

**SCHEME FOR  
SITE SPECIFIC COMPENSATORY  
AFFORESTATION**

**OVER**

**85.175 HA OF NON-FOREST GOVT. LAND**

**IN VILLAGES**

**CHAMPACHUAN**

**UNDER THUAMUL-RAMPUR TAHASIL**

**IN**

**KALAHANDI DISTRICT**

**AGAINST**

**CONVEYOR CORRIDOR PROPOSAL FROM KURMITAR  
IRON ORE MINES TO NEW PROPOSED RAILWAY SIDING**

**AT BARASUAN**

**IN SUNDARGARH DISTRICT, ODISHA**

**OF**

**M/s ODISHA MINING CORPORATION LTD.**

(A Govt. of Odisha Undertaking)

**OMC HOUSE, POST BOX-34, BHUBANESWAR-1**

**@ Rs. 303.40/- Per Manday**

**Detailed scheme for Compensatory Afforestation to be carried out over 85.175 ha. in villages Champachuan of Thuamul Rampur Tahasil in Kalahandi District in lieu of forest land to be diverted towards Conveyor Corridor from Kurmitar Iron & Manganese Ore Mines to New proposed Railway siding at Barsuan of Odisha Mining Corporation Ltd. in Sundargarh District of Odisha.**

The proposal for diversion of 86.479 ha of forest land under Bonai Division in Sundargarh District of Odisha by M/s Odisha Mining Corporation Ltd. (OMC) for construction of Conveyor Corridor from Kurmitar Iron Ore Mines of OMC to New proposed Railway siding at Barsuan for transportation of Iron Ore is under formulation. OMC had requested Collector, Kalahandi vide letter no. 4197/OMC/F&E/2020 dt. 16.03.2020 for allotment of 85.175 ha on non-forest Govt. land required for raising compensatory afforestation.

Collector, Kalahandi has allotted 85.175 ha of non-forest Govt. land in Champachuan village under Thuamul Rampur Tahasil of Kalahandi District vide letter no. 2173/Rev dt. 03.06.2020. The allotment order by Collector, Kalahandi is enclosed as **Annexure-A**.

The area has been scanned through the decision support system and observed that the total area over 85.175 ha is coming non-forest category. The plantation is suggested under bald hill mode over 85.175 ha @ 1600 plants per ha.

The salient features enumerated in the CA scheme over 85.17 ha are given as under:

Name of the village	Type of Plantation	Area in ha	No. of seedlings per ha to be planted	Total no. of seedlings to be planted
Champachuan	Bald hill	85.175	1600	136280

Total 136280 seedlings will be planted over 85.175 ha as against 1000 seedlings per hectare specified in the guidelines by MoEF & CC, dt 28.03.2019.

Earlier a compensatory afforestation scheme over 85.175 ha of non-forest Govt. land identified in Champachuan village has been prepared by DFO, Kalahandi (S) @ Rs. 298.00 per man day. Labour Commissioner of Odisha letter no. 4864/LC dt. 22.07.2020 has revised the minimum wage rate to Rs. 303.40/- per man day. In this context the scheme has been revised @ Rs. 303.40/- per man day.

The Site specific scheme for raising compensatory afforestation is prepared as follows:

## 1. Details of non-forest land:

District: Kalahandi; Tahasil: Thuamul Rampur; Village: Champachuan

Tahasil	Village	Khata No	Kissam	Plot No	Total area of the plot (Acres)	Area considered(Acres)
Thuamul Rampur	Champachuan	114 (AAA)	Danger	1	41.73	19.39
			Danger	75	38.45	30.66
			Danger	86	27.63	21.85
			Danger	173	23.38	17.59
			Danger	186	12.35	7.68
			Danger	413	20.33	10.96
			Danger	414	21.93	15.66
			Danger	425	19.10	8.25
			Danger	581	36.83	31.60
			Danger	582	53.70	46.84
Total area considered for Compensatory Afforestation: 210.48Ac. or 85.175Ha.						

The village maps showing the land details for the proposed compensatory afforestation is enclosed as **Plate No. I**.

Jointly verified non-forest land by Forest and Revenue authorities is enclosed as **Annexure-(B)**

Key Plan of the Compensatory Afforestation site shown on topo sheet is enclosed as **Annexure-(C)**

G.P.S co-ordinates of survey stations of Compensatory Afforestation area are furnished as **Annexure-(D)**.

## 2. Description of Area

- I. **Whether the site selected for Compensatory Afforestation is a land bank or not:** This identified non-forest area is under the control of Revenue Department and classified as 'Dangar'. It is not a land bank
- II. **If the CA site is other than the land bank, reasons be given:** No land bank has been established yet for this purpose.
- III. **In case of non forest area identified for CA, then what is the distance of CA site from the adjoining forest boundary:** C.A site in Champachuan village is at a distance of 1.24 km from Udaygiri R.F.
- IV. **Soil type:** Lateritic soil.
- V. **Topography :**
  - a) Hilly/Undulating/Plain: The Compensatory Afforestation sites are hilly and undulating.
  - b) Slope: Steep/Medium/Gentle: The sites selected for Compensatory Afforestation have medium to gentle slope.
- VI. **Whether the area is bearing any root stock of vegetation:** The sites selected for Compensatory Afforestation are either barren or with weed growth like *Lantana*, *Eupatorium*, *Woodfordia fruticosa*, *Combretum decandrum*. Root stock of any principal species like Sal is not available.

### 3. Plantation Model:

Since the area in Champachuan village is hilly, Bald Hill plantation with 1600 plants per hectare will be raised over 85.175 ha. Maintenance of plantation for 10 years is also required as per the guidelines by MoEF vide F.No. 11-168/2009-FC dt 14.02.2012. Cost norm for Bald Hill plantation is furnished as Annexure-(E).

### 4. Schedule of Plantation Programme:

Detail of year wise break up of requirements of funds is as under:

#### A. Champachuan Village

Year	Bald Hill plantation		
	Area in Ha.	Rate/ Ha.	Amount
0th Year	85.175	103116.93	8782984.51
1st Year		91553.60	7798077.88
2nd Year		35709.87	3041588.18
3rd Year		18477.06	1573783.59
4th Year		16884.21	1438112.59
5th Year		16884.21	1438112.59
6 <sup>th</sup> Year		16884.21	1438112.59
7th Year		16884.21	1438112.59
8th Year		16884.21	1438112.59
9th Year		16884.21	1438112.59
10th Year		16884.21	1438112.59
Total		<b>367046.93</b>	<b>31263222.26</b>

### 5. Technical details: Technical details of Compensatory Afforestation Scheme are as follows:

#### a) General Details :

##### Survey & Demarcation of boundary:

The identified area will be surveyed by DGPS and the area will be demarcated with RCC pillars of size 2.5 mtr x 30 cm x 30 cm. This work will be done by the User Agency at Project cost.

##### Fencing:

To protect the plantation from grazing and other biotic interference, it will be provided with 7 strand barbed wire fencing with RCC pillars, the cost for which will be paid by the User Agency. Barbed wire fencing will be done around the entire patch, the length of barbed wire fence needed in this project is furnished below.

Sl No	Village	Length of outer periphery of the site in mtr	Length of enclosures if required to be fenced	Length of common fence of adjoining project which need not be fenced	Total length of fence in mtr (3+4-5)
1	2	3	4	5	6
1	Champachuan	8169.41	Nil	Nil	8169.41
	<b>Total</b>	<b>8169.41</b>	<b>0</b>	<b>0</b>	<b>8169.41</b>

Estimate for barbed wire fencing has been provided in Annexure – (F).

##### Planting and post-planting:

b) Bald Hill Plantation shall be taken up with 1600 plants per hectares at spacing of 2.5 m x 2.5 m. Alignment and pit marking should be done carefully in slopes so that the horizontal distance between plants in a row remains 2.5 mtrs and not the distance measured along the slope. Size of pits will be 45 cm X 45 cm X 45 cm for Bald Hill for Block Plantation. All post planting measures like casualty replacement, soil working, manuring, fire protection etc. will be undertaken. The plantation area should be divided into 4 hectare plots. These plots should be demarcated in the field before digging of pits so that the demarcating line does not cross a plantation row. The 4 ha plots should be shown on map. Cost norm for Bald Hill plantation is furnished as **Annexure-(E)**.

While taking up plantation, the following points shall be taken up for consideration:

- Care to be taken to raise healthy plantable seedlings of minimum 60 cm height. 10% extra seedlings are to be raised for replacement of casualty.
- Pitting shall invariably be done during November-February i.e., before onset of monsoon. If possible the soil of upper portion and lower portion of pit should be placed separately in specific direction so that while planting the pits will be filled with top-soil first.
- Planting shall be done on the onset of monsoon to get full benefit of monsoon rain and planting should never be delayed.
- Basal dose of 50 grams of NPK and 5 grams of Chlorpyrifos dust per plant should be applied at the time of planting carefully by mixing with top-soil so that the roots of seedlings do not come in direct contact with fertilizer.
- In case of any mortality of planted seedlings, it should be replaced with good seedlings as soon as possible for better success rate.
- Complete weeding in proper time will be done. Strip weeding will not be permitted.
- Soil-working and application of 2<sup>nd</sup> dose fertilizer of 50 gms NPK per plant should be done in time.
- Since the area is provided with barbed wire fence, watch & ward will be easier and the watchers may be engaged in weeding in problematic areas alongwith watch & ward.

c) **Species:** Although indigenous species are to be preferred in the plantation, considering adverse soil & moisture conditions we may go for hardy exotic species where required so that the plants are able to survive. For success of plantation in interior tribal areas, plantation of fruit and NTFP species plays a great role since economic species have a little value for local people. Considering the topography, soil and moisture availability of the plantation area, the following species will be planted.

Sl No	Name of species	Common name	Remarks
1	<i>Azadirachta indica</i>	Neem	
2	<i>Derris indica</i>	Karanja	
3	<i>Emblicaofficinalis</i>	Amla	

4	<i>Terminaliachebula</i>	Harida	In lower areas with good soil depth
5	<i>Terminaliabellirica</i>	Bahada	In lower areas with good soil depth
6	<i>Dalbergiasissoo</i>	Sissoo	In lower areas with good soil depth
7	<i>Gmelinaarborea</i>	Gambhari	In lower areas with good soil depth
8	<i>Dendrocalamusstrictus</i>	Salia bamboo	In lower areas with good soil depth healthy seedlings from rhizomes may be planted
9	<i>Cassia siamea</i>	Chakunda	In lower areas with good soil depth
10	<i>Tamarindusindica</i>	Tentuli	In lower areas with good soil depth
11	<i>Madhucaindica</i>	Mahul	Only two years old seedlings may be planted
12	<i>Simarubaglauca</i>	Simaruba	In rocky areas with low soil depth
13	<i>Zizyphusmauritania</i>	Ber	In rocky areas with low soil depth
14	<i>Tectonagrandis</i>	Teak	Potted seedlings from pre-sprouted healthy stumps will be planted
15	<i>Mangiferaindica</i>	Mango	In situ plantation (direct placing of mango stone in planting site) during pre-monsoon may be adopted in few lower areas or where life-saving watering can be done during summer
16	<i>Caryotaurens</i>	Salapa	
17	<i>Terminaliaarjuna</i>	Arjuna	To be planted only on nala bank or near water.
18	<i>Desmodiumoojeinensis</i>	Bandhan	
19	<i>Dilleniaindica</i>	Ou	To be planted in area having good soil depth
20	<i>Feronialimonia</i>	Kaitha	
21	<i>Ficusbenghalensis</i>	Bara	
22	<i>Ficusracemosa</i>	Dimiri,Dumer	
23	<i>Ficusreligiosa</i>	Aswattha	
24	<i>Acacia auriculiformis</i>		
25	<i>Phoenix sylvestris</i>	Khajuri	
26	<i>Pithecolobiumdulce</i>	Simakayan	
27	<i>Acacia catechu</i>	Khair	
28	<i>Acacia nilotica</i>	Babul	
29	<i>Artocarpusheterophyllus</i>	Jack fruit	
30	<i>Bauhinia variegata</i>	Kuler	
31	<i>Boswelliaserrata</i>	Salai	
32	<i>Brideliaretusa</i>	Kasi	
33	<i>Buchanania lanzan</i>	Char	
34	<i>Calophylluminophyllum</i>	Polanga	
35	<i>Cassia fistula</i>	Sunari	
36	<i>Ceibapentandra</i>	White silk cotton	
37	<i>Chloroxylonswietiana</i>	Bheru	
38	<i>Cleistanthuscollinus</i>	Karada	
39	<i>Albizialebbek</i>	Siris	
40	<i>Albizia procera</i>	White Siris	

#### d) Soil and Moisture Conservation Works :

Since most of the areas are hilly and undulating, half-moon trenches on down-hill side of plants should be constructed within cost norm.

e) **Protection of the plantation:** - 7 strand Barbed wire fence with RCC pillars all along the periphery of the plantation will be provided. Few watchers will also be engaged for protection of the plantation.

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

7. **Total cost of the project:** The total cost of the project is **Rs. 4,42,56,700.00 (Rupees four crore forty two lakh fifty six thousand seven hundred)** only as detailed in Annexure-(G) which shall be payable by the user agency as per demand of the D.F.O, Kalahandi South Division.

  
Divisional Forests Officer  
Kalahandi South Division  
**Divisional Forest Officer**  
**Kalahandi South Division**

OFFICE OF THE COLLECTOR & DISTRICT MAGISTRATE,  
KALAHANDI

No. 3 2173 / Rev /2020 Dated. 03/06/2020

To

The Divisional Forest Officer (South),  
Kalahandi, Bhawanipatna.

Sub.- Allotment of Govt. land for Compensatory Afforestation.

Ref.- Your Letter No. 2403/3F(Lease) Dt.3.6.2020  
Sir,

I am to say that the enclosed schedules of non-forest Government land measuring Ac.210.47 equivalent to 85.175 Ha. at Champachuan under Th.Rampur Tahasil as indicated below has been identified and joint verification completed for allocation of non forest Govt. land in lieu of diversion of forest land pertaining to Conveyor Corridor for Rantha & Kurmitar Mining Lease located in Sundargarh district of M/s Odisha Mining Corporation Ltd.

You are therefore requested to please file necessary requisition in Form No.1-A before the Tahasildar, Th.Rampur for processing alienation proposal for sanction of the land in favor of Forest and Environment Department immediately.

Name of the Project	Name of the Village	Khata No.	Plot No.	Total area of the plot (Acres)	Area considered in (Acres)	Kissam	Type of Plantation in Hectares
1	2	3	4	5	6	7	8
Conveyor Corridor for Rantha & Kurmitar ML	Champachuan	114 (AAA)	1	41.73	19.39	Dangar	Bald Hill
			75	38.45	30.66		Plantation
			86	27.63	21.85		1600
			173	23.38	17.59		Plants/HA
			186	12.35	7.68		
			413	20.33	10.96		
			414	21.93	15.66		
			425	19.10	8.25		
			581	36.83	31.60		
			582	53.70	46.83		
Total:				210.47 Acres or 85.175 Ha.			

Yours faithfully

26/06/2020  
Collector,  
Kalahandi.

YR

JOINT VERIFICATION REPORT OF NON-FOREST GOVERNMENT LAND IN VILLAGE CHAMPACHUAN UNDER TH.RAMPUR TAHASIL OF KALAHANDI DISTRICT FOR RAISING COMPENSATORY AFFORESTATION (BALD HILL PLANTATION) IN LIEU OF THE FOREST LAND PROPOSED FOR DIVERSION FOR PROPOSED CONVEYOR CORRIDOR FOR RANTHA & KURMITAR ML OF M/s ODISHA MINING CORPORATION LIMITED LOCATED IN THE DISTRICT OF SUNDARGARH, ODISHA.

Certified that on joint verification of Non forest government land (Kissam – Dangar) in village Champachuan of Thuamul Rampur Tahasil of Kalahandi District, it is found that the scheduled wise land mentioned as given under is suitable for Bald Hill Block plantation and are free from encroachment and encumbrances, does not comes under DLC land and FR Settlement.

Name of the Project	Name of the Village	Khata No.	Plot No.	Total area of the plot (Acres)	Area considered in (Acres)	Kissam	Type of Plantation in Hectares
Conveyor Corridor for Rantha & Kurmitar ML	Champachuan	114 (A.A.A)	1	41.73	19.39	Dangar	Bald Hill Plantation 1600 Plants /HA
			75	38.45	30.66		
			86	27.63	21.85		
			173	23.38	17.59		
			186	12.35	7.68		
			413	20.33	10.96		
			414	21.93	15.66		
			425	19.10	8.25		
			581	36.83	31.60		
		582	53.70	46.83			
TOTAL :-					210.47 Acres or 85.175 Ha.		

  
Revenue Inspector  
Badachhatrang  
Revenue Inspector  
Badachhatrang

  
Forester  
Forester  
Banakhamar Section

  
Range Officer  
Forest Range  
Jaipatna Range

  
Tahasilda  
Thuamul Rampur  
Rampur

YB



CO-ORDINATES OF CA LAND BOUNDARY PILLARS IN VILLAGE CHAMPACHUAN						
PATCH-I						
PILLARS		GEOGRAPHIC CO-ORDINATES		BEARING		DISTANCE IN METERS
FROM	TO	LONGITUDE	LATITUDE	FORWARD	BACKWARD	
1	2	82°54'17.10"	19°26'26.76"	78°14'28"	258°14'28"	79.46
2	3	82°54'19.77"	19°26'27.26"	71°46'30"	251°46'30"	13.7
3	4	82°54'20.22"	19°26'27.40"	62°47'33"	242°47'33"	107.64
4	5	82°54'23.52"	19°26'28.96"	91°43'28"	271°43'28"	73.85
5	6	82°54'26.05"	19°26'28.86"	92°10'58"	272°10'58"	70.85
6	7	82°54'28.48"	19°26'28.75"	88°31'07"	268°31'07"	55.26
7	8	82°54'30.37"	19°26'28.78"	80°32'16"	260°32'16"	84.01
8	9	82°54'33.22"	19°26'29.20"	86°05'29"	266°05'29"	25.62
9	10	82°54'34.09"	19°26'29.24"	72°22'01"	252°22'01"	114.77
10	11	82°54'37.86"	19°26'30.33"	73°39'07"	253°39'07"	74.45
11	12	82°54'40.31"	19°26'30.99"	68°35'43"	248°35'43"	140.5
12	13	82°54'44.82"	19°26'32.61"	69°44'58"	249°44'58"	52.29
13	14	82°54'46.50"	19°26'33.18"	157°36'47"	337°36'47"	67.88
14	15	82°54'47.37"	19°26'31.13"	189°26'45"	9°26'45"	377.65
15	16	82°54'45.10"	19°26'19.04"	90°19'28"	270°19'28"	187.64
16	17	82°54'51.53"	19°26'18.94"	178°57'16"	358°57'16"	125.38
17	18	82°54'51.56"	19°26'14.86"	88°51'53"	268°51'53"	200.33
18	19	82°54'58.43"	19°26'14.92"	89°30'02"	269°30'02"	266.95
19	20	82°55'07.58"	19°26'14.90"	178°38'36"	358°38'36"	403.1
20	21	82°55'07.75"	19°26'01.79"	195°46'03"	15°46'03"	312.44
21	22	82°55'04.73"	19°25'52.04"	269°12'39"	89°12'39"	196.13
22	23	82°54'58.01"	19°25'52.03"	269°53'54"	89°53'54"	186.2
23	24	82°54'51.62"	19°25'52.08"	359°15'35"	179°15'35"	100.37
24	25	82°54'51.62"	19°25'55.35"	269°28'18"	89°28'18"	201.56
25	26	82°54'44.71"	19°25'55.36"	179°06'42"	359°06'42"	102.41
26	27	82°54'44.72"	19°25'52.03"	269°37'23"	89°37'23"	88.79
27	28	82°54'41.68"	19°25'52.04"	17°52'55"	197°52'55"	208.48
28	29	82°54'43.95"	19°25'58.47"	87°24'15"	267°24'15"	222.93
29	30	82°54'51.59"	19°25'58.72"	359°07'49"	179°07'49"	180.43
30	31	82°54'51.56"	19°26'04.58"	290°51'16"	110°51'16"	98.11
31	32	82°54'48.43"	19°26'05.75"	208°24'49"	28°24'49"	135.74
32	33	82°54'46.17"	19°26'01.90"	277°46'45"	97°46'45"	78.19
33	34	82°54'43.52"	19°26'02.27"	4°53'18"	184°53'18"	64.58
34	35	82°54'43.74"	19°26'04.36"	277°04'40"	97°04'40"	63.56
35	36	82°54'41.58"	19°26'04.63"	355°49'09"	175°49'09"	551.19
36	37	82°54'40.41"	19°26'22.52"	274°26'38"	94°26'38"	397.81
37	38	82°54'26.83"	19°26'23.67"	223°46'52"	43°46'52"	43.98
38	39	82°54'25.77"	19°26'22.65"	132°11'37"	312°11'37"	95.53
39	40	82°54'28.17"	19°26'20.54"	269°54'42"	89°54'42"	436.94
40	41	82°54'13.20"	19°26'20.67"	51°32'18"	231°32'18"	32.63
41	42	82°54'14.08"	19°26'21.32"	47°20'15"	227°20'15"	22.02
42	43	82°54'14.64"	19°26'21.80"	12°07'01"	192°07'01"	28.74
43	44	82°54'14.86"	19°26'22.71"	24°19'52"	204°19'52"	20.04

PILLARS		GEOGRAPHIC CO-ORDINATES		BEARING		DISTANCE IN METERS
FROM	TO	LONGITUDE	LATITUDE	FORWARD	BACKWARD	
44	45	82°54'15.15"	19°26'23.30"	27°52'28"	207°52'28"	62.14
45	1	82°54'16.16"	19°26'25.08"	27°15'34"	207°15'34"	58.58
<b>AREA-71.066 Ha. &amp; PERIMETER -6510.85 Mtr.</b>						
<b>PATCH-II</b>						
1	2	82°54'24.00"	19°25'38.94"	88°11'22"	268°11'22"	315.03
2	3	82°54'34.80"	19°25'39.15"	179°10'08"	359°10'08"	518.68
3	4	82°54'34.86"	19°25'22.28"	269°46'37"	89°46'37"	213.46
4	5	82°54'27.54"	19°25'22.33"	358°56'40"	178°56'40"	206.83
5	6	82°54'27.49"	19°25'29.06"	269°16'35"	89°16'35"	100.55
6	7	82°54'24.05"	19°25'29.05"	359°08'53"	179°08'53"	201.05
7	1	82°54'24.02"	19°25'35.59"	359°06'30"	179°06'30"	102.96
<b>AREA-14.109 Ha. &amp; PERIMETER -1658.56 Mtr.</b>						

Divisional Forest Officer ANNEXURE-(E)  
Kalahandi South Division

**COST NORM FOR BALD HILL PLANTATION @ 1600 PLANTS PER HECTARE**  
(Labour cost @Rs 303.40 per manday)

Sl No	Item of Work	Preferable Period of execution	Manday	Labour Cost (Rs)	Material Cost (Rs)	Total Cost in (Rs)
<b>PREPARATORY OPERATION (0TH YEAR)</b>						
1	Survey and demarcation	June	2	606.8	0	606.8
2	Pitting (1600 per ha) each pit-45 cm <sup>3</sup>	Nov-Dec	128	38835.20	0.00	38835.20
3	<b>Soil and water conservation measures</b> (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	Sep-Nov	130	39442.00	0.00	39442.00
		July-Aug	10	3034.00	0.00	3034.00
4	Raising of seedlings in poly bags (minimum 60 cm high) @ Rs.12.67 per seedling (Rs.8.83 in 0th year + Rs.3.84) Part (1760 saplings to be raised for one hectare)	Oct-Mar	44	13349.60	2939.00	16288.60
	<b>TOTAL 0th year</b>		<b>314</b>	<b>95267.60</b>	<b>2939.00</b>	<b>98206.60</b>
5	Monitoring & Supervision charge 5% of the total cost			0.00		4910.33
	<b>GRAND TOTAL</b>		<b>314</b>	<b>95267.60</b>	<b>2939.00</b>	<b>103116.93</b>
<b>PLANTING OPERATION (1ST YEAR)</b>						
1	Cost of sapling (balance) from April-June/July @Rs.3.84 per seedling for 1760 seedlings	Apr-Jun	21.5	6523.10	593.00	7116.10

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	Jun-Jul	109	33070.60	0.00	33070.60
3	Cost of Fertile Soil 0.25 cft @ Rs.8 per cft/FYM 0.25 cft @ Rs.15 per cft per pit		0	0.00	9200.00	9200.00
4	Sowing of seeds on dug out earth of trench	June	6	1820.40	200.00	2020.40
5	Carriage-6MD,Planting including Casualty replacement-6 MD, fertilizer application- 5 MD, 1st weeding-7 MD, 2nd weeding -5 MD, soil working- 7 MD	Jul-Aug	36	10922.40	0.00	10922.00
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	0.00	4480.00	4480.00
7	Maintenance of soil and Moisture Conservation measures (20% of cost)	Oct-Dec	26	7888.40	0.00	7888.40
8	Closure to grazing fire and other biotic interference by engaging watch & ward	Apr-Mar	30	9102.00	0.00	9102.00
9	Fire tracing and control, display board construction, painting / writing, other miscellaneous cost	Jan-Feb	10	3034.00	360.00	3394.00
	<b>TOTAL (1st Year)</b>		<b>238.5</b>	<b>72360.9</b>	<b>14833.00</b>	<b>87193.90</b>
10	Monitoring & Supervision charge 5% of the total cost			0.00		4359.70
	<b>GRAND TOTAL</b>		<b>238.5</b>	<b>72360.9</b>	<b>14833.00</b>	<b>91553.60</b>
<b>MAINTENANCE OPERATION (2ND YEAR)</b>						
1	Casualty replacement- 6 MD including seedling cost @Rs.12.67 per seedling and its transportation	Jun-Jul	10	3034.00	1988.80	5022.80
2	Soil working- 7 MD, 1st weeding-6 MD, 2nd weeding -6 MD and fertilizer application -4 MD	Aug-Oct	23	6978.20	0.00	6978.20
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	0.00	1984.00	1984.00
4	Maintenance of Soil and Moisture Conservation measures (20% of cost)	Aug-Oct	26	7888.40	0.00	7888.40
5	Fire tracing and control and other miscellaneous cost	Feb-Mar	10	3034.00	0.00	3034.00
6	Closure to grazing, fire and other biotic interference by engaging watch and ward	Apr-Mar	30	9102.00	0.00	9102.00
	<b>TOTAL 2nd Year</b>		<b>99</b>	<b>30036.60</b>	<b>3972.80</b>	<b>34009.40</b>
7	Monitoring & Supervision charge 5% of the total cost			0.00		1700.47
	<b>GRAND TOTAL</b>		<b>99</b>	<b>30036.60</b>	<b>3972.80</b>	<b>35709.87</b>
<b>MAINTENANCE OPERATION (3RD YEAR)</b>						
1	Closure to grazing, fire and other biotic interference by engaging watch and ward	Apr-Mar	18	5461.20	0	5461.20
2	SMC Measures 26 mandays and Maintenance of plantation 14 mandays		40	12136.00	0	12136.00
	<b>TOTAL 3rd Year</b>		<b>58</b>	<b>17597.20</b>	<b>0</b>	<b>17597.20</b>
3	Monitoring & Supervision charge 5% of			0.00		879.86

	the total cost					
	<b>GRAND TOTAL</b>		<b>58</b>	<b>17597.20</b>	<b>0</b>	<b>18477.06</b>
<b>MAINTENANCE OPERATION (4TH YEAR)</b>						
1	Closure to grazing, fire and other biotic interference by engaging watch and ward	Apr-Mar	18	5461.20	0	5461.20
2	SMC Measures 21 mandays and Maintenance of plantation 14 mandays		35	10619.00	0	10619.00
	<b>TOTAL 4th Year</b>		<b>53</b>	<b>16080.20</b>	<b>0</b>	<b>16080.20</b>
3	Monitoring & Supervision charge 5% of the total cost			0.00		804.01
	<b>GRAND TOTAL</b>		<b>18</b>	<b>16080.20</b>	<b>0</b>	<b>16884.21</b>
<b>MAINTENANCE OPERATION (5TH YEAR)</b>						
1	Closure to grazing, fire and other biotic interference by engaging watch and ward	Apr-Mar	18	5461.20	0	5461.20
2	SMC Measures 21 mandays and Maintenance of plantation 14 mandays		35	10619.00	0	10619.00
	<b>TOTAL 4th Year</b>		<b>53</b>	<b>16080.20</b>	<b>0</b>	<b>16080.20</b>
3	Monitoring & Supervision charge 5% of the total cost			0.00		804.01
	<b>GRAND TOTAL</b>		<b>18</b>	<b>16080.20</b>	<b>0</b>	<b>16884.21</b>
<b>MAINTENANCE OPERATION (6TH YEAR)</b>						
1	Closure to grazing, fire and other biotic interference by engaging watch and ward	Apr-Mar	18	5461.20	0	5461.20
2	SMC Measures 21 mandays and Maintenance of plantation 14 mandays		35	10619.00	0	10619.00
	<b>TOTAL 4th Year</b>		<b>53</b>	<b>16080.20</b>	<b>0</b>	<b>16080.20</b>
3	Monitoring & Supervision charge 5% of the total cost			0.00		804.01
	<b>GRAND TOTAL</b>		<b>18</b>	<b>16080.20</b>	<b>0</b>	<b>16884.21</b>
<b>MAINTENANCE OPERATION (7TH YEAR)</b>						
1	Closure to grazing, fire and other biotic interference by engaging watch and ward	Apr-Mar	18	5461.20	0	5461.20
2	SMC Measures 21 mandays and Maintenance of plantation 14 mandays		35	10619.00	0	10619.00
	<b>TOTAL 4th Year</b>		<b>53</b>	<b>16080.20</b>	<b>0</b>	<b>16080.20</b>
3	Monitoring & Supervision charge 5% of the total cost			0.00		804.01
	<b>GRAND TOTAL</b>		<b>18</b>	<b>16080.20</b>	<b>0</b>	<b>16884.21</b>
<b>MAINTENANCE OPERATION (8TH YEAR)</b>						
1	Closure to grazing, fire and other biotic interference by engaging watch and ward	Apr-Mar	18	5461.20	0	5461.20
2	SMC Measures 21 mandays and Maintenance of plantation 14 mandays		35	10619.00	0	10619.00
	<b>TOTAL 4th Year</b>		<b>53</b>	<b>16080.20</b>	<b>0</b>	<b>16080.20</b>
3	Monitoring & Supervision charge 5% of the total cost			0.00		804.01
	<b>GRAND TOTAL</b>		<b>18</b>	<b>16080.20</b>	<b>0</b>	<b>16884.21</b>
<b>MAINTENANCE OPERATION (9TH YEAR)</b>						
1	Closure to grazing, fire and other biotic interference by engaging watch and ward	Apr-Mar	18	5461.20	0	5461.20
2	SMC Measures 21 mandays and Maintenance of plantation 14 mandays		35	10619.00	0	10619.00
	<b>TOTAL 4th Year</b>		<b>53</b>	<b>16080.20</b>	<b>0</b>	<b>16080.20</b>
3	Monitoring & Supervision charge 5% of the total cost			0.00		804.01

	the total cost					
	<b>GRAND TOTAL</b>		<b>18</b>	<b>16080.20</b>	<b>0</b>	<b>16884.21</b>
<b>MAINTENANCE OPERATION (10TH YEAR)</b>						
1	Closure to grazing, fire and other biotic interference by engaging watch and ward	Apr-Mar	18	5461.20	0	5461.20
2	SMC Measures 21 mandays and Maintenance of plantation 14 mandays		35	10619.00	0	10619.00
	<b>TOTAL 4th Year</b>		<b>53</b>	<b>16080.20</b>	<b>0</b>	<b>16080.20</b>
3	Monitoring & Supervision charge 5% of the total cost			0.00		804.01
	<b>GRAND TOTAL</b>		<b>18</b>	<b>16080.20</b>	<b>0</b>	<b>16884.21</b>

<b>ABSTRACT</b>						
Sl. No.	Year	No. Person Day	Labour cost @ Rs 303.40 per day	Material cost (Rs)	Monitoring & Supervision charge 5% of the total cost	Total cost in (Rs)
1	0th Year	314	95267.60	2939.00	4910.33	103116.93
2	1st Year	238.5	72360.9	14833.00	4359.70	91553.60
3	2nd Year	99	30036.60	3972.80	1700.47	35709.87
4	3rd Year	58	17597.20	0	879.86	18477.06
5	4th Year	18	16080.20	0	804.01	16884.21
6	5 <sup>th</sup> Year	18	16080.20	0	804.01	16884.21
7	6 <sup>th</sup> Year	18	16080.20	0	804.01	16884.21
8	7 <sup>th</sup> Year	18	16080.20	0	804.01	16884.21
9	8 <sup>th</sup> Year	18	16080.20	0	804.01	16884.21
10	9 <sup>th</sup> Year	18	16080.20	0	804.01	16884.21
11	10th Year	18	16080.20	0	804.01	16884.21
	<b>Total</b>	<b>835.50</b>	<b>327823.70</b>	<b>21744.80</b>	<b>17478.43</b>	<b>367046.93</b>

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 qualify for Bald Hill Cost Norm and the foot hill with normal soil depth may be taken up at par 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.

  
 Divisional Forest Officer  
 Kalahandi South Division

## ANNEXURE-(F)

**ESTIMATE FOR BARBED WIRE FENCE**

7 strands straight + 2 diagonal strands of 2 ply barbed wire on RCC posts fixed at 2.5 mtr intervals.

Two struts at every 10<sup>th</sup> pillar

Fence post size Length—8ft, Bottom width 6"x6", Top width-4"x4" Reinforced with 6mm rods

Minimum wage rate Rs. 303.40 per day for unskilled labourer

## ANALYSIS OF RATE

1	Earth work in hard or gravelly soil within 50m. Initial lead and 1.5m. initial lift including rough dressing of clods to maximum 5 cm. to 7 cm and laying in layers not exceeding 0.3 m. in depth (per 100 cum.)			
	Mulia	43	303.40	13046.20
	2% sundries and T & P etc.			260.92
		<b>Total</b>		<b>13307.12</b>
2	Cement concrete (1:4:8) with 4 cm hard granite metal including lying, compacting, curing with all cost, conveyance, royalty of materials etc. (per 1 cum)			
	HG metal	0.96 cum	Rs 1223.40	1174.64
	Sand	0.48 cum	Rs 443.00	212.62
	Cement	1.72 qtl	Rs 630.00	1083.60
	Mason 2 <sup>nd</sup> Class	0.18	Rs 343.40	61.81
	Man mulia	1.80	Rs 303.40	546.12
	Woman mulia	1.40	Rs 303.40	424.76
	Man mulia	0.70	Rs 303.40	212.38
		<b>Total</b>		<b>3715.93</b>
3	Cement Concrete (1:2:4) with 12 mm size C.B.H.G chips including cost, carriage & royalty etc complete			
	HG chips 12 mm	0.96 cum	Rs 1581.40	1518.14
	Sand	0.45 cum	Rs 443.42	199.53
	Cement	3.23 qtl	Rs 630.00	2034.90
	Mason 2 <sup>nd</sup> Class	0.60	Rs343.40	206.04
	Mulia	4.6	Rs 303.40	1395.64
		<b>Total</b>		<b>5354.25</b>
4	Cutting, bending, binding, straightening and tying the grills and placing in position including cost of M.S Tor Steel and binding wire etc (Ref-A/R-2006 item No. 9 Page 52). Taking output for 1 quintal			
	Cost & carriage of HYSD Steel including 5% for wastage & overlapping	1.05 qtl	Rs 5500.00	5775.00
	Binding wire	8 kg	Rs 80/kg	640.00
	Labour for cutting, bending, shifting to site, tying & placing in position Mate	0.44	393.40	173.10
	Blacksmith Special	4	453.40	1813.60
	Semiskilled mulia	8	343.40	2747.20
		<b>Total</b>		<b>11148.90</b>

01) 02 ply barbed wire (5 Rmt per kg)

7 straight strand x 1000 Mt

=7000Mt

2 Diagonal strand =  $2 \times \sqrt{(6.5')^2 + (8.2')^2} = 2 \times 10.50 \text{ ft}$

=21.00 ft x 400 nos=8400 ft or

=2560Mt

=9560Mt

Cost per KM=9560/5=1912 Kg @ Rs.80/Kg

Rs.1,52,960.00

- 02). Construction of RCC pillars of size-  
 Length—8ft, Bottom width 6"x6", Top width-4"x4"  
 Reinforced with 6mm rods with proper curing  
 $\frac{\{8' \times 6''+4''\} \times 6''+4''}{2 \quad 2} = 1.34 \text{ cft or } 0.038 \text{ cum}$
- i) Cost of c.c. work 1:2:4=0.038 cum @5354.25/cum = 203.46  
 ii) Cost of rod including cutting, bending & binding  
 0.038x0.9qtl=0.0342 qtl@ Rs. 11148.90/qtl. = 381.29  
 iv) Contingency (15%) including = 87.71  
 Curing, stacking, provision of hooks etc. -----  
 Rs.672.46

Requirement of pillars per KM-

Spacing=2.5mtx2.5mt

Requirement=1000mt/2.5mt = 400

Strut pillar in every 10<sup>th</sup> pillar=(400/10)x2 = 80

480 Nos

Cost of pillars per Kilometer= 480@ Rs 672.46

Rs.3,22,780.80

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

i) Digging of pits 1.5'x1.5'x1.5'=3.375cft/pit

for 480 pits, 480x3, 375=1620 cft or 45.86 cum @ Rs. 13307.12/100cum =Rs 6102.65

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

pit size-1.5'x1.5'x1.5' =3.375 cft

Deduct 1/3<sup>rd</sup> 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 30.577 cum @ Rs. 3715.93/cum

Rs.1,13,621.99

- 04). Labour for straightening the barbed wire and fixing & clipping with pillars

70M.d per km@ Rs 303.40 per manday =

Rs.21,238.00

- 05). Carriage of Barbed wire & pillars to work site

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

Rs.18,000.00

Approximately 10 tld @ 800/tld =

Rs. 7,500.00

- 06). Provision of one Iron Gate of size (4' x 5') on LS =

Total = Rs.6,42,203.44

Labour Cess 1% = Rs. 6,422.03

Rs.6,48,625.47

Expenditure per 1 km of barbed wire fencing

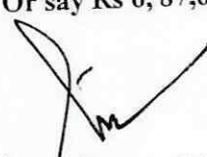
- 07). Expenditure towards maintenance for 3 years (3<sup>rd</sup>, 6<sup>th</sup> & 9<sup>th</sup> year)

@ 2% of cost per rkm = 3 x 2% x Rs.6,48,625.47 = Rs.38,917.53

Expenditure per 1 km of barbed wire fencing including maintenance =

Rs.6,87,543.00

Or say Rs 6, 87,600.00

  
 Divisional Forest Officer  
 Kalahandi South Division

**TOTAL COST OF THE COMPENSATORY AFFORESTATION SCHEME**

Sl. No.	Item of Work	Total Estimated Cost in Rs.
1	Barbed wire fence around plantation sites = Rs 687.60 X 8169.41 mtr	56,17,286.32
2	Bald Hill plantation in Champachuan Village over 85.175 ha X Rs. 367046.93	3,12,63,222.26
	<b>Total</b>	<b>3,68,80,508.58</b>
3	Add 20% for escalation of cost of material and wage in future	73,76,101.72
	<b>Grand Total</b>	<b>4,42,56,610.30</b> or say Rs <b>4,42,56,700.00</b>

(Rupees four crore forty two lakh fifty six thousand seven hundred only)

  
 Divisional Forest Officer,  
 Kalahandi South Division  
 Divisional Forest Officer  
 Kalahandi South Division