

SCHEME FOR COMPENSATORY AFFORESTATION OVER 94.216  
HA. OF NONFOREST GOVT. LAND IDENTIFIED IN VILLAGE  
TANUGULA, KADAMBINIPUR & BARADIHA UNDER  
PALAHARA TAHASIL OF PALLAHARA RANGE DEOGARH  
FOREST DIVISION

**FOR DIVERSION OF 87.520 HA  
OF FOREST LAND FOR THE PURPOSE OF  
HIDISING IRRIGATION PROJECT  
IN  
ANGUL FOREST DIVISION.**

**Prepared by**

**DIVISIONAL FOREST OFFICER  
DEOGARH FOREST DIVISION**

**TAHASIL OFFICE, PALLAHARA**Letter No. 2882 /Dt. 13.6.16 //

To

The Divisional Forest Officer, Deogarh Division.

Sub: - Identification of Non-Forest Govt land for Compensatory Afforestation for an area of 94.216 Ha. in respect of Hidsing Irrigation Project.

Ref: - Your Office Memo No 150 Dt. 18.01.2016

Sir,

With reference to the letter on the subject cited above, I am to say that the joint inspection on the suitability of the identified land as furnished by Hidsing Irrigation Project has been done by RI Kantala and Range officer Pallahara for the purpose of compensatory afforestation in exchange of forest land diverted for the Hidsing Irrigation Project.

The identified land to the extent of 94.216 Ha was jointly inspected and found suitable for the compensatory afforestation. The surveyed land has not been allotted previously for any purpose and the same is also free from encroachment and encumbrances. The detailed statement of the surveyed non-forest Govt. land duly signed jointly by the forest and Revenue officials is enclosed here with for kind perusal and needful action at your end.

Yours Faithfully,

*[Signature]*  
13/6/16  
Tahasildar, Pallahara

Memo No. 2883 /Dt. 13.6.16 //

Copy submitted to the Additional District Magistrate Angul for favour of your kind information and necessary action.

*[Signature]*  
13/6/16  
Tahasildar, Pallahara

Memo No. 2884 /Dt. 13.6.16 //

Copy submitted to the Sub-Collector, Pallahara for favour of your kind information and necessary action.

*[Signature]*  
13/6/16  
Tahasildar, Pallahara

Memo No. 2885 /Dt. 13.6.16 //

Copy to the Executive Engineer, Cuttack Investigation Division, Jobra, Cuttack for information.

*[Signature]*  
13/6/16  
Tahasildar, Pallahara

*[Signature]*  
13/6/16  
Executive Engineer  
Cuttack Investigation Division  
Jobra, Cuttack




**ANNEXURE -**  
**JOINT VERIFICATION OF NON - FOREST GOVERNMENT LAND FOR**  
**COMPENSATORY AFFORESTATION FOR HIDSING IRRIGATION PROJECT**

1. A joint Verification was conducted in the said patches for CA land of Hidsing Irrigation Project on Dtd. 28.02.2016 and 04.05.2016.
2. The Staff of Forest Department, Revenue Department and Hidsing Irrigation Department were present as follows:
  1. Rohit Nayak - Forest Guard, Nagira Beat, Jamardihi Section
  2. Parikhita Rout - Forester, Jamardihi Section
  3. Saroj Kumar Biswal - Range Officer, Pallahara Range
  4. Sadananda Pradhan- Revenue Supervisor, Pallahara
  5. Ismita Panigrahi- Revenue Inspector, Kuntala, Pallahara
  6. Project Representatives of Hidsing Irrigation Project
3. The following below table shows the area suitable for ANR (Aided Natural Regeneration), viz. 200 nos. of plants/Ha. i.e. 18843 Nos. for 94.216 Ha.
4. The said patches are on the top of Hills, so it should be termed as Bald Hill Plantation.
5. Most of the area are with exposed rocky surface which requires special SMC ( Soil & Moisture Conservation) treatment.

SL. NO.	NAME OF VILLAGE	KHATA NO.	PLOT NO.	KISAM	AREA (Ha.)	AREA SUITABLE FOR ANR PLANTATION (Ha.)	REMARKS
1	Tanugola/ P.S.- Pallahara/ Thana No.-9/ Tahasil- Pallahara	48	676	Patita	2.104	2.104	Patch-I
2			677	Patita	2.015	2.015	
3			672	Patita	0.838	0.838	
4			671	Patita	2.125	2.125	
5			669	Patita	1.311	1.311	
6			668	Patita	0.931	0.931	
7			667	Patita	0.886	0.886	
8	Kadambinipu/ P.S.- Pallahara/ Thana No.-8/ Thasil- Pallahara	32	107	Parbat-2	13.921	13.921	Patch-II
9			161	Parbat-2	6.597	6.597	
10			232	Parbat-2	16.592	16.592	


Continued:

  
Rev. Inspector  
Kuntala

  
Rev. Supervisor  
Pallahara

  
Forest Guard  
Nagira Beat

  
Forester  
Jamardihi

  
Range Officer  
Pallahara

D.F.O  
Deogarh

REVENUE INSPECTOR  
KANTALA

Revenue Supervisor  
Pallahara

Forester  
Jamardihi Section

Range Officer  
Pallahara Range

  
Tahsil  
Pallahara

Countersigned  
  
Divisional Forest Officer  
Deogarh, Division

  
Executive Engineer  
Cuttack Investigation Division  
Jhara, Cuttack

(PTU)

SL. NO.	NAME OF VILLAGE	KHATA NO.	PLOT NO.	KISAM	AREA (Ha.)	AREA SUITABLE FOR ANR PLANTATION (Ha.)	REMARKS
11	Baradiha/	30	379	Parbat-3	10.069	10.069	Patch-III
12	P.S.-		380	Parbat-3	13.905	13.905	
13	Pallahara/		6	Parbat-3	16.803	16.803	
14	Thana No. 4/		93	Parbat-3	6.119	6.119	Patch-IV
	Tahasil- Pallahara						Patch-V
TOTAL AREA (Ha.)					94.216	94.126	

1. Certified that the above non-forest Govt. Land is in 14 Nos. of plots in 5 compact patches and in the above villages having adequate soil depth for plantation.
2. Certified that above Non-Forest Govt. land is suitable for ANR (Aided Natural Regeneration) plantation and is free from encroachment & encumbrance.
3. Certified that there is no mineral deposit held in the above area.
4. Certified that above land is not covered under 4(1) Notification, DLC Forest & not belongs to any forest kisam as on RoR of 25.10.1980.
5. Certified that above land is not allotted previously.

06/05/16  
 Rev. Inspector Kuntala  
 REVENUE INSPECTOR KANTALA  
 06/05/16  
 Rev. Supervisor Pallahara  
 Revenue Supervisor Pallahara  
 06/05/16  
 Forest Guard Nagira Beat  
 06/05/16  
 Forester Jamardihi  
 Forester Jamardihi Section  
 06/05/16  
 Range Officer Pallahara  
 Forest Range Officer PALLAHARA RANGE  
 D.F.O Deogarh

06/05/16  
 TAHASILDAR, PALLAHARA

Countersigned  
 Divisional Forest Officer  
 Deogarh, Division

06/05/16  
 Executive Engineer  
 Cuttack Investigation Division  
 Jobra, Cuttack  
 06/05/16  
 Executive Engineer  
 Cuttack Investigation Division  
 Jobra, Cuttack



ANNEXURE - XIII

"LAND SUITABILITY CERTIFICATE BY DFO CONCERNED"

This is to certify that 94.216 ha of non forest Government land identified in the villages Tanugola, Kadambinipur and Baradiha under Tahasil- Pallahara, District: Angul having Khata No. Plot No as below are suitable for Compensatory Afforestation in ANR model plantation @ 200 seedlings per ha. and from management point of view the identified land is free from all sorts of encumbrances and encroachment.

Tahasil	Village	Khata No.	Plot No.	Area(in Ha)	Kisam.
Pallahara	Kadambinipur	32	107	13.921	Parbat-2
			161	6.597	Parbat-2
			232	16.592	Parbat-2
	Tanugola	48	676	2.104	Patita
			677	2.015	Patita
			672	0.838	Patita
			671	2.125	Patita
			669	1.311	Patita
			668	0.931	Patita
			667	0.886	Patita
	Baradiha	30	379	10.069	Parbat-3
			380	13.905	Parbat-3
			6	16.803	Parbat-3
			93	6.119	Parbat-3
			<b>Total</b>	<b>94.216</b>	

Place:- Deogarh  
Date :- 13.06.2016

Divisional forest Officer,  
Deogarh Forest Division.

*Pattnaik*  
29/6/16  
Executive Engineer  
Cuttack Investigation Division  
Jobra, Cuttack

*Pattnaik*  
29/6/16  
Executive Engineer  
Cuttack Investigation Division  
Jobra, Cuttack

## CHAPTER- I

### **BRIEF NOTE ON THE PROPOSED FOREST DIVERSION PROPOSAL**

The Hidisingh Irrigation project proposed in Brahmani basin on Bauli Nallah, a tributary of Brahmani River in Karadasing village under Angul sub-division of Angul district, Odisha by the Department of Water Resources, Govt. of Odisha.

The dam site is near village Karadasing at 25 kms, from Angul, the district head-quarters. A state highway namely SH-23 is running between Angul to Tikarpada passes near by the Project. A portion of road length of about 3.60 km will come under reservoir submergence. The nearest railway station of East Coast Railways is 30 Km away from Angul Railway station. The dam site is 180 kms from the state capital and nearest airport, Bhubaneswar. The project is confined within Latitude  $20^{\circ} 41' 7''$  to  $20^{\circ} 44' 20''$  N and Longitude  $84^{\circ} 56' 31''$  to  $85^{\circ} 05' 56''$  E in the Survey of India Topo sheet No. 73 H/2 and 73 D/14.

The project includes a water reservoir including a homogeneous earth dam with a central spillway and two Main (Right & Left) canals with minor & sub-minor distributaries. The project area is confined to a draught prone area covering about 30 villages and some portion of three protected forests, chronically affected with frequent bouts of draught. The reservoir scheme envisages construction of a 933 m. long and an earth dam of maximum 32.50 m height having a central river bed spillway of 36.00 m. length. The total catchment area at the dam site is 72.30 sq km and the total inflow into the reservoir is 1710.41 ham corresponding to a 75% dependable year after deducting 20% utilization by the upstream and downstream stake holders. The project has an average water utilization of 77.52%. This Project has been technically approved by the Central Water Commission, Govt. of India, where it has been instructed for obtaining statutory clearances.

Therefore, Forest Diversion proposal has been submitted to divert **87.520 ha of forest land** out of **437.330 ha** of total area of submergence & required for construction of the project. For diversion of forest land for non-forest purpose, equivalent non-forest Govt. land is to be allotted for the project. So, non-forest Govt. land has been jointly identified in villages of Tanugola, Baradiha & Kadmbinipur of Pallalahara Tahasil and Pallalahara Forest Range of Deogarh forest division under Angul district, Odisha.



## 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 village Kadambinipur, Tanugola & Baradiha under Pallahara Tahasil in Pallahara Range of Deogarh Forest Division over 94.216 ha. and has been jointly verified by the Tahasildar, Pallahara, Revenue Inspector, Kantala, Range Officer, Pallahara Range, Forest Section Officer, Jamardihi. The above identified land has been allotted in favour of Hidising Irrigation Project, Govt. of Odisha.

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

The Tahasildar, Pallahara has given certificate regarding non-encroachment and non-encumbrance on the identified non-forest land for raising Compensatory Afforestation.

#### **C. - INFORMATION ON LAND STATUS.**

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

Tahasil	Village	Khata No.	Plot No.	Area(in Ha)	Kissam.
Pallahara	Kadambinipur	32	107	13.921	Parbat-2
			161	6.597	Parbat-2
			232	16.592	Parbat-2
	Tanugola	48	676	2.104	Patita
			677	2.015	Patita
			672	0.838	Patita
			671	2.125	Patita
			669	1.311	Patita
			668	0.931	Patita
			667	0.886	Patita
	Baradiha	30	379	10.069	Parbat-3
			380	13.905	Parbat-3
			6	16.803	Parbat-3
			93	6.119	Parbat-3
Total				94.216	

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

The identified land is free from encroachment and encumbrance. This land is neither covered under Section-4 of Orissa Forest Act, 1972 nor included in DLC report.

The non-forest land identified in village Kadambinipur and in Tanugola is in one patch and in Baradiha is in three patches. The area is situated on hilly slopes. The crop density varies from 0.1 to 0.4.

The topography of the area is mainly hilly with eroded soil profile having exposed rocks at places necessitating soil conservation measures. 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 over 94.216 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 and GPS survey data showing latitude and longitude of each point and their chainage with bearing is also enclosed in the map prepared thereon (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, Deogarh 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. *Dalbergiasissoo*(Sissoo)
6. *Azadirrachtaindica*(Neem)
7. *Gmelinaarborea* (Gambar)
8. *Terminaliabalerica*(Bahada)
9. *Terminaliachebula*(Harida)
10. *Pongamiapinnata* (Karanja)
11. *Emblicaoofficinalis* (Ainla)
12. *Tectona grandis* (Teak)

## **B. PRE-PLANTING OPERATION**

### **B (I)-RAISING OF PLANTATION STOCK- NURSERY-**

Nursery will be raised @220 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, Pallahara 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 @200 per ha. in the available gaps preferably 2 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 while refilling the pits. As regards artificial fertilizers, the minerals 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 2mtr span to the tune of 300 Nos. and 3mtr span to the tune of 200 Nos over the entire plantation site and staggered trenches of dimension 2.0 x 0.5 x 0.5 m @ 60 nos per ha as per planting norm.

**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 for protecting the plantation from grazing. Barbed wire fencing is suggested as a safeguard measures against grazing as well as other biotic pressure including shifting cultivation.

# CHAPTER- VI

## COST NORM FOR AIDED NATURAL REGENERATION (ANR) @ 200 PLANTS PER HECTARE

WAGE RATE Rs. 308.00/day

Sl. No.	Item of Work	Preferable Period of Execution	Labour in Mandays	Labour Cost Rs.	Material Cost Rs	Total Cost Rs
<b>0TH YEAR</b>						
1	Survey, Demarcation and Pillar Posting, GPS Reading with mapping.	Nov/Dec	2	616.00	0	616.00
2	Site Preparation	Nov/Dec	2	616.00	0	616.00
3	Silvicultural Operation including Clearance of weed, climber cutting, high stump cutting, singling of shoots etc.	Jan/Feb	5	1540.00	0	1540.00
4	Nursery cost (6 months old seedling )part @ Rs.12.43/-seedling (Rs.8.67 in 0th year + RS.3.76 in 1st year) for 220 seedling(200+20)	Jan-March	5.5	1694.00	367.00	2061.00
5	Contingency and Unforeseen Expenditures		0	0	133.00	133.00
	SUB TOTAL		14.5	4466.00	500.00	4966.00
6	Monitoring & Supervision charge 5% of the total cost					248.30
	GRAND TOTAL		14.5	4466.00	500.00	5214.30
<b>1ST YEAR OPERATION</b>						
1	Nursery cost (6 months old seedling) balance @ Rs.3.76 for 220 seedlings	Apr-June	2.5	777.00	128.00	898.00
2	Pitting 30 cm cube size	Feb/Mar	6	1848.00	0	1848.00
3	Carriage and planting including casualty replacement	Jul/Aug	5	1540.00	0	1540.00
4	Complete weeding, soil working, manuring	Aug/Sep	6	1848.00	0	1848.00
5	Cost of Vermi compost @ 200 gms/plant @ Rs.20/-per kg.=Rs.800.00 and Granular Insecticides 5 gms/plant @ Rs.80/per kg.=Rs.80.00	Aug/Sep	0	0	880.00	880.00
6	Cost of Chemical fertiliser (a)Urea 70 gms/plant in two subsequent doses @ Rs.6/-per kg=Rs.84.00 (b)NPK 50 gms/plant @ Rs.24/-per kg =Rs.240.00 as basal dose	Jul/Aug	0	0	324.00	324.00
7	Silvicultural Operation involving clearance of weeds, cutting of climbers, singling of shoots etc.	Sep/Oct	15	4620.00	0	4620.00
8	Soil Conservation Measures (Staggered trenches of dimension 2 m *0.5m *0.5m @60 nos per ha)or its equivalent.	Sep/Oct	20	6160.00	0	6160.00
9	Fireline Tracing and inspection Path	Feb/Mar	3	924.00	0	924.00
10	Watch & ward	Aug-Mar	7	2156.00	0	2156.00
11	Contingency and Unforeseen Expenditures		0	0	304.00	304.00
	SUB TOTAL		64.5	19866.00	1636.00	21502.00
12	Monitoring & Supervision charge 5% of the total cost					1075.10
	GRAND TOTAL		64.5	19866.00	1636.00	22577.10



2ND OPERATION						
1	Casualty Replacement including cost of seedling, carriage and planting	Jul/Aug	1	308.00	248.60	556.60
2	Complete weeding and cultural operations	Sep/Oct	2	616.00	0	616.00
3	Soil working and manuring	Sep/Oct	2	616.00	0	616.00
4	Cost of Fertiliser and insecticide (a) Vermicompost 200 gms/plant @ Rs.20/- per kg=Rs.800.00 (b) Granular Insecticides 5 gms /plant for 20 plants 100 gms @ Rs.80/-per kg=Rs.8.00	Sep/Oct	0	0	808.00	808.00
5	Soil Conservation Measures (renovation of staggered trenches etc)	Sep/Oct	8	2464.00	0	2464.00
6	Fireline Tracing and Inspection path	Feb/Mar	1	308.00	0	308.00
7	Watch & Ward (Whole year)	Apr-Mar	7	2156.00	0	2156.00
8	Contingency and Unforeseen Expenditures		0	0	181.00	181.00
	SUB TOTAL		21	6468.00	1238.00	7706.00
9	Monitoring & Supervision charge 5% of the total cost					385.30
	GRAND TOTAL		21	6468.00	1238.00	8091.30
3RD YEAR OPERATION						
1	Complete weeding and cultural operations	Aug/Sep	1	308.00	0	308.00
2	Soil working	Aug/Sep	1	308.00	0	308.00
3	Fireline Tracing and Inspection Path	Feb/Mar	1	308.00	0	308.00
4	Watch & ward (Whole year)	Apr-Mar	7	2156.00	0	2156.00
5	Contingency		0	0	200.00	200.00
	SUB TOTAL		10	3080.00	200.00	3280.00
6	Monitoring & Supervision charge 5% of the total cost					164.00
	GRAND TOTAL		10	3080.00	200.00	3444.00
4TH YEAR OPERATION						
1	Fireline Tracing and Inspection Path	Feb/Mar	1	308.00	0	308.00
2	Watch & Ward and cultural operations	Apr-Mar	2	616.00	0	616.00
	SUB TOTAL		3	924.00	0	924.00
3	Monitoring & Supervision charge 5% of the total cost					46.20
	GRAND TOTAL		3	924.00	0	970.20
5TH YEAR OPERATION						
1	Fireline Tracing and Inspection Path	Feb/Mar	1	308.00	0	308.00
2	Watch & Ward and cultural operations	Apr-Mar	2	616.00	0	616.00
	SUB TOTAL		3	924.00	0	924.00
3	Monitoring & Supervision charge 5% of the total cost					46.20
	GRAND TOTAL		3	924.00	0	970.20
6TH YEAR OPERATION						
1	Fireline Tracing and Inspection Path	Feb/Mar	1	308.00	0	308.00
2	Watch & Ward and cultural operations	Apr-Mar	2	616.00	0	616.00
	SUB TOTAL		3	924.00	0	924.00
3	Monitoring & Supervision charge 5% of the total cost					46.20
	GRAND TOTAL		3	924.00	0	970.20



7TH YEAR OPERATION						
1	Fireline Tracing and Inspection Path	Feb/Mar	1	308.00	0	308.00
2	Watch & Ward and cultural operations	Apr-Mar	2	616.00	0	616.00
	SUB TOTAL		3	924.00	0	924.00
3	Monitoring & Supervision charge 5% of the total cost					46.20
	GRAND TOTAL		3	924.00	0	970.20
8TH YEAR OPERATION						
1	Fireline Tracing and Inspection Path	Feb/Mar	1	308.00	0	308.00
2	Watch & Ward and cultural operations	Apr-Mar	2	616.00	0	616.00
	SUB TOTAL		3	924.00	0	924.00
3	Monitoring & Supervision charge 5% of the total cost					46.20
	GRAND TOTAL		3	924.00	0	970.20
9TH YEAR OPERATION						
1	Fireline Tracing and Inspection Path	Feb/Mar	1	308.00	0	308.00
2	Watch & Ward and cultural operations	Apr-Mar	2	616.00	0	616.00
	SUB TOTAL		3	924.00	0	924.00
3	Monitoring & Supervision charge 5% of the total cost					46.20
	GRAND TOTAL		3	924.00	0	970.20
10TH YEAR OPERATION						
1	Fireline Tracing and Inspection Path	Feb/Mar	1	308.00	0	308.00
2	Watch & Ward and cultural operations	Apr-Mar	2	616.00	0	616.00
	SUB TOTAL		3	924.00	0	924.00
3	Monitoring & Supervision charge 5% of the total cost					46.20
	GRAND TOTAL		3	924.00	0	970.20
ABSTRACT						
Sl. No.	Item of work	No. Person Day	Labour cost @ Rs 308/- per day	Material Cost(Rs)	Monitoring & Supervision charge 5% of the total cost	Total Cost(Rs)
1	0th year operation	14.5	4466.00	500.00	248.30	5214.30
2	1th year operation	64.5	19866.00	1636.00	1075.10	22577.10
3	2th year operation	21	6468.00	1238.00	385.30	8091.30
4	3th year operation	10	3080.00	200.00	164.00	3444.00
5	4th year operation	3	924.00	0	46.20	970.20
6	5th year operation	3	924.00	0	46.20	970.20
7	6th year operation	3	924.00	0	46.20	970.20
8	7th year operation	3	924.00	0	46.20	970.20
9	8th year operation	3	924.00	0	46.20	970.20
10	9th year operation	3	924.00	0	46.20	970.20
11	10th year operation	3	924.00	0	46.20	970.20
	TOTAL	131	40348.00	3574.00	2196.10	46118.10

Rs. 46,118.10 (Rupees Forty six thousand one hundred eighteen and ten paisa only) per Hectare

  
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**Divisional Forest Officer**  
**DEOGARH DIVN**



#### 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 (2mt=300 No's., 3mt=200 No's.) in the Compensatory Afforestation site in consideration of the degraded area due to soil erosion.

(i) Span of 2mtr. 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.	308.00	1	308.00
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 0.3 in depth to strengthing both sides U/S approx. bund loose boulder structure. = $2.0 \times 4.60 \times 0.60 = 5.52$ cum @ Rs.167.81 per cum.	167.81	5.52	926.31
3.	Rough stone dry packing upto GL $2.0 \times 4.60 \times 0.60 = 5.52$ cum above GL  Cross sectional area x span = $2.60\text{m} \times 2.0\text{m} = 5.20$ cum For Apron $1.0 \times 0.6 \times 0.6 \times 1.0 = 0.36$ cum	837.79	11.08	9282.71
I	Total = $5.52 + 5.20 + 0.36 = 11.08$ @ Rs. 837.79 per cum			
	Grand Total		10517.02 OR 10517.00	

For 300nos of LBCD structure = Rs. 10517 X 300 = Rs. 31, 55, 100.00

(Rupees Thirty one lakh fifty five thousand one hundred only)

  
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(ii) 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.	308.00	1	308.00
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 0.3 in depth to strengthening both sides U/S approx. bund loose boulder structure. = $3.0 \times 4.60 \times 0.60 = 8.28$ cum @ Rs.167.81 per cum.	167.81	8.28	1389.47
3.	Rough stone dry packing upto GL $3.0 \times 4.60 \times 0.60 = 8.28$ cum above GL  Cross sectional area x span = $2.60\text{m} \times 3.0\text{m} = 7.80$ cum For Apron  $1.0 \times 0.6 \times 0.6 \times 1.0 = 0.36$ cum	837.79	16.44	13773.26
I	Total = $8.28 + 7.80 + 0.36 = 16.44$ @ Rs. 837.79 per cum			
	Grand Total		15470.73 OR 15471.00	

For 200nos of LBCD structure = Rs. 15471 x 200 = Rs.30, 94, 200.00

(Rupees Thirty lakh ninety four thousand two hundred rupees 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 =  $9560/5 = 1912$  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

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

I) Cost of C.C. work  $1:2:4 = 0.038$  cum @ 5408.17/cum = 205.51

II) Cost of rod including cutting, bending, & binding  
 $0.038 \times 0.9 \text{ qtl} = 0.0342$  qtl @ Rs. 10,944.12/qtl. = 374.28

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

Total

Rs. 660.84 or Rs. 661/-

Requirement of pillars per KM:-

Spacing = 2.5mt X 2.5mt

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

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

Total

= 480 No's

Cost of pillar per Kilometer =  $480 \times 661/-$  Rs. 3, 17, 280.00

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

I) Digging of pits  $1.5' \times 1.5' \times 1.5' = 3.375\text{cft/pit}$

For 480 pits,  $480 \times 3.375 = 1620\text{ cft}$  or  $45.86\text{ cum}$  @ Rs. **13,244/100cum** = 6073.69

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

Pit size =  $1.5' \times 1.5' \times 1.5' = 3.375\text{cft/pit}$

Deduct  $1/3^{\text{rd}}$  of butt of pillar i.e.  $3.375/3 = (-) 1.125\text{ cft}$

-----  
Total C.C work per pillar = 2.25cft

For 480 pillars =  $480 \times 2.25 = 1080\text{cft}$  or  $30.577\text{cum}$  @ Rs. 3743.54/cum Rs. 1, 14, 466.22

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

70M.d.per km@308.00/- Rs. 21,560.00

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

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Total = Rs. 6, 37, 839.91

-----  
Labour Cess 1% Rs. 6,378.39

Expenditure per 1 KM of Barbed wire fencing Rs.6,44,218.30 or

Rs 6,44,219/-

Or say, 644.22/- or Rs. 645/- per meter

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

@ 2% of cost per km =  $3 \times 2\% \times \text{Rs. } 6, 44, 219/-$  = Rs. 38,653.14

Expenditure per 1 km of barbed wire fencing including maintenance = Rs. 6, 82, 872.14/-

So, expenditure per running meter for fencing = Rs. 682.8 /Mtr. or say Rs. 683/- Mtr.

(Rupees six hundred eighty three only)



Total Barbed wire fencing over 11.80 KM = Rs. 80, 59,400 (Rupees eighty lakhs fifty nine thousand four hundred only)

#### ADDITIONAL COST PROPOSED

1	SMC measures- LBCD structure of 2mtr span @ Rs. 10517/- for 300 structures.	31, 55, 100.00
2	SMC measures- LBCD structure of 3mtr span @ Rs.15471/- for 200 structures.	30, 94, 200.00
3	Barbed wire fencing @Rs.683/- per meter over 11.8 Km	80, 59, 400.00
4	Infrastructure Development For better successful plantation the following infrastructure required. 1- Cost of One Bolero = 10,00,000.00 2- Cost of Fuel, Driver and annual maintenance etc for 10 years. @ Rs. 25,000.00 per month for 10 years = Rs.30,00,000.00 3- Construction of one watcher shed. = Rs.5,00,000.00	45, 00, 000.00
	<b>Total</b>	<b>1, 88, 08, 700.00</b>

(Rupees one crores eighty eight lakh eight thousand seven hundred only)

N.B:- Unit cost of LBCD structures of different dimension along with barbed wire fencing is enclosed as Annexure- I, II & III

  
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Cantonment Road, Cuttack-01

  
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**TOTAL COST OF THE PROJECT**

S. No	Description	Amount in Rs.
1	ANR Plantation over 94.216 Ha @ Rs. 46, 118.10/- per Ha (200 plants per Ha)	43, 45, 062.91
2	Total additional cost	1, 88, 08, 700.00
	Total	2,31,53,762.91
3	Add 20% escalation	46,30,752.58
	Grand Total	2,77,84,515.49 OR 2,77,84,516

(Rupees two Crore seventy seven lakhs eighty four thousand five hundred sixteenonly)

**PROVISION OF FUNDS AND FUND UTILIZATION**

Rs. 2, 77, 84, 516/- (Rupees two Crore seventy seven lakhs eighty four thousand five hundred sixteen only) shall be deposited by the user agency (Executive Engineer, Cuttack Investigation Division) 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, Deogarh Forest Division on allotment by the Principal Chief Conservator of Forest, Odisha, Bhubaneswar

  
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**Divisional Forest Officer**  
Deogarh Forest Division  
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## **CHAPTER-VII**

### **DETAILS OF PROPOSED MONITORING MECHANISM**

Compensatory Afforestation will be taken up in the identified site by the Range Officer, Pallahara Forest Range officer of Forest range of Deogarh Division. The Range Forest Officer, Pallahara 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, Deogarh Forest Division. GPS Co-ordinates along with other required information's of Compensatory Afforestation will be uploaded in the e-Green watch 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 Pallahara 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, Rourkela 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.



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Cantonment Road, Cuttack-01



**Divisional Forest Officer,**  
**Deogarh Forest Division**  
**DEOGARH DIVN**