

SCHEME FOR COMPENSATORY AFFORESTATION OVER AN AREA OF 79.066 HA IN DEGREDED FOREST LAND IDENTIFIED IN BAZARGARH RESERVED FOREST UNDER KESINGA RANGE OF KALAHANDI NORTH FOREST DIVISION FOR DIVERSION OF 39.196 HA OF FOREST LAND FOR THE PURPOSE OF CONSTRUCTION OF 220 KV DC TRANSMISSION LINE FROM EXISTING 220/132/33 KV GRID SUB-STATION AT SADEIPALI, NEW BOLANGIR TO PROPOSED 220/132 KV GRID SUB-STATION AT KESINGA. THIS TRANSMISSION LINE COVERS TWO FOREST DIVISIONS (BOLANGIR & KALAHANDI NORTH) & TWO REVENUE DISTRICTS BOLANGIR & KALAHANDI.

PREPARED BY

**DIVISIONAL FOREST OFFICER
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BHAWANIPATNA**

ELEMENTS OF THE SCHEME FOR COMPENSATORY AFFORESTATION

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CHAPTER – I

BRIEF NOTE ON THE PROPOSED FOREST DIVERSION PROPOSAL

“Odisha Power Transmission Corporation Limited” (A Government of Odisha undertaking), having its registered office at Janapath, Bhubaneswar, Dist: Khurda, Odisha is primarily entrusted to construct, successful operation and maintenance of EHT Transmission lines and Grid sub-stations with a mission to facilitate effective transfer of power, to improve voltage profile, to minimize interruption power supply, to enhance security/ reliability of power system, for strengthening of power system and to avail alternate power supply within and across the districts through villages of the Odisha state.

Odisha predominantly being an agricultural state and one of rich in mineral resources, expansion in the lift irrigation system and of different industries became essential. The power system of the state has some low voltage pockets in certain remote zones fed as tail end, causing high system loss. Therefore, it is proposed to improve in the system by way of installation new sub-stations in the transmission sector of the state.

The proposed Kesinga 220/132KV grid sub-station can be connected to the system by drawing 84.000 KMS (approximately) of 220KV DC line from existing 220/132 KV sub-station at Sadeipali New Bolangir for system strengthening purpose. It is proposed to install 2X160MVA, 220/132KV transformers adjacent to the existing 132/33KV sub-station at Kesinga.

In order to improve the quality and reliability of powers supply to the district head-quarters at Bhawanipatna along with other urban centers of Kalahandi, Bolangir & Nuapada District i.e. Junagarh, Dharangarh, Khariar & Nuapada and its adjoining areas, it is proposed to install 2X160 MVA, 220/132 KV transformers adjacent to the existing 132/33 KV S/S, Kesinga. The proposed 220/132 KV S/S will also cater the load demand of upcoming mineral based industries as well as minimize losses in the system. Kesinga town & its adjoining area will have alternative power supply source at 132 KV level from Theruvali 220/132 KV S/S.

At present Kesinga and its adjoining area are receiving power at 132 KV from Theruvali 220/132 KV substation through an S/C feeder which is 106 KMS away. This 132 KV S/C feeder is also meeting the power demand of Junagarh, Khariar, and Saintala 132/22 KV S/S's. The voltage level at Junagarh, Khariar sub stations are below permissible level during peak load hours. Construction of new 132/33 KV S/S at

Bhawanipatna & Nuapada are also in progress. This may add further loading on the 132 KV Theruvalli-Kesinga S/C feeders.

In the present proposal, for construction of 220KV DC transmission line from existing 220/132/33 KV Grid sub-station at Sadelpali, new Bolangir (Latitude: 20°40'03.48"N & Longitude: 83°28'21.79"E) under Bolangir tahasil along with its associated transmission line of 84.000 KM (approx) to 220/132 KV Grid sub-station at kesinga (Latitude: 20°10'14.59"N & Longitude: 83°13'46.77"E) Kalahandi District. In order to achieve stability and to cater qualitative power in the transmission system of the State as well as to meet the increasing load demand. This line shall passing through Bolangir, Saintala, Deogan, Puintala, Titalagarh, and Tusara Tahasils of Bolangir District & Kesinga Tahasil of Kalahandi District.

The main thrust and emphasis is laid on the following:

1. Improvement of voltage profile.
2. To minimize interruption of power supply to consumers.
3. Enhance security / reliability of power system.
4. Strengthening of transmission system.
5. Availability of alternate power supply.

This system shall also fulfill the requirement of additional power to these areas. Therefore, the power transmitted through this line will boost the small industries and agricultural growth of the area. The proposed 220 KV transmission line is passing through Forest Divisions of Bolangir & Kalahandi (North) of Bolangir & Kalahandi Districts. The details of land required for construction of this project involves erection of tower & lying of 220 KV DC transmission line total land required 292.210 Ha, out of which forest land is 39.196 Ha.

Since the project involves forest land, the user agency has submitted forest diversion proposal over an area of 39.196 ha. U/s 2(ii) FC Act, 1980. As per guideline of Govt. of India in Ministry of Environment & Forest the user agency has identified the degraded forest land twice the extent of the forest area diverted in Bazargarh RF.

The present Scheme aims at preparation of a site specific Compensatory Afforestation Scheme over an area of 79.066 Ha identified Bazargarh RF under Kesinga Range & Kalahandi North Forest Division with a maintenance period of 10 years.

CHAPTER- II

DETAILS OF LAND IDENTIFIED FOR COMPENSATORY AFFORESTATION

A. - LAND IDENTIFICATION AND JOINT VERIFICATION OF THE IDENTIFIED SITE.

The site for Compensatory Afforestation has been identified in Bazargarh RF under Kesinga Range of Kalahandi North Forest Division over an area of 79.066 Ha and has been jointly verified by the Range Officer, Kesinga Range, and User Agency. The above identified land has been allotted in favor of M/s Odisha Power Transmission Corporation Limited, Govt. of Odisha.

B. INFORMATION ON NON-ENCROACHMENT AND NON-ENCUMBRANCE.

The Range Officer, Kesinga has given certificate regarding non-encroachment and non-encumbrance on the identified Degraded Forest Land in Bazargarh RF for raising Compensatory Afforestation.

C. - INFORMATION ON LAND STATUS.

The land scheduled and land status identified and allotted for Compensatory Afforestation is furnished hereunder:-

Name of the Range	Name of the Reserved Forest	Area (in Ha)
Kesinga	Bazargarh Reserved Forest	79.066

D.-SUITABILITY OF THE IDENTIFIED SITE FOR COMPENSATORY AFFORESTATION-

The identified land is free from encroachment and encumbrance.

The degraded forest land identified in Bazargarh RF is in one patch. The area is mainly plain. The crop density is below 0.3

The topography of the area is mainly plain and undulating. However, good depth of sandy-loam soil is still available which is conducive for plantation with suitable soil conservation measures. The average temperature varies from 13.5° C minimum in December to 45°C maximum in May. The annual rainfall varies from 1200 mm to 1500 mm. The maximum rainfall is received during the rainy season from July to September. The identified land is therefore taken up for Compensatory Afforestation in ANR with gap plantation model 600 seedlings / Ha over an area of 79.066 Ha with site specific SMC measures.

CHAPTER-III

DELINEATION OF PROPOSED AREA ON SUITABLE MAP

III (1) GPS COORDINATES AND GPS MAP OF THE COMPENSATORY AFFORESTATION SITE

The area has been demarcated through GPS survey showing Latitude and Longitude of each point and their chainage with bearing is also enclosed in the map prepared there on (Maps enclosed).

CHAPTER- IV

AGENCY RESPONSIBLE FOR COMPENSATORY AFFORESTATION

IV (1) AGENCY RESPONSIBLE FOR PLACEMENT OF FUNDS

The user agency shall provide funds for raising Compensatory Afforestation as per approved scheme.

IV (2) AGENCY RESPONSIBLE FOR EXECUTION OF COMPENSATORY AFFORESTATION

The Territorial Wing of the Forest Department i.e. Divisional Forest Officer, Kalahandi North Forest Division will be assigned with the task for execution of the Compensatory Afforestation.

CHAPTER- V

DETAILS OF WORK SCHEDULE PROPOSED FOR COMPENSATORY AFFORESTATION

A. PLANTING PLAN

Planting Plan reflects the species specific treatment of the identified site. Choice of species is based on the geo-morphology of the site, soil-texture, structure, fertility and depth, proneness of the site to water logging etc. Specific treatment of the site in terms of soil and moisture conservation intervention will be depicted in the treatment map. A treatment map will invariably be prepared for Species to be planted and treatments to be applied to the different patches shown in the treatment map and planting plan. This plan will be followed when actual planting is carried out.

Species to be planted:-

1. *Syzgiumcumini*(Jamu)
2. *Adina cardifolia*(Kuruma)
3. *Anogeissuslatifolia*(Dhaura)
4. *Accacia catechu* (Khair)
5. *Dalbergiasisoo*(Sisoo)
6. *Azadirrachtaindica*(Neem)
7. *Gmelinaarborea* (Gambar)
8. *Terminaliabelerica*(Bahada)
9. *Terminaliachebula*(Harida)
10. *Pongamiapinnata* (Karanja)
11. *Emblicaoofficinalis* (Ainla)
12. *Dendrocalamus stratus* (*Salia Bamboo*)
13. *Mangifera indica* (Amba)
14. *Ficus benghalensis* (Bara)
15. *Ficus hispida* (Dimiri)
16. *Trminalia arjuna* (Arjuna)

B.PRE-PLANTING OPERATION**B (I)-RAISING OF PLANTATION STOCK- NURSERY-**

Nursery will be raised @660 seedlings per ha including seedlings for 10% causality replacement.

B (II)-SURVEY, DEMARCATION & PILLAR POSTING, GPS READING WITH MAPPING

The planting area has been surveyed and demarcated with four feet height RCC pillars at inter visible distance (as per the direction of the Forest Range officer, Kesinga Range) with GPS coordinates, forward and backward bearing, pillar No. and distance between pillars inscribed in it. A GPS map in the scale of 1:4000 has been prepared along with GPS co-ordinates, forward & backward bearing, pillar to pillar distance and pillar numbers reflected in the map. A sign board has been erected at a conspicuous location with name of the site, scheme, area etc. depicted on it.

B (III)-SITE PREPARATION AND SILVICULTURAL OPERATION INCLUDING CLEARANCE OF WEED, CLIMBER CUTTING, HIGH STUMP CUTTING, SINGLING OF SHOOTS

The clearing of the site involving removal of invasive weeds, bushes, climbers, high stumps and singling of shoots will be taken up preferably by the end of February and latest by the end of March. Pits of the dimension 30 x 30 x 30 cm. will be dug @600 per ha in the available gaps preferably Two months before or at least a month before planting of seedlings.

C. PLANTING OPERATION

Planting of seedlings will be taken up in the month of July. The polythene covering of the balls of earth will be carefully removed before planting. Care will be taken to see that the ball of earth is not broken while doing so. The seedling with the ball of earth will then be placed firmly in the pit and buried at such a depth that the root collar is well below the surface of the soil. The soil around the plant will be well compacted with the heel as a final step so that there is a proper bond between the ball and the surrounding soil. The earth close to the collar will be slightly elevated so that rain water does not accumulate very close to the plant.

D. POST PLANTING OPERATION **D (1)-CASUALTY REPLACEMENT**

The entire area will be gone over in the same order as plantation was carried out and casualties, if any, will be replaced as soon as the main plantation operation is over.

D (2)-WEEDING AND SOIL WORKING

Regular and efficient weeding will start immediately after sprouting of the stumps is complete or after the seedlings have started throwing up new buds.

D (3)-MANURING AND INSECTICIDE APPLICATION

On degraded sites urban compost or farmyard manure, wherever available, will be added to the soil @200 grams per plant while refilling the pits. As regards chemical fertilizers, the fertilizers required and dosage @ 50 grams of patent mixtures like N.P.K. & Urea @ 70 grams per plant will be applied in two split doses one in August and the other in September.

D (4)-SOIL MOISTURE CONSERVATION MEASURES

Special Soil Moisture Conservation Measures will be taken up through construction of LBCD structures of dimension 3m span to the tune of 79 nos. over the entire plantation site. Staggered trenches of dimension 2 x 0.5 x 0.5 mtr will be done to the tune of 60 nos. per hectare.

D (5)-PROTECTION AGAINST FIRE AND GRAZING

Fire line tracing will be ensured to protect the plantation from fire and watch & ward will be provided as per the approved norm to augment protection. It is proposed to protect CA plantation

from grazing by domestic animals using Barbed wire fencing (7 Stands). The total length of such Barbed wire fencing (1 no. of patch) which comes to 4436 meters.

CHAPTER- VI

COST STRUCTURE OF PLANTATION, PROVISION OF FUNDS AND UTILIZATION

A. ESTIMATE OF COST FOR 1.00 HA UNDER ANR PLANTATION MODEL

COST NORM FOR AIDED NATURAL REGENERATION (ANR) @ 600 PLANTS PER HECTARE

WAGE RATE Rs 298.00/day

Sl. No.	Item of Work	Preferable Period of Execution	Labour in Mandays	Labour Cost Rs.	Material Cost Rs	Total Cost Rs
0TH YEAR						
1	Survey, Demarcation and Pillar Posting, GPS Reading with mapping.	Nov/Dec	2	596.00	0	596.00
2	Site Preparation	Nov/Dec	2	596.00	0	596.00
3	Silvicultural Operation including Clearance of weed, climber cutting, high stump cutting, singling of shoots etc.	Jan/Feb	5	1490.00	0	1490.00
4	Nursery cost (6 months old seedling)part @ Rs.13.10/-seedling (Rs.9.12 in 0th year + RS.3.98 in 1st year) for 660 seedling(600+60)	Jan-March	16.5	4917.00	1102.00	6019.00
5	Contingency and Unforeseen Expenditures		0	0	198.00	198.00
	SUB TOTAL		25.5	7599.00	1300.00	8899.00
6	Monitoring & Supervision charge 5% of the total cost					444.95
	GRAND TOTAL		25.5	7599.00	1300.00	9343.95
1ST YEAR						
1	Nursery cost (6 months old seedling) balance @ Rs.3.98 for 660 seedlings	Apr-June	8	2384.00	241.50	2625.50
2	Pitting 30 cm cube size	Feb/Mar	18	5364.00	0	5364.00
3	Carriage and planting including casualty replacement	Jul/Aug	15	4470.00	0	4470.00
4	Complete weeding, soil working, manuring	Aug/Sep	18	5364.00	0	5364.00
5	Cost of Vermi compost @ 200 gms/plant @ Rs.20/-per kg=Rs.2400.00 and Granular Insecticides 5gms/plant @Rs.80/-per kg.=240.00	Aug/Sep	0	0	2640.00	2640.00
6	Cost of Chemical fertiliser (a)Urea 70 gms/plant in two subsequent doses @ Rs.6/-per kg=Rs.252.00 (b)NPK 50 gms/plant @ Rs.24/-per kg =Rs.720.00 as basal dose	Jul/Aug	0	0	972.00	972.00
7	Fire line Tracing and inspection path	Feb/Mar	3	894.00	0	894.00
8	Silvicultural Operation involving clearance of weeds, cutting of climbers, singling of shoots etc.	Sep/Oct	15	4470.00	0	4470.00
9	Soil Conservation Measures (Staggered trenches of dimension 2 m x 0.5 m x 0.5 m @ 60 nos per ha) or its equivalent	Sep/Oct	20	5960.00	0	5960.00

10	Watch & ward	Aug-Mar	7	2086.00	0	2086.00
11	Contingency and Unforeseen Expenditures		0	0	353.00	353.00
	SUB TOTAL		104	30992.00	4207.00	35199.00
12	Monitoring & Supervision charge 5% of the total cost					1759.95
	GRAND TOTAL		104	30992.00	4207.00	36958.95
2ND YEAR						
1	Casualty Replacement including cost of seedling, carriage and planting	Jul/Aug	3	894.00	745.80	1639.80
2	Complete weeding and cultural operations	Sep/Oct	6	1788.00	0	1788.00
3	Soil working and manuring	Sep/Oct	6	1788.00	0	1788.00
4	Cost of Fertiliser and insecticide (a) Vermi compost 200 gms/plant @ Rs.20/- per kg=Rs.2400.00 (b) Granular Insecticides 5 gms /plant for 60 plants 300 gms @ Rs.80/-per kg=Rs.24.00	Sep/Oct	0	0	2424.00	2424.00
5	Fire line Tracing and Inspection Path	Feb/Mar	1	298.00	0	298.00
6	Soil Conservation Measures (Renovation of staggered trenches etc)	Sep/Oct	8	2384.00	0	2384.00
7	Watch & Ward (Whole year)	Apr-Mar	7	2086.00	0	2086.00
8	Contingency and Unforeseen Expenditures		0	0	193.00	193.00
	SUB TOTAL		31	9238.00	3362.80	12601.00
9	Monitoring & Supervision charge 5% of the total cost					630.05
	GRAND TOTAL		31	9238.00	3363.00	13231.05
3RD YEAR						
1	Complete weeding and cultural operations	Aug/Sep	3	894.00	0	894.00
2	Soil working	Aug/Sep	3	894.00	0	894.00
3	Fire line Tracing and Inspection Path	Feb/Mar	1	298.00	0	298.00
4	Watch & ward (Whole year)	Apr-Mar	7	2086.00	0	2086.00
	SUB TOTAL		14	4172.00	0	4172.00
5	Monitoring & Supervision charge 5% of the total cost					208.60
	GRAND TOTAL		14	4172	0	4380.60
4TH YEAR						
1	Fire line Tracing and Inspection Path	Feb/Mar	1	298.00	0	298.00
2	Watch & Ward and cultural operations	Apr-Mar	2	596.00	0	596.00
	SUB TOTAL		3	894.00	0	894.00
3	Monitoring & Supervision charge 5% of the total cost					44.70
	GRAND TOTAL		3	894.00	0	938.70
5TH YEAR						
1	Fire line Tracing and Inspection Path	Feb/Mar	1	298.00	0	298.00
2	Watch & Ward and cultural operations	Apr-Mar	2	596.00	0	596.00
	SUB TOTAL		3	894.00	0	894.00
3	Monitoring & Supervision charge 5% of the total cost					44.70
	GRAND TOTAL		3	894.00	0	938.70
6TH YEAR						
1	Fire line Tracing and Inspection Path	Feb/Mar	1	298.00	0	298.00
2	Watch & Ward and cultural operations	Apr-Mar	2	596.00	0	596.00
	SUB TOTAL		3	894.00	0	894.00

3	Monitoring & Supervision charge 5% of the total cost					44.70
	GRAND TOTAL					
			3	894.00	0	938.70
7TH YEAR						
1	Fire line Tracing and Inspection Path	Feb/Mar	1	298.00	0	298.00
2	Watch & Ward and cultural operations	Apr-Mar	2	596.00	0	596.00
	SUB TOTAL		3	894.00	0	894.00
3	Monitoring & Supervision charge 5% of the total cost					44.70
	GRAND TOTAL		3	894.00	0	938.70
8TH YEAR						
1	Fire line Tracing and Inspection Path	Feb/Mar	1	298.00	0	298.00
2	Watch & Ward and cultural operations	Apr-Mar	2	596.00	0	596.00
	SUB TOTAL		3	894.00	0	894.00
3	Monitoring & Supervision charge 5% of the total cost					44.70
	GRAND TOTAL		3	894.00	0	938.70
9TH YEAR						
1	Fire line Tracing and Inspection Path	Feb/Mar	1	298.00	0	298.00
2	Watch & Ward and cultural operations	Apr-Mar	2	596.00	0	596.00
	SUB TOTAL		3	894.00	0	894.00
3	Monitoring & Supervision charge 5% of the total cost					44.70
	GRAND TOTAL		3	894.00	0	938.70
10TH YEAR						
1	Fire line Tracing and Inspection Path	Feb/Mar	1	298.00	0	298.00
2	Watch & Ward and cultural operations	Apr-Mar	2	596.00	0	596.00
	SUB TOTAL		3	894.00	0	894.00
3	Monitoring & Supervision charge 5% of the total cost					44.70
	GRAND TOTAL		3	894.00	0	938.70
ABSTRACT						
Sl. No.	Item of work	No. Person Day	Labour Cost @ Rs. 298/-per day	Material Cost(Rs)	Monitoring & Supervision charge 5% of the total cost	Total Cost(Rs)
1	0th Year	25.5	7599.00	1300.00	444.95	9343.95
2	1th Year	104	30992.00	4207.00	1759.95	36958.95
3	2th Year	31	9238.00	3363.00	630.05	13231.05
4	3th Year	14	4172.00	0	208.60	4380.60
5	4th Year	3	894.00	0	44.70	938.70
6	5th Year	3	894.00	0	44.70	938.70
7	6th Year	3	894.00	0	44.70	938.70
8	7th Year	3	894.00	0	44.70	938.70
9	8th Year	3	894.00	0	44.70	938.70
10	9th Year	3	894.00	0	44.70	938.70
11	10th Year	3	894.00	0	44.70	938.70
TOTAL =		195.5	58259.00	8870.00	3356.45	70485.45 OR 70500.00

Rs. 70,500.00 (Rupees Seventy Thousand Five Hundred only) per Hectare

Total cost of Plantation Rs. 70500.00 X 79.066 Ha. = 55, 74, 153.00
(Rupees Fifty Five Lakh Seventy Four Thousand One Hundred Fifty Three Only)

A. ETIMATE OF COST FOR LOOSE BOULDER STRUCTURE

It has been proposed to take up Soil Conservation Measures by construction of Boulder Structure over the area of size (3mt=22 No's.) In the Compensatory Afforestation site in consideration of the degraded area due to soil erosion.

(i) Span of 3mtr. Size:-

Sl. No	Item of activity	Cost per unit (Rs.)	Total unit (No/cum)	Total Cost in Rs.
1.	Leveling the unshaped surface of the selected site & layout the structure foundation L.S. 1MD.	298.00	1	298.00
2.	Excavation of foundation in hard soil within initial lead of 50 meter including rough dressing and breaking of clods to maximum size 5cm to 7cm laying in layer not exceeding 0.3m in depth to strengthing both sides U/S approx. bund loose boulder structure. = 3.0m x 4.60m x 0.60m = 8.28 cum @ Rs.167.81 per cum.	167.81	8.28	1389.47
3.	Rough stone dry packing upto GL 3.0m x 4.60m x 0.60m = 8.28 cum above GL Cross sectional area x span = 2.60m x 3.0m = 7.80 cum For Apron 1.0m x 0.6m x 0.6m x 1.0m = 0.36 cum	837.79	16.44	13773.26
I	Total = 8.28cum + 7.80cum + 0.36cum = 16.44cum @ Rs. 837.79 per cum			
	Grand Total		15460.73 or 15460.00	

For 79 nos of LBCD structure = Rs. 15460 x 79 = Rs.12, 21, 340.00

(Rupees twelve lakh twenty one thousand three hundred forty only)

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ESTIMATE FOR BARBED WIRE FENCING

1. 02 PLY BARBED WIRE (5 Rmt per kg)	= 7000Mt
7 straight strand x 1000 Mt	
2 Diagonal strand = $2 \times \text{Square root of } (6.5')^2 + (8.2')^2$	
= 21.00 ft x 400 nos = 8400 ft or	= 2560 Mt

Total	= 9560 Mt

Requirement of Barbed wire per Km

Cost per KM = $9560/5 = 1912 \text{ Kg @ Rs. 80/Kg}$ Rs. 1, 52,960.00

2. Construction of RCC pillars of size

Length – 8ft, Bottom width 6"x6", Top width 4"x4"

Reinforced with 6mm rods with proper curing

$(8' \times 6" + 4"/2) \times 6" + 4"/2 = 1.34 \text{ cft or } 0.038 \text{ cum}$

I) Cost of C.C. work $1:2:4 = 0.038 \text{ cum @ } 5262.57/\text{cum}$ = 199.98

II) Cost of rod including cutting, bending, & binding
 $0.038 \times 0.9 \text{ qtl} = 0.0342 \text{ qtl @ Rs. } 10,595.80/\text{qtl.}$ = 362.38

III) Contingency (15%) including Curing,
Stacking, provision of hooks etc. = 81.05

Total Rs. 643.41 or Rs. 644/-

Requirement of pillars per KM:-

Spacing = 2.5mt X 2.5mt

Requirement = $1000\text{mt}/2.5\text{mt}$ = 400

Strut pillar in every 10th pillar = $(400/10) \times 2$ = 80

Total = 480 No's

Cost of pillar per Kilometer = 480@644/- Rs. 3, 09, 120.00

3. Fitting fixing of RCC pillars in position with hbg metal (4cm) in C.M (1:4:8)

I) Digging of pits 1.5' x 1.5' x 1.5' = 3.375cft/pit

For 480 pits, 480x3, 375=1620 cft or 45.86 cum @ Rs. 12,040/100cum = 5521.54

II) Fixing of pillars with 4cm hbg metals in C.M 1:4:8

Pit size = 1.5' x 1.5' x 1.5' = 3.375cft/pit

Deduct 1/3rd of butt of pillar i.e. 3.375/3 = (-) 1.125 cft

Total C.C work per pillar = 2.25cft

For 480 pillars = 480x2.25=1080cft or 30.577cum @ Rs. 3629.46/cum Rs. 1, 10, 978.00

4. Labour for straightening the barbed wire and fixing & clipping with pillars

70M.d.per km@298/- Rs. 20, 860.00

5. Carriage of barbed wire & pillars to work site

@ Rs. 1000/tl. And cost of loading & unloading within 5 km distance

Approximately 10 tld @ 800/tld Rs. 18,000.00

6. Provision of one Iron Gate of size (4' x 5') on LS Rs. 7,500.00

Total = Rs. 6, 24, 939.54

OR

Rs. 6, 24, 940.00

Labour Cess 1% Rs. 6,249.00

Expenditure per 1 KM of Barbed wire fencing Rs.6, 31, 189.00

Or say, 631.19/- or Rs. 631/- per meter

7. Expenditure towards maintenance for 3 years (3rd, 4th, & 9th year)

@ 2% of cost per km = 3 x 2% x Rs. 6, 29, 917/- = Rs. 37, 871.00

Expenditure per 1 km of barbed wire fencing including maintenance = Rs. 6, 69, 060.00

So, expenditure per running meter for fencing = Rs. 669.06/Mtr. or say Rs. 669.00/- Mtr.

208.

Total Barbed wire fencing over 4436 MX Rs. 669.00 = Rs. 29, 67, 684.00
(Rupees Twenty nine lakh sixty seven thousand six hundred eighty four only).

ADDITIONAL COST PROPOSED

1	SMC measures- LBCD structure of 3 mtr span @ Rs.15460/- for 79 structures.	12, 21, 340.00
2	Barbed wire fencing @Rs.669/- per meter over 4436 meters	29, 67, 684.00
	Total	41, 89, 024.00

(Rupees Forty One Lakh Eighty nine Thousand twenty four only)


TOTAL COST OF THE PROJECT

S. No	Description	Amount in Rs.
1	ANR Plantation over 79.066 Ha @ Rs. 70,500/- Per Ha (600 plants per Ha)	55, 74, 153.00
2	Total additional cost	41, 89, 024.00
3	Additional Infrastructural activities cost	
	a. Cost of vehicle for supervision and monitoring	18,00,000.00
	b. Cost of silent D.G. Set	4,00,000.00
	c. Cost of computers with accessories for official use in GIS Cell	2,00,000.00
	Sub Total	1,21,63,177.00
3	Add 20% escalation	24,32,635.40
	Grand Total	1, 45, 95, 812.40 Or 1, 45, 95, 813.00

(Rupees One Crore Forty Five Lakh Ninety Five Thousand eight hundred Thirteen only)

PROVISION OF FUNDS AND FUND UTILIZATION

Rs. 1, 45, 95, 813.00 (Rupees One Crore Forty Five Lakh Ninety Five Thousand eight hundred Thirteen only) shall be deposited by the user agency (Deputy General Manager, EHT Construction Division, OPTCL, Bolangir) on approval of the scheme to the Ad-hoc CAMPA Account and the funds will be utilized for raising of Compensatory Afforestation by the Divisional Forest Officer, Kalahandi North Forest Division on allotment by the Principal Chief Conservator of Forest, Odisha, Bhubaneswar.


Deputy General Manager (Elect.)
E.H.T. (Const.) Division
O.P.T.C.L., Balangir


Divisional Forest Officer,

Kalahandi North Forest Division
Bhawanipatna.

CHAPTER-VII

DETAILS OF PROPOSED MONITORING MECHANISM

Compensatory Afforestation will be taken up in the identified site by the Range Officer, Kesinga Forest Range of Kalahandi North Forest Division. The Range Forest Officer, Kesinga Forest Range will undertake field checks of the works undertaken at the identified site and will be cross checked by the Asst. Conservator of Forests, (Affn.) and Divisional Forest Officer, Kalahandi North Forest Division. GPS Co-ordinates along with other required informations of Compensatory Afforestation will be uploaded in the e-Greenwatch Portal of NIC, MOEF & CC, and Govt. of India for the purpose of online monitoring. Annual progress of plantation involving growth of planted seedling, survival percentage etc. will be monitored and recorded in the plantation journal by the field staffs of Kesinga Forest Range and reported to the Divisional Forest Officer for necessary action. The same thing will be reported to the Regional Chief Conservator of Forests, Bhawanipatna Circle and Addl. Chief Conservator of Forests (PP&A), O/o the Pr. Chief Conservator of Forests, Odisha, Bhubaneswar and necessary corrective measures will be followed if required so.


Deputy General Manager (Elect.)
E.M.T., (Const.) Division
O.P.T.C.L., Balangir


Divisional Forest Officer,
Divisional Forest Officer
DIVISIONAL FOREST OFFICER
Kalahandi North Forest Division

Bhawanipatna.