

**SCHEME FOR COMPENSATORY AFFORESTATION  
OVER AN AREA OF 116.743 HA. IN DEGRADED  
FOREST LAND IDENTIFIED IN BEGA R.F OF 80.002  
HA.+ LAHADA R.F OF 36.741 HA. IN SADANGI  
RANGE UNDER DHENKANAL FOREST DIVISION.**

**AGAINST THE FOREST LAND USED BY-  
CUTTACK INVESTIGATION DIVISION  
DPWR AT-JOBRA, CUTTACK.  
FOR CONSTRUCTION OF HIDISING  
IRRIGATION PROJECT IN ANGUL DISTRICT  
UNDER ANGUL FOREST DIVISION.**


*Prepared by*  
**DHENKANAL FOREST OFFICER  
DHENKANAL DIVISION**

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**LAND SUITABILITY CERTIFICATE BY DIVISIONAL FOREST OFFICER,  
DHENKANAL FOREST DIVISION**

This is to certify that, 80.002 Ha. of degraded Forest land in Bega Reserve Forest and 36.741 Ha. of degraded Forest land in Lahada R.F. are identified under Sadangi Range of Dhenkanal Forest Division. Both the patches are suitable for the purpose of Compensatory Afforestation under **ANR Plantation @ 600 Plants per Hectare (6 months old seedlings)** in lieu of Forest land 87.520 Ha. in Angul Forest Division to be diverted for construction of Hidising Irrigation Project in Angul District by Executive Engineer, Cuttack Investigation Division DPWR At-Jobra.

Place: Dhenkanal  
Date : 03<sup>rd</sup> December, 2020

  
Divisional Forest Officer  
Dhenkanal Division  
Divisional Forest Officer  
Dhenkanal Division  
Office Dhenkanal Division

  
10/12/2020  
Asst. Executive Engineer  
Angul Inv. Sub-Divn.  
Angul

  
10/12/2020  
Executive Engineer  
Cuttack Investigation Division  
Cantonment Road, Cuttack-01

**CUTTACK INVESTIGATION DIVISION DPWR AT-JOBRA**

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The site Bega Reserve Forest over an area of 80.002 Ha. is located on survey of India Topo Sheet No. F45T13 between starting Latitude: 20° 46' 15.187" - Longitude: 85° 58' 13.369" and ending with Latitude: 20° 46' 14.173" - Longitude: 85° 58' 10.630".

The site Lahada Reserve Forest over an area of 36.741 Ha. is located on survey of India Topo Sheet No. F45T13 between starting Latitude: 20° 47' 12.904" - Longitude: 85° 55' 45.07" and ending with Latitude: 20° 47' 10.708" - Longitude: 85° 55' 42.678".

### 3.2 Description of the existing vegetation

Some valuable trees are available in the proposed land.

### 3.3 Topography & Soil

The site Bega RF & Lahada RF are shown in Topo-sheet Number F45T13. The soil type occurring in the area is shallow somewhat exclusively drained, calcareous soil on plane land with loamy surface, susceptible to erosion associated with deep and well drained.

### 3.4 Rainfall & Temperature

The annual rainfall varied from 75 cm to 100 cm. The maximum rainfall is received during the rainy season from July to September. The maximum temperature varied from 45°C. The summer season is from March to June, winter from November to February and rainy season is from July to September.

### 3.5 Objective of the scheme

The main objective of the present scheme is to (i) increase vegetation through taking up ANR plantation, (ii) clearly demarcating the area with posting up RCC pillars, (iii) enforcing protection measures by involving people around under JFM and (iv) above all checking soil erosion and run off which will go in combination for enrichment of the vegetation and soil and building up ecosystem. The total area i.e. 116.743 Ha (Bega RF = 80.002 Ha. + Lahada RF = 36.741 Ha.) for CA Scheme shall be covered under ANR Plantation with 600 plants per hectare.

### 3.6 Items of work to be taken up

To achieve the above objectives, the following items of work are mainly prescribed to be taken up with the full involvement and co-operation of local forest dwellers.

### 3.7 Survey and Demarcation

The boundary should be surveyed clearly with reference to the RF boundary and demarcated by posting pillars.

#### 3.7.1 ANR Plantation

The total allotted area shall be covered by ANR Plantation. For protection of the plantation from grazing, green fencing will be provided around the plantation site. Care should be taken to select only indigenous species as far as possible keeping in view of the existing natural vegetation in and around the area and also the climatic and edaphic factors. The choices of species are as follows:

Common Name	Scientific Name	Suitable for
Simuli	Bombax Ceiba	ANR Plantation
Sisoo	Dalbergia Sisoo	-do-
Bija	Pterocarpus marsupium	-do-
Asana	Terminalia tomentosa	-do-
Neem	Azadirachta Indica	-do-
Karanja	Pongamia Pinnata	-do-
Jack Fruit	Atocarpus hetrophyllus	-do-
Bara	Ficus bengalensis	-do-
Bel	Aegle marmelos	-do-
Kaitha	Limoniaa acidissima	-do-
Mango	Mangifera indica	-do-
Jari	Ficus benjamins	-do-
Jamun	Syzigium cumini	-do-

It is proposed to take up pitting with a pit size of 30cm x 30cm x 30cm during February / March for allowing weathering of the soil. The planting should be taken up only with two years old seedlings having height more than one meter. The size of P. bags will be 12 inch x 9 inch with desired quantity of inputs. The seedlings will be graded and sorted at regular intervals to make those healthy and sound and avoid root coiling.

### 3.8 Development of Nursery

- A good nursery is the pre-requisite for a successful plantation. All care should be taken to raise healthy & sound seedlings of required sizes before they are put to plantation size. Planting of one year old seedlings above species shall be taken up. Nursery programme must be planted out as per the Guidelines in the plantation manual so that a good stock of healthy seedlings can be raised. 10% extra seedlings be raised to cover the shortfall due to casualty in the nursery stage.

- b) The temporary nursery should be raised near the plantation site as far as practicable.
- c) A good variety of local seeds should be collected.
- d) Proper treatment of seeds should be done as per the manual.
- e) Shifting of polythene bags one seedlings is recommended not only to develop resistance for isolation but not allow the roots striking into the ground soil.

### 3.9 Planting

The best time of planting of the potted seedling is soon after the onset of regular monsoon or after a good shower of rain. Before planting, the pits are to be prepared by putting mixture of half cubic feet of alluvial soil and farmyard manure. Basal dose of 30 gram of NPK fertilizer and 5 gram of Aldrin dust or Phorate pesticide are to be applied to the pits before planting as basal dose. The excavated earth from the pits already weathered and free from stones should be filled in the pits. Before removal of the plants from the Nursery the following precaution should be taken:

Roots escaping from the container should be trimmed.

- i. Posts containing the plant are watered, if necessary.
- ii. Maximum care should be taken at the time of transportation and handling of seedling so that the ball of earth of the poly pots does not get disturbed and the primary leading shoots are broken. Manual transportation should be given priority.

Planting should be taken up on rainy/cloudy days by adopting all standard techniques of plantation.

Casualty of seedlings occurs due to various causes, like heavy rains, drought, fire, grazing etc. But in a well-managed plantation, where the planting stock consists of healthy and stout seedlings, say, about 5% may die during the period between planning and 1st weeding. Seedlings to be used for casualty replacement should be earmarked and kept reserved at the time of planting. Only healthy and stout seedlings slightly larger than those planted at the time of operation should be used. This is important because only such seedlings can catch up growth with those that have survived and are growing. Before planting for casualty replacement, the following operations are to be taken up:

- a. The failure pit is to be properly dug again.
- b. Another dose of fertilizer, and insecticide should be given to the pit.
- c. If the casualties are due to white ant attack. Little more quantity of phorate pesticide may be applied to the pit.

- d. If the casualties are due to water logging and wilting, care should be taken to drain out the pits by making small channels to downhill side.
- e. Watering is to be done generally directly after planting, if the planting is done on a dry day.

Casualty replacement can also be taken up in the 2nd year formation and this time should not exceed 20%.

### Fencing.

To protect the plantation from grazing and other biotic interference, Live Hedge fencing shall be taken up over 8.505 Kms or 8505 Meter (5.020 km against 80.002 ha in Bega Reserve Forest and km 3.485 against 36.741 ha. in Lahada Reserve Forest).

### 3.10 Peoples participation

It is experienced that, no scheme shall be effective if the local villagers are not involved in the implementation of the scheme itself. The villagers who are having a right on the NTFP items in the adjoining forest area are to be associated with the implementation of the scheme at all different levels. For that, Van Samarakhyana Samittee (VSS) is proposed to the guidelines of the government of Odisha issued on 3rd July'1993, the villagers are to be motivated and inspired and above all, explained the benefits they will be getting if plantation is protected by them.

### 3.11 Monitoring and execution


The scheme shall be executed and monitored by the Divisional Forest Officer, Dhenkanal Division from time to time. To facilitate this, the User Agency shall bear the cost of infrastructure required and shall provide also the infrastructural facilities.

### 3.12 Total cost of the Scheme

The total cost of the project will be Rs.1,68,76,000.00 (Rupees One Crore Sixty Eight Lakh Seventy Six Thousand) only/- which will be deposited by the User Agency in the State CAMPA Fund as per the Demand Notice raised by the Divisional Forest Officer, Dhenkanal Forest Division after due approval.

  
10/12/2020  
Asst. Executive Engineer  
Animal Inv. Sub-Divn.

  
10/12/2020  
Executive Engineer  
Cutback Investigation Division  
Cantonment Road, Cutback-01

  
Divisional Forest Officer,  
Dhenkanal Division  
Divisional Forest Officer  
Dhenkanal Division

**COST NORM FOR AIDED NATURAL REGENERATION @ 600 PLANTS PER HECTARE IN  
CURRENT WAGE RATE OF RS. 308 PER MANDAY.**

Sl No.	Item of Work	Preferable period of execution	Labour in Mandays	Labour Cost @ 308/- per day	Material Cost (In Rs.)	Total Cost (in Rs.)
1	2	3	4	5	6	7
<b>0TH YEAR</b>						
1	Survey, Demarcation and Pillar Posting, GPS Reading with mapping	Nov/Dec	2	616	0	616
2	Site Preparation	Nov/Dec	2	616	0	616
3	Silvicultural Operation including clearance of weed, climber cutting, high stump cutting, singling of shoots etc.	Jan / Feb	5	1540	0	1540
4	Nursery cost (6 months old seedlings) part @ Rs.12.43/- seedlings (Rs.8.67 in 0 <sup>th</sup> year + Rs.3.76 in 1 <sup>st</sup> year) for 660 seedlings (600+60)	Jan - Mar	16.5	5082	1102	6184
5	Contingency & Unforeseen Expenditure			0	198	198
	<b>SUB TOTAL</b>		<b>25.5</b>	<b>7854</b>	<b>1300</b>	<b>9154</b>
6	Monitoring and Supervision charge 5 % of the total cost					457.7
	<b>GRAND TOTAL</b>		<b>25.5</b>	<b>7854</b>	<b>1300</b>	<b>9611.7</b>
<b>1ST YEAR</b>						
1	Nursery Cost (6 months old seedlings) balance @ Rs.3.76 for 660 seedlings	Apr-June	8	2464	241.50	2705.50
2	Pitting 30 cm cube size.	Feb / Mar	18	5544	0	5544
3	Carriage and planting including casualty replacement	Jul / Aug	15	4620	0	4620
4	Complete weeding, soil working, Manuring	Aug / Sep	18	5544	0	5544
5	Cost of Vermi Compost @200 gms / Plant @ Rs.20/- per Kg= Rs. 2400.00 and Granular Insecticides 5 gms / Plant @ Rs.80/- per Kg = Rs.240.00	Aug / Sep	0	0	2640	2640
6	Cost of Chemical Fertilizer (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	972
7	Fire line Tracing and Inspection Path	Feb/Mar	3	924	0	924
8	Silvicultural Operation involving clearance of weeds, cutting of climbers, singling of shoots etc.	Sep/Oct	15	4620	0	4620
9	Soil Conservation Measures (Staggered trenches of dimension 2m x 0.5 m x 0.5 m @ 60 Nos. per Ha.) or its equivalent.	Sep/Oct	20	6160	0	6160
10	Watch & Ward	Aug-Mar	7	2156	0	2156
11	Contingency and Unforeseen Expenditures		0	0	353	353
	<b>SUB TOTAL</b>		<b>104</b>	<b>32032</b>	<b>4206.50</b>	<b>36238.50</b>
12	Monitoring and Supervision charge 5 % of the total cost					1812
	<b>GRAND TOTAL</b>		<b>104</b>	<b>32032</b>	<b>4206.50</b>	<b>38050.50</b>

Sl No.	Item of Work	Preferable period of execution	Labour in Mandays	Labour Cost @ 308/- per day	Material Cost (In Rs.)	Total Cost (in Rs.)
1	2	3	4	5	6	7

**2ND YEAR**

1	Casualty replacement including cost of seedlings, carriage and planting	Jul/Aug	3	924	745.80	1669.80
2	Complete weeding & cultural operation	Sep/Oct	6	1848	0	1848
3	Soil working and manuring	Sep/Oct	6	1848	0	1848
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	2424
5	Fire line Tracing and Inspection Path	Feb/Mar	1	308	0	308
6	Soil Conservation Measures (Renovation of staggered trenches etc.)	Sep/Oct	8	2464	0	2464
7	Watch & Ward (Whole Year)	Apr-Mar	7	2156	0	2156
8	Contingency and Unforeseen Expenditures		0	0	193	193
	<b>SUB TOTAL</b>		<b>31</b>	<b>9548</b>	<b>3362.80</b>	<b>12910.80</b>
9	Monitoring and Supervision charge 5 % of the total cost					645.54
	<b>GRAND TOTAL</b>		<b>31</b>	<b>9548</b>	<b>3362.80</b>	<b>13556.34</b>

**3RD YEAR**

1	Complete Weeding & Cultural Operations	Aug / Sep	3	924	0	924
2	Soil Working	Aug / Sep	3	924	0	924
3	Fire line Tracing and Inspection Path	Feb/Mar	1	308	0	308
4	Watch & Ward (Whole Year)	Apr-Mar	7	2156	0	2156
	<b>SUB TOTAL</b>		<b>14</b>	<b>4312</b>	<b>0</b>	<b>4312</b>
5	Monitoring and Supervision charge 5 % of the total cost					215.60
	<b>GRAND TOTAL</b>		<b>14</b>	<b>4312</b>	<b>0</b>	<b>4527.60</b>

**4TH YEAR**

1	Fire line Tracing and Inspection Path	Feb / Mar	1	308	0	308
2	Watch & Ward & Cultural Operations	Apr- Mar	2	616	0	616
	<b>SUB TOTAL</b>		<b>3</b>	<b>924</b>	<b>0</b>	<b>924</b>
	Monitoring and Supervision charge 5 % of the total cost					46.20
	<b>GRAND TOTAL</b>		<b>3</b>	<b>924</b>	<b>0</b>	<b>970.20</b>

**5TH YEAR**

1	Fire line Tracing and Inspection Path	Feb / Mar	1	308	0	308
2	Watch & Ward & Cultural Operations	Apr- Mar	2	616	0	616
	<b>SUB TOTAL</b>		<b>3</b>	<b>924</b>	<b>0</b>	<b>924</b>
	Monitoring and Supervision charge 5 % of the total cost					46.20
	<b>GRAND TOTAL</b>		<b>3</b>	<b>924</b>	<b>0</b>	<b>970.20</b>

**6TH YEAR**

1	Fire line Tracing and Inspection Path	Feb / Mar	1	308	0	308
2	Watch & Ward & Cultural Operations	Apr- Mar	2	616	0	616
	<b>SUB TOTAL</b>		<b>3</b>	<b>924</b>	<b>0</b>	<b>924</b>
	Monitoring and Supervision charge 5 % of the total cost					46.20
	<b>GRAND TOTAL</b>		<b>3</b>	<b>924</b>	<b>0</b>	<b>970.20</b>

Sl No.	Item of Work	Preferable period of execution	Labour in Mandays	Labour Cost @ 308/- per day	Material Cost (In Rs.)	Total Cost (in Rs.)
1	2	3	4	5	6	7
<b>7TH YEAR</b>						
1	Fire line Tracing and Inspection Path	Feb / Mar	1	308	0	308
2	Watch & Ward & Cultural Operations	Apr- Mar	2	616	0	616
	<b>SUB TOTAL</b>		3	924	0	924
	Monitoring and Supervision charge 5 % of the total cost					46.20
	<b>GRAND TOTAL</b>		3	924	0	970.20
<b>8TH YEAR</b>						
1	Fire line Tracing and Inspection Path	Feb / Mar	1	308	0	308
2	Watch & Ward & Cultural Operations	Apr- Mar	2	616	0	616
	<b>SUB TOTAL</b>		3	924	0	924
	Monitoring and Supervision charge 5 % of the total cost					46.20
	<b>GRAND TOTAL</b>		3	924	0	970.20
<b>9TH YEAR</b>						
1	Fire line Tracing and Inspection Path	Feb / Mar	1	308	0	308
2	Watch & Ward & Cultural Operations	Apr- Mar	2	616	0	616
	<b>SUB TOTAL</b>		3	924	0	924
	Monitoring and Supervision charge 5 % of the total cost					46.20
	<b>GRAND TOTAL</b>		3	924	0	970.20
<b>10TH YEAR</b>						
1	Fire line Tracing and Inspection Path	Feb / Mar	1	308	0	308
2	Watch & Ward & Cultural Operations	Apr- Mar	2	616	0	616
	<b>SUB TOTAL</b>		3	924	0	924
	Monitoring and Supervision charge 5 % of the total cost					46.20
	<b>GRAND TOTAL</b>		3	924	0	970.20

**ABSTRACT**

Sl. No	Year	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	25.5	7854	1300	457.70	9611.70
2	1st Year	104	32032	4206.50	1812	38050.50
3	2nd Year	31	9548	3362.80	645.54	13556.34
4	3rd Year	14	4312	0	215.60	4527.60
5	4th Year	3	924	0	46.20	970.20
6	5th Year	3	924	0	46.20	970.20
7	6th Year	3	924	0	46.20	970.20
8	7th Year	3	924	0	46.20	970.20
9	8th Year	3	924	0	46.20	970.20
10	9th Year	3	924	0	46.20	970.20
11	10th Year	3	924	0	46.20	970.20
	<b>Total</b>	<b>195.5</b>	<b>60214</b>	<b>8869.30</b>	<b>2454.24</b>	<b>72537.54 or 72538.00</b>

*[Signature]*  
12/12/2020

**TOTAL FINANCIAL OUTLAY**

**Wage Rate @ 308/-per MD)**

Sl. No	Description		Amount (Rs.)
1	Cost of ANR Plantation @ 600 Plants per Ha. over 116.743 Ha. with 10 years maintenance	Rs.72538 × 116.743 Ha.	84,68,304.00
2	Cost of Live Hedge fencing over 8505 mt. @ 132 per mt.	8505 Mtr × Rs.132	11,22,660.00
3	Cost of cleaning over 116.743 Ha @ 20 mandays per ha		7,19,137.00
4	Cost of Special Soil Moisture Conservation measures of 25 % of total planting cost i.e. 0 <sup>th</sup> to 3 <sup>rd</sup> years.		19,18,851.00
	<b>Total</b>		<b>1,22,28,952.00</b>
5	15% of the total plantation cost towards Entry Point Activity/ Incentive to VSS including monitoring & evaluation		18,34,343.00
	<b>Total</b>		<b>1,40,63,295.00</b>
6	Add Escalation Cost (20%)		28,12,659.00
	<b>Grand Total</b>		<b>1,68,75,954.00 or 1,68,76,000.00</b>

**Rupees( One Crore Sixty Eight Lakh Seventy Six Thousand) Only**

**Divisional Forest Officer,  
Dhenkanal Division**

**Divisional Forest Officer  
Dhenkanal Division**

  
10/12/2020  
**Asst. Executive Engineer  
Angul Inv. Sub-Divn.  
Angul**

  
16/12/2020  
**Executive Engineer  
Cuttack Investigation Division  
Centonment Road, Cuttack-01**