantation will be carried out in the Degraded Revenue Forest Land of 160 Ha in Kondakanmberu URL of Malkhangiri Forest Division.



**Divisional Forest Officer,
Sundargarh Forest Division**

DIVISIONAL FOREST OFFICER
SUNDARGARH FOREST DIVISION

SCHEME FOR COMPENSATORY AFFORESTATION OVER NON-FOREST GOVT. LAND, DLC LAND, ADDITIONAL DLC LAND OF SUNDERGARH FOREST DIVISION, ODISHA & DEGRADED REVENUE FOREST (DRF) LAND OF MALKHANGIRI FOREST DIVISION, ODISHA.

01. INTRODUCTION:

Odisha Coal and Power Limited (OCPL) is a company incorporated under the Companies Act 2013, India. OCPL is a Government company as defined by Section 2(45) of the Companies Act, 2013, which was formed as a joint venture Company of Odisha Power Generation Corporation Limited (OPGC) and Odisha Hydro Power Corporation Limited (OHPC), with a shareholding pattern of 51% and 49% respectively. OCPL is created with an intention to develop and operate coalmine to cater the fuel requirement of OPGC Power Projects.

In order to meet the requirement of thermal coal for the OPGC's phase II and phase III expansion Project, Ministry of Coal, Government of India vide Order No.103/ 25/ 2015/ NA Dt.31.08.2015 has allotted two coal blocks namely (i) Manoharpur coal block having extractable reserve of 155.91 MT (ii) Dipside Manoharpur Coal Block having extractable reserve of 480.399 MT. These coal blocks are located in IB Valley coalfield of Sundargarh District, Odisha.

The blocks derive its name from the adjacent village Manoharpur in Sundargarh district which lies within the block and it is bounded by Latitudes $21^{\circ} 55'52.168''$ N to $21^{\circ} 58'16.871''$ N and Longitudes $83^{\circ} 44' 41.287''$ E to $83^{\circ} 47'42.750''$ E. The Dip side Manoharpur Block is covered under Survey of India Topo sheet No. F44 R13 (64 O/13) & F44 R9 (64 O/9).

Dip Side Manoharpur Coal block is about 45km away from Sundargarh along Sundargarh -Hemgiri road which passes near the block. The two nearest towns on State Highway SH-10 are connected with all-weather roads viz. Sundargarh (45km) and Jharsuguda (40km). The nearest railway station is Hemgiri, lying on the Mumbai -Howrah main Railway line and is about 20 km. away from Manoharpur Coal Block. The nearest airport is Jharsuguda.

In lieu of diversion of 342.870 ha of Revenue Forest and Reserve Forest area; 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 compensatory afforestation duly approved by the Chief Conservator of Forest Division and Nodal Officer.

Earlier, 342.902 ha non-forest govt. land was identified in Sundargarh District for CA purpose, which comprises of 245.318 ha non-forest govt. land, 93.691 ha DLC land and 109.933 ha under additional DLC land. But after EDS raised by MoEF&CC vide letter dt. 24.03.2023, some of the CA land patches were not meeting the criteria as prescribed by MoEF&CC for CA land. Hence to meet the MoEF&CC norms, 19.106 ha non-forest govt. land is again identified and finalized in consultation with competent authority for CA purpose.

As per Para 2.3 of Guideline to FC Act 2019, Compensatory Afforestation is to be raised over **equivalent non-forest land** to the area proposed for diversion. Therefore, **434.102 ha** of non-forest Govt. land has been identified in Sundargarh District of Sundargarh Forest Division for Compensatory Afforestation Purpose as 69.078 ha of the land is coming under DLC list. Hence, as per applicable guidelines of DLC land, additional DLC land of 100.600 ha has been identified for CA purpose. Further, DSS has also been checked to find out the canopy density and accordingly the land has been finalized for CA purpose. The effective total CA land as per applicable guidelines is coming to 349.263 ha as against the requirement of 342.87 ha. further excess land has been identified to accommodate any further requirement or future discrepancies.

The details of the revised 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	342.87
2	Non-Forest Area identified for CA purpose	264.424
3	Land identified under DLC List	69.078
4	Additional DLC land identified	100.600
5	Total DLC land	169.678
6	Thus, Total CA Land (2+5)	434.102
<i>Note : The excess land has been provided to accommodate any further requirement or discrepancies in future.</i>		

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. planation of 1000 trees per ha for the diverted land over non-forest govt. land as identified under the applicable guidelines of Govt. of Odisha. The plantation to be carried out over non-forest govt. land is provided below:

Table 2 : Plantation scheme over Non Forest Govt. Land after DSS Check

Sr. No.	Particular	Area (ha) / Nos.
1	Total Area of Non Forest Govt. land identified for CA	264.424
2	After DSS check, effective Area available for plantation out of 264.424 ha of non-forest govt. land	88
3	Hence, no. of trees that can be planted over non-forest govt. land (88 ha) considering 1000 trees per ha	88000

02.ORSAC verification of identified non-forest govt. land (i.e. 264.424 ha), DLC land (69.078 ha) and additional DLC land (i.e. 100.600 ha)

The non-forest govt. land i.e. 264.424 ha, DLC land (69.078 ha) and additional DLC land i.e. 100.600 ha have been verified by the ORSAC after DGPS survey vide their letter dt. 07.07.2023. The DGPS surveyed index map including land schedule duly certified by ORSAC for the non-forest govt. land, DLC land and additional DLC land is attached along with the diversion proposal (refer Plates/ files).

03.DESCRPTION OF EXISTING VEGETATION:

The Compensatory Afforestation sites identified are having non-forest, scrub, open forest, moderate dense forest (MDF) and very dense forest (VDF) land. As per the sample tree enumeration carried out over the forest land of 342.87 ha (reserve forest of 176.59 ha and revenue forest of 166. 28 ha) and non-forest land of 437.570 ha (Pvt. land of 116.63 ha and Govt. land of 320.94 ha), the site is covered with miscellaneous species like Sal (*Shorea robusta*), Kendu (*Diospyros melanoxylon Roxb.*), Mahul (*Madhuca longifolia*), Char, Harida, Dhaura, kekat, senha, sahaj etc. The growing stock is struggling against the biotic interference like grazing, fire hazard, illicit felling and encroachment. However, whatever regeneration is sprouting do not grow due to trampling effect by domestic cattle of surrounding villages. These species are existing at sparse in deformed shape. Major Plant of this area is covered with weeds like *Lantana camara* and *Eupatorium odoratum*.

04. TOPOGRAPHY & SOIL:

The identified C A land is located in Sol Topo Sheet No F45G7, F45R13, F45G4, F44R9, F44L12 and F45G3.

Plantation in Non-Forest Govt. Land: As stated above that after DSS check, the effective area available for plantation in Non Forest Govt. Land is about 88 ha out of identified 264.424 ha land identified for CA purpose. The rest area falls under the MDF and VDF as categorized by Forest Survey of India. Hence, only the effective area available under category of non-forest and open forest has been considered for plantation. The patch wise plantation details considered for AR Block Plantation is provided below:

Table 3 : Plantation scheme in Non-Forest Govt. Land

Sr. No.	Patch (Village) / Range	Total Non Forest Govt. Land identified for CA as per DSS	Effective area available for AR Block Plantation after DSS Check	Plantation scheme as per norms for AR Block Plantation	Total No. of Plants can be Planted for CA Purpose
1.	Bendrichuan / Hemgir	70	5	1000 Plants per Ha	5,000
2.	Etama / Badagaon	18	5	1000 Plants per Ha	5,000
3.	Laxmanpa / Lephripada	112	56	1000 Plants per Ha	56,000
4.	Phateimunda / Ujjalpur	8	8	1000 Plants per Ha	8,000
5.	Kesharijima / Hemgir	20	2	1000 Plants per Ha	2,000
6.	Kunjanala / Lephripada	8	0	-	-
7.	Gambharidhi / Ujjalpur	4	2	1000 Plants per Ha	2000
8.	Budhabahal / Ujjalpur	10	5	1000 Plants per Ha	5000
9.	Telendihi / Ujjalpur	5	5	1000 Plants per Ha	5000
10.	DLC Land				
11.	Kunjanala	38	-	-	-
12.	Galeibahal	30	-	-	-
	Total	323	88		88,000

Note: In compliance to the EDS observation raised by MoEF&CC vide letter dt. 24.03.2023, the DLC area of 93.691 ha has been revised to 69.078 ha and additional DLC land of 109.933 ha has also been revised to 100.600 ha, which has been taken for the CA purpose to meet the Land by Land criteria and hence the same has also been taken for plantation purpose as per the applicable norms / guidelines.

Plantation in additional DLC Land of 100.600 Ha : In the identified additional DLC land of 100.600 ha, only 95 ha is the effective area (consisting of non-forest and open forest) which is available for plantation and rest is MDF and VDF as per the DSS results. The patch wise plantation details considered for AR Block Plantation in additional DLC land is provided below:

Table 4 : Plantation scheme in additional DLC Land

Sr. No.	Patch (Village) / Range	Additonal DLC land for CA as per DSS	Effective area available for AR Block Plantation after DSS Check	Plantation scheme as per norms for AR Block Plantation	Total No. of Plants can be Planted for CA Purpose
1.	Bailama / Lefripada	15	15	1000 Plants per Ha	15,000
2.	Karuabahal / Ujjalpur	36	34	1000 Plants per Ha	34,000
3.	Khaturbahal Badagaon	16	16	1000 Plants per Ha	16,000
4.	Tunumura Badagaon	21	18	1000 Plants per Ha	18,000
5.	Kandeimunda Badagaon	12	12	1000 Plants per Ha	12,000
	Total	100	95	-	95,000

DETAILS OF THE SITE SELECTED:

(a) Crop Composition:

The main species noticed in this area are Sal (*Shorea robusta*), Asan (*Terminalia alata*), Dhaura (*Anogeissus latifolia*), Moi (*Lannea coromandelica*), Kendu (*Diospyros melanoxylon*), Simal (*Bombax ceiba*), Karada (*Cleistanthus collinus*), Tangan (*Albizia lebbek*), Char (*Buchnanian 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 degradation of the crop by providing fencing according to site condition.

(b) Temperature:

The average annual temperature varies from 17°C to 41°C, the minimum being in December- January and the maximum in May-June.

(c) Rain fall:

The annual average rainfall is about 920.55mm. The maximum rainfall is received during the rainy season from July to August.

(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 March and continues till May, which is the hottest month of the year with mean daily maximum temperature of 41°C and the mean daily minimum temperature of 17°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.

05.SPECIAL OBJECTIVES OF MANAGEMENT:

- i) To restrict the degradation by reducing the biotic interference to barest minimum and reverse the trend towards the process of restoration of vegetation.
- ii) To develop the Crop composition by providing site-specific silvicultural treatment.
- iii) To facilitate the boosting of natural regeneration and ensure their establishment.
- iv) To take up appropriate soil moisture conservation measures to improve the soil and moisture regime.
- v) To improve the bio-diversity of the site.
- vi) To meet the need of the local villagers with regard to firewood and small timber depending upon the productivity from silvicultural operations like thinning, subsidiary silvicultural operation, climber cutting, cutting of high stumps, double shoot cutting etc.

06.ITEM OF WORK TO BE TAKEN UP:

The following are the items have been considered for the CA purpose.

1. Plantation over the identified non-forest land and additional DLC land.

2. Soil Moisture Conservation (SMC) practices as per the MoEF&CC / State specific guidelines
3. Watering Provision for the sustainable growth of trees
4. Chain link provision to fence the plantation area for protection from wild animals.

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 (45 cm height) before they are put to plantation site. Planting of one year and six month old seedling of indigenous species shall be taken up. Nursery Programme 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.
- C) A seeds should be collected preferably from + trees or purchased from State Siviculturist .
- 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 purpose 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:

It is indispensable to take up the soil & moisture conservation work. Small gullies are to be plugged by live plants. As the area will be dried out quickly, water conservation measures will be taken up by digging staggered trenches. These trenches will be dug along the contour. The dimensions of the trenches will be 2.5mtr x 0.5mtr x 0.5mtr, and dug out earth will be kept on the lower hill side. It should be 300 nos. in an average per hectares. Staggered trenches are to be aligned 15mtr. apart along the contour and 7.5mtr. across the contour. In addition to above, leguminous seeds are to be sown in the inter space between the plants. Check dams are proposed to be constructed, out of dry rubbles across the nallas & gullies.

13. PLANTATION

The area will be restocked by planting adequate nos. of seedlings (3,42,000 nos.) over the identified land for CA 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. Asan (*Terminalia tomentosa*)
- b. Gambhar (*Gmelina arborea*)
- c. Jamun (*Syzygium cumini*)
- d. Peepal (*Ficus religiosa*)
- e. Banyan (*Ficus benghalensis*)
- f. Tentuli (*Tamarindus indica*)
- g. Pahadi Sissoo (*Dalbergia latifolia*)
- h. Dhaura (*Anogeissus latifolia*)
- i. Jack Fruit (*Artocarpus heterophyllus*)
- j. Simli (*Bombax ceiba*)

12. PEOPLE'S PARTICIPATION

The local communities are to be involved for the protection of the plantation. The V.S.S. (Van Surkasha 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.

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

M/s Odisha Coal and Power Limited will pay the cost of Compensatory Afforestation amounting **Rs. 46,65,84,867.00 (Rs. 35,20,22,603.00 + Rs. 11,45,62,264.00) [Rs. Forty Six Crore, Sixty Five Lakh, Eighty Four Thousand, Eight Hundred Sixty Seven only]** only on receipt of Demand Notice from D.F.O., Sundargarh Forest Division and D.F.O., Malkhangiri Forest Division. However, OCPL will furnish an undertaking to pay any additional amount in case the Wage Rate is escalated between the date of recommendation of this proposal and issue of Stage-II approval issued by MoEF & CC for diversion of forest land.

15. EXECUTING AGENCY

Divisional Forest Officer, Sundargarh Forest Division, Odisha and Divisional Forest Officer, Malkhangiri Forest Division, Odisha.

16. MONITORING AND EVALUATION

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



Divisional Forest Officer

Sundargarh Forest Division

**DIVISIONAL FOREST OFFICER
SUNDARGARH FOREST DIVISION**

Financial outlay of CA scheme

Financial outlay of revised CA scheme for plantation in an area of 434.102 ha (Non-Forest Govt. land- 264.424 ha + 69.078 ha DLC land + 100.600 ha additional DLC land); Non-Forest Govt. land (effective area available for plantation – 88 Ha out of identified 264.424 Ha) in villages Keshrijima, Bendrichua, Kunjanala, Laxmanpa, Etama, , Phateimunda, Gabharidihi, Budhabahal, Telendihi of Tahasil Hemgir, Lephripara, Badagaon, , Balisankara and Tangarpali of Dist. Sundargarh, and Additional DLC Land (effective area available for plantation – 95 Ha out of identified 100.600 Ha) in villages Karuabahal, Khaturbahal, Kandeimunda, Tunumura, Bailama, of Tahasil Balisankara & Kutra of Sundargarh District , Sundargarh Forest Division for the diversion over 342.87 ha of Dip-side Manoharpur Coal Block at IB Valley, Dist. Sundargarh, Odisha. Apart from this, balance seedlings will be carried out to meet the criteria of “Tree by Tree”, in the Degraded Revenue Forest Land of 160 Ha in Kondakanmberu URL of Malkhangiri Forest Division

Thus, the financial outlay has been prepared as per the guidelines of State Forest Dept., Govt. of Odisha, office order dt. 08.11.2021. During the finalization of financial outlay, onetime cost norm for CA has been considered and the total **CA cost amounting to Rs. 46,65,84,867.00 (Rs. 35,20,22,603.00 + Rs. 11,45,62,264.00) [Rs. Forty Six Crore, Sixty Five Lakh, Eighty Four Thousand, Eight Hundred Sixty Seven only]** which has been finalized including plantation in Sundargarh Forest Division along with planation over degraded revenue forest land in Kondakanmberu URL of Malkhangiri Forest Division. The calculation details of the proposed CA cost in Sundargarh Forest Division is provided below:

1	Cost of Plantation ANR over 264.424 ha [effective area for plantation after DSS check is 88 ha (Non forest and Open forest) at village Keshrijima, Bendrichua, Kunjanala, Laxmanpa, Etama, , Phateimunda, Gambharidihi, Budhabahal, Telendihi of Tahasil Hemgir, Lephripara, Badagaon, , Balisankara and Tangarpali @1000 plants per ha (i.e. 88000 trees) & its maintenance Rs. 258777 per ha with 10 years maintenance <i>[as per cost norm for the year 2023-24 in Annexure 4]</i>	2,27,72,376.00
2	Additional DLC land 100.600 ha [effective area for plantation after DSS check is 95 ha (Non forest and Open forest)] at villages Karuabahal, Khaturbahal, Kandeimunda, Tunumura, Bailama of Tahasil Balisankara & Kutra @1000	2,45,83,815.00

	plants per ha (i.e. 95,000 trees) & its maintenance Rs. 258777 per ha with 10 years maintenance <i>[as per cost norm for the year 2023-24 in Annexure 4]</i>	
	Total Plantation	4,73,56,191.00
3	Soil & Moisture Conservation Measures (434.102 ha x Rs. 39284) <i>[as per cost norm for the year 2023-24 in Annexure 11]</i>	1,70,53,263.00
4	Fencing of Chain-link wire mesh (434.102 ha x 250 m = 108525.5 RMT) @ Rs. 1761 per RMT (as per cost norm for the year 2023-24 in Fencing Model - F - II)	19,11,13,406.00
6	Watering provision to Compensatory Afforestation (CA) plantation @ Rs. 527321 / ha over 183 ha (as per cost norm for the year 2023-24 in watering Model - W - II)	9,64,99,743.00
	Total	35,20,22,603.00

Plantation (Balance Seedlings) over Degraded Forest Land in Kondakamberu URL of Malkangiri District, Malkangiri Forest Division

As stated above in the financial outlay of CA scheme, 1,83,000 nos. of seedling will be planted over the identified Land for CA purpose (i.e. 434.102 ha) in Sundargarh Forest Division. However, to meet the criteria of loss of "Tree by Tree" will be equalized through the balance seedlings of 1,60,000 nos. over the degraded forest land identified in village Kondakamberu URL of Malkhangiri District, Malkhangiri Forest Division. The seedlings will be planted over 160 ha degraded forest land in Kondakamberu URL and planation cost over the same comes out Rs. 11,45,62,264.00 (Eleven Crore, Forty Five Lakh, Sixty Two Thousand, Two Hundred Sixty Four only). The CA scheme for 160 ha degraded forest land identified in Malkhangiri Forest Division has been prepared and approved separately by DFO, Malkhangiri. The copy of same is attached separately along with FDP (File Vol I).

2	Additional DLC land 100.600 ha [effective area for plantation after DSS check is 95 ha (Non forest and Open forest)] at villages Karuabahal, Khaturbahal, Kandeimunda, Tunumura, Bailama of Tahasil Balisankara & Kutra@1000 plants per ha (i.e. 95,000 trees) & its maintenance Rs. 258777 per ha with 10 years maintenance <i>[as per cost norm for the year 2023-24 in Annexure 4]</i>	2,45,83,815.00
	Total Plantation	4,73,56,191.00
3	Soil & Moisture Conservation Measures (434.102 ha x Rs. 39284) <i>[as per cost norm for the year 2023-24 in Annexure 11]</i>	1,70,53,263.00
4	Fencing of Chain-link wire mesh (434.102ha x 250 m = 108525.5 RMT) @ Rs. 1761 per RMT (as per cost norm for the year 2023-24 in Fencing Model - F - II)	19,11,13,406.00
6	Watering provision to Compensatory Afforestation (CA) plantation @ Rs. 527321 / ha over 183 ha (as per cost norm for the year 2023-24 in watering Model - W - II)	9,64,99,743.00
	Total	35,20,22,603.00

(Rupees Thirty Five Crore Twenty Lakhs Twenty Two Thousand Six Hundred Three) Only



Divisional Forest Officer

Sundargarh Forest Division

DIVISIONAL FOREST OFFICER
SUNDARGARH FOREST DIVISION



Memo No. 274 /4F (Misc)-2023.
Dated, Malkangiri the 24 th January, 2023.

To

The Principal Chief Conservator of Forests,
Forest Diversion & Nodal Officer, FC Act,
O/o the Principal Chief Conservator of Forests,
Odisha, Bhubaneswar

Sub: - Identification of Degraded Forest land for taking up Additional Compensatory Afforestation (ACA) Plantation - regarding.

Ref: - Your Memo No. 715 dated 12.01.2023.

In inviting a kind reference to above memo on the captioned subject, it is to inform you that the Site-specific Scheme for Additional Compensatory Afforestation (ACA) over degraded forest land (160 ha) of Kondakanmberu URL of Malkangiri Forest Division against diversion of Forest Land (i.e. 342.87 Ha.) in favour of OCPL is enclosed herewith in separate sheet for favour of your kind information and necessary action.

Encl: As above.

Pratap 24.01.2023
Divisional Forest Officer,
Malkangiri Forest Division.

Memo No. 275 /4F.

Dated 24/01/2023

Copy forwarded to the Regional Chief Conservator of Forests, Koraput Circle, Koraput for favour of kind information and necessary action with reference to his Memo No. 716 dated 12.01.2023.

Pratap 24-01-2023
Divisional Forest Officer,
Malkangiri Forest Division.

**SCHEME FOR
ADDITIONAL COMPENSATORY AFFORESTATION
OVER DEGRADED FOREST LAND (160 Ha) OF
KONDAKANMBERU URL OF MALKANGIRI DISTRICT,
MALKANGIRI FOREST DIVISION, ODISHA
AGAINST DIVERSION OF FOREST LAND (i.e. 342.87 Ha)
FOR**

Development Of Dip side Manoharpur Coal Mine

By

Odisha Coal & Power Ltd

Prepared by

Divisional Forest Officer

Malkangiri Forest Division

SUITABILITY CERTIFICATE

Certified that, **160 Ha. of Degraded Forest Land (DFL)** is available in Kondakamberu URL of Malkangiri District, Malkangiri Forest Division is suitable for the purpose of Additional Compensatory Afforestation in lieu of Forest Land over 342.87 ha. to be diverted for the development of Dip side Manoharpur Coal Mine by Odisha Coal and Power Ltd. The identified area for Additional Compensatory Afforestation purpose is suitable for plantation and no plantation has been carried out in the identified Additional Compensatory Afforestationp land in any scheme previously.


Divisional Forest Officer,
Malkangiri Forest Division

**SCHEME FOR ADDITIONAL COMPENSATORY AFFORESTATION OVER DEGRADED FOREST
LAND (DFL) OF KONDAKAMBERU URL OF MALKANGIRI DISTRICT, MALKANGIRI FOREST
DIVISION, ODISHA.**

01. INTRODUCTION:

Odisha Coal and Power Limited (OCPL) is a company incorporated under the Companies Act 2013, India. OCPL is a Government company as defined by Section 2(45) of the Companies Act, 2013, which was formed as a joint venture Company of Odisha Power Generation Corporation Limited (OPGC) and Odisha Hydro Power Corporation Limited (OHPC), with a shareholding pattern of 51% and 49% respectively. OCPL is created with an intention to develop and operate coalmine to cater the fuel requirement of OPGC Power Projects.

In order to meet the requirement of thermal coal for the OPGC's phase II and phase III expansion Project, Ministry of Coal, Government of India vide Order No.103/ 25/ 2015/ NA Dt.31.08.2015 has allotted two coal blocks namely (i) Manoharpur coal block having extractable reserve of 155.91 MT (ii) Dipside Manoharpur Coal Block having extractable reserve of 480.399 MT. These coal blocks are located in IB Valley coalfield of Sundargarh District, Odisha.

The blocks derive its name from the adjacent village Manoharpur in Sundargarh district which lies within the block and it is bounded by Latitudes 21° 55'52.168" N to 21° 58'16.871" N and Longitudes 83° 44' 41.287" E to 83° 47'42.750" E. The Dip side Manoharpur Block is covered under Survey of India Topo sheet No. F44 R13 (64 O/13) & F44 R9 (64 O/9).

Dip Side Manoharpur Coal block is about 45km away from Sundargarh along Sundargarh – Hemgiri road which passes near the block. The two nearest towns on State Highway SH-10 are connected with all-weather roads viz. Sundargarh (45km) and Jharsuguda (40km). The nearest railway station is Hemgiri, lying on the Mumbai –Howrah main Railway line and is about 20 km. away from Manoharpur Coal Block. The nearest airport is Jharsuguda.

In lieu of diversion of 342.870 ha of Revenue Forest and Reserve Forest area; 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 compensatory afforestation duly approved by the Chief Conservator of Forest Diversion and Nodal Officer.

As per point no. iii of Para 2.3 of Guidelines to FC Act 1980, Where non-forest land is available but where 1000 plants per Ha. cannot be accommodated to the forest area being diverted, Additional Compensatory Afforestation could be raised over Degraded Forest Land (DFL). Therefore, 160 Ha. of Degraded Forest Land (DFL) has been identified in Malkangiri District of Malkangiri Forest Division for Additional Compensatory Afforestation Purpose. Further, DSS has also been checked to find out the canopy density and accordingly the land has been finalized for Additional Compensatory Afforestation purpose.

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

Table 1: Details of Land identified for Additional CA Purpose

Sr. No.	Particular	Area (ha)
Land identified to meet the criteria of Compensatory Afforestation		
1	Forest Area applied for diversion	342.87
2	Degraded Forest Land (DFL) area identified for Additional CA purpose	160

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. planation of 1000 trees per ha for the diverted land over 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 Non Forest Govt. Land after DSS Check

Sr. No.	Particular	Area (ha) / Nos.
1	Total Area of Forest land identified for CA	160
2	After DSS check, effective Area available for plantation out of 160 ha of non-forest govt. land	160
3	Hence, nos. of tree can be planted over forest land (160 ha) considering 1000 trees per ha	160000

DETAILS OF THE SITE SELECTED:

(a) Crop Composition:

The main species noticed in this area are Teak (*Tectona grandis*), Asan (*Terminalia alata*), Dhaura (*Anogeissus latifolia*), Moi (*Lannea coromandelica*), Kendu (*Diospyros melanoxylon*), Simal (*Bombax ceiba*), Karada (*Cleistanthus collinus*), Tangan (*Albizia lebbek*), Char (*Buchnanian 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 degradation of the crop by providing fencing according to site condition.

(b) Temperature:

The average annual temperature varies from 13°C to 47°C, the minimum being in December-January and the maximum in May-June.

(c) Rain fall:

The annual average rainfall is about 1700 mm. 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 February and continues till May, which is the hottest month of the year with mean daily maximum temperature of 47°C and the mean daily minimum temperature of 13°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.

02. SPECIAL OBJECTIVES OF MANAGEMENT:

- i) To raise the species in Degraded Forest Land to improve the ecosystem and to support the local communities needs.
- ii) To take up appropriate soil moisture conservation measures to improve the soil and moisture regime that prevents the land degradation.
- iii) To improve the bio-diversity of the site.
- iv) To ensure participation of local communities i.e., Bonda and Didayi tribes (PVTGs) in protection and conservation of forests and wildlife.
- v) Simultaneously to improve the socioeconomic conditions of the local persons.
- vi) To reduce the land degradation & restore to near normalcy.

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 (45 cm height) before they are put to plantation site. Planting of one year and six month old seedling of indigenous species shall be taken up. Nursery Programme 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.
- C) A seeds should be collected preferably from plus trees or purchased from State Siviculturist .
- 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 purpose 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 Didayi and Bonda 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.

1. PLANTATION

The area will be restocked by planting adequate nos. of seedlings (1,60,000 nos.) over the identified land for Additional 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. Asan (*Terminalia tomentosa*)
- b. Gambhar (*Gmelina arborea*)
- c. Jamun (*Syzygium cumini*)
- d. Peepal (*Ficus religiosa*)
- e. Banyan (*Ficus benghalensis*)
- f. Tentuli (*Tamarindus indica*)
- g. Neem (*Azadirachta indica*)
- h. Bija (*Pterocarpus marsupium*)
- i. Amla (*Emblica officinalis*)
- j. Mahula (*Madhuca indica*)
- k. Cashew (*Anacardium occidentale*) (in highly degraded area & 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 Surkasha 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

M/s Odisha Coal and Power Limited will pay the cost of Additional Compensatory Afforestation amounting to **Rs. 11,45,62,264.00 (Rupees Eleven crore forty five lakh sixty thousand two hundred sixty four)** only on receipt of Demand Notice from D.F.O., Malkangiri Division. However, OCPL will furnish an undertaking to pay any additional amount in case any direction from the competent authority.

15. EXECUTING AGENCY

Divisional Forest Officer, Malkangiri Forest Division.

16. MONITORING AND EVALUATION

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


24.01.23
Divisional Forest Officer
Malkangiri Forest Division

Financial outlay of Additional Compensatory Afforestation scheme

Financial outlay of Additional Compensatory Afforestation scheme for plantation in an area of 160 ha of DFL in Kondakamberu URL of Malkangiri Forest Division under Malkangiri District, Odisha.

The financial outlay has been prepared as per the guidelines of State Forest Dept., Govt. of Odisha, office order dt. 08.11.2021. During the finalization of financial outlay, one time cost norm for CA has been considered and the **Additional Compensatory Afforestation cost amounting to Rs. 11,45,62,264.00 (Rupees Eleven crore forty five lakh sixty thousand two hundred sixty four) only** has been finalized including planation over degraded forest land. The calculation details of the proposed Additional Compensatory Afforestation cost is provided below:

1	The Cost of Plantation AR over 160.00 ha. of Degraded Forest Land (DFL) in Kondakamberu URL @ 1000 plants per ha (i.e., 160000 trees) & its maintenance Rs. 246454 per ha with 10 years maintenance [as per cost norm for in Annexure 4]	3,94,32,640.00
	Total Plantation	3,94,32,640.00
2	Soil & Moisture Conservation Measures (160.00 ha x Rs. 37415.00/Ha.) [as per cost norm for in Annexure 11]	59,86,400.00
3	Fencing with Bamboo Twig (160 ha x Rs.104966.00/Ha. (as per cost norm in Fencing Model – F – I)	1,67,94,560.00
4	Watering provision to Compensatory Afforestation (CA) plantation @ Rs. 233786.00/ ha over 160.00 ha (as per cost norm in watering Model – W – I)	3,74,05,760.00
	Total	9,96,19,360.00
5	Add 15% of the total plantation cost towards incentives to VSS / Entry Point Activities	1,49,42,904.00
	G. Total	11,45,62,264.00


(Rupees Eleven crore forty-five lakh sixty thousand two hundred sixty-four) only


Divisional Forest Officer,
Malkangiri Forest Division.

CERTIFICATE ON DSS ANALYSIS FOR CA/ACA/PCA

This to 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 Range	Name of the Forest Block (RF/ PRF/PE/DPF/ Revenue Forest)	Allotted Area in Ha.	Area identified for CA/ ACA/ PCA	Classification of identified land in ha							Area suitable for plantation (in ha)				Plantation Model (AR/ ANR)	Remarks
					Very Dense Forest	Moderately Dense Forest	Open Forest	Non-Forest	Scrub	Water	Total	Open Forest	Non-Forest	Scrub	Total		
1	2	3		4	5	6	7	8	9	10	11	12	13	14	15	16	17
1	Balimela	Kondakamberu URL	160	160	0	0	72	88	0	0	160	72	88	0	160	AR Plantation	
Total			160	160	0	0	72	88	0	0	160	72	88	0	160		


 Divisional Forest Officer
 Malkangiri Forest Division