

**SCHEME FOR  
COMPENSATORY AFFORESTATION  
OVER  
600 HA. IN DEGRADED FOREST LAND AT  
TIKHARI RESERVE FOREST  
IN  
BOLANGIR FOREST DIVISION**

**AGAINST DIVERSION OF FOREST LAND FOR PROPOSED  
765 ha HA NAINI COAL MINE IN ANGUL DISTRICT  
ALOCATED IN FAVOUR OF THE SINGARENI COLLIERIES  
COMPANY LTD (SCCL), ANGUL, ODISHA (A GOVT. OF  
INDIA MINING COMPANY)**

**Prepared by  
Divisional Forest Officer  
Bolangir Forest Division**

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**SCHEME FOR COMPENSATORY AFFORESTATION 600 HA IN DEGRADED  
FOREST LAND AT TIKHARI RESERVE FOREST IN MURI BAHAL RANGE OF  
BOLANGIR FOREST DIVISION, BOLANGIR DIST OF ODISHA**

**01. INTRODUCTION :**

It is reported that, the Singareni Collieries Company Ltd., (SCCL) is the oldest Govt. Mining Company working in the State of Telengana and having a history of 127 years experience in coal mining. SCCL is a Govt. Company with equity participation of Telengana state and Government of India in the ratio of 51.49 respectively. SCCL is presently operating 16 open cast and 31 under ground mines with a manpower of 58,390.

SCCL diversified into power generation and established 2x600 MW power plant (STPP) in the Manchiryal District of Telengana. The STPP was dedicated to the Nation by our Honourable Prime Minister on 07.08.2016. Another unit of 600 MW power plant is under construction.

Ministry of coal GOI allotted Naini Coal Mine for meeting the coal requirement of STPP. Nominated Authority Ministry of coal. GOI vide order No.103/21/2015/NA dt. 13.08.2015 allotted Naini Coal Mine in the state of Odisha to SCCL for end use in STPP. Naini coal mine spans over an area of 9.12 sq. km between Latitude 20° 48' 07" and 21° 07' 07" North & Longitude 84° 52' 56" & 84° 53' 06" East Naini Coal Mine is covered under Survey of India Toposheet No.73 C/16 on RF 1: 50000 special topo sheet Nos.L-11 & M-11 on the RF 1:10000 and falls within Angul district of Odisha. Total geological reserves estimated is 455.18 Million tonnes (Mt) up to a depth of 550 m. Rated capacity of coal production is 10.0 MTPA.

Naini Coal Mine comprises an area of 912.789 Ha out of which RF area is 643.09 Ha & village forest area is 122.76 Ha which is also required to be diverted under Forest (Conservation) Act. The total forest area to be diverted is 765.85 Ha. The remaining area 146.93 Ha is non forest land. Hence degraded forest area of (765.85 x 2)

1531.70 Ha is required for processing the diversion of 765.85 Ha forest land situated in the jNaini Coal Mine.

MoEF & CC (FC Division) vide letter No.P/No 11.423/2011-FC dt/ 31.01.2011 accorded status of Central Public-Sector Unit (CPSU) to SCCL for the purpose of creation of compensatory afforestation (double the degraded forest land) in respect of proposals seeking prior approval of Central Government under Sec.2 of Forest (Conservation) Act. 1980.

SCCL is required to get about 1531.70Ha of degraded forest area and accordingly vide letter dated 30.11.2016 requested DFO, Angul for identifying the degraded forest lands for CA Purpose in Angul Division. DFO, Angul vide letter No.10366 dtd. 07.12.2016 informed that no degraded forest lands for CA Purpose is available in his division and advised to approach the neighbouring division.

Accordingly SCCL approached Addl. PCCF Nodal Officer for arranging identification of degraded forest lands for CA purpose. Addl. PCCF/Nodal Officer vide letters No.19349 dts. 04.09.2017 requested DFO, Bolangir divisions for identifying degraded forest lands for CA Purpose.

SCCL officials also visited the Office of DFO Bolangir and requested for early action in the matter as they have to submit application for diversion of Forest land involved in the Naini Coal Mine on priority basis as the Ministry of Coal is insisting for early action in the matter.

The survey and demarcation of boundary putting RCC pillars in the field is completed in the above mention proposed two Reserve Forest required for compensatory afforestation.

DFO, Bolangir has identified the degraded forest in two patches of different RF as detailed below.

Sl. No.	Name of the RF	Name of the Range	Name of the Section	Area identified in Ha
1.	Tikhari	Muribahal	Bolangir	600
	<b>Total :</b>			<b>600</b>

## 02. DETAILS OF THE SITE SELECTED

Due to biotic interference, erratic rainfall, prolonged heat conditions the vegetation is in degraded condition. This results to bushy growth, pole size crop with scattered matured trees. The growing stock is struggling against the biotic interference like grazing, fire hazard, fire wood collection by nearby villagers and encroachment. However, whatever regeneration is sprouting do not grow vigorously due to biotic interference by fringe villagers encircling those R.Fs.

### (a) Crop Composition :

The main species noticed on the above R. Fs are Sal (*Shorea robusta*), Asan (*Terminalia alata*), Dhaura (*Anogeissus latifolia*), Moi (*Lannea coromandelica*), Salai (*Boswellia serrata*), Kendu (*Diospyros melanoxylon*), Simal (*Bombax ceiba*), Karada (*Cleistanthus collinus*), Kangada (*Xylocarpus*), Tangan (*Albizia lebbek*), Char (*Buchanania lanzan*) and Salia bamboo (*Dendocalamus strictus*) with shrubs and herbs of profound importance to maintain the Bio diversity.

### (b) Temperature :

The average annual temperature varies from 15°C to 49°C the minimum being in December – January and the maximum in May-June.

**(c) Rain Fall :**

The annual average rainfall varies from 780 to 1880 mm. The maximum rainfall is received during the rainy season from July to August.

**(d) Climate :**

The climate of this area is characterized by a hot dry summer and well distributed rainfall by the South-West monsoon season. The hot season starts from March and continues till June, which is the hottest month of the year with mean daily maximum temperature of 49° C and the mean daily minimum temperature of 35° C. The rainy season starts from July to September, August being the month with the heaviest shower. Relative humidity is high in the South-West monsoon season. The rainfall is fairly uniform throughout the Division. Storms and depressions from the Bay of Bengal during the monsoon season pass across the Division causing rainfall and strong wind. The winter starts from November to February.

**03. SPECIAL OBJECTS OF MANAGEMENT :**

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

#### **04. ITEM OF WORK TO BE TAKEN UP :**

To achieve the objective narrated in the foregoing para, the following items of work are mainly prescribed to be taken up.

##### **i) Survey and Demarcation of Boundary :**

The boundary line of this block will be cleared of weeds at a width of 5m and stone pillars will be constructed at every curvature. The proposed Compensatory Plantation area will be surveyed and demarcated in the field by the User Agency at the Project cost by putting RCC pillars. Before one year of planting, the treatment area will be surveyed and demarcated in the field. Silvicultural cleaning will be done in this area to provide facility to dominant prominent species to grow faster than the others. The plantation area will be indicated by signboards at corners or at points of intersection with roads, inspection paths and boundary lines. The signboard should contain the name of the plantation site, area, scheme and year of planting, model of plantation, project cost, species preferred and other details. Treatment map must be prepared before execution of work and the same should be approved by DFO with intimation to the RCCF, Berhampur.

##### **ii) Fencing :**

As the area is nearer to the habitation and lies adjacent to the agricultural land and there is every chance of biotic interference to the plantation area. Therefore, it has been proposed to provide barbed wire fencing all along the boundary approaching to human habitation.

##### **iii) Soil Moisture Conservation :**

As per Office Order No.1044/10F (CAMPA)-54/2017 dated 13<sup>th</sup> October 2017 of the Principal CCF, Odisha Soil and Moisture Conservation Structures has to be reflected at the sites keeping in view the gradient and aspect. In addition to that at the foot hill side concrete masonry check dams with diaphragm wall to be constructed to arrest flow of water resulting increase in water table and soil moisture regime of the locality.

**iv) Protection Measure :**

The identified site of Bankamundi and Goudadei are having thin forest cover with a few scattered trees of miscellaneous species and good Sal crop at sparse. Due to biotic interference and to save the area from damage and further degradation, the following protection measures have been prescribed

**(a) Watch and Ward :**

The Compensatory area will have to be protected by engaging watchers for 10 years, i.e till establishment of the planted trees and saplings. In addition at strategic locations entrance gate will be provided to check sudden trespass of cattle.

**(b) Motivation of People :**

As per Govt. Resolution of 1993, the nearby villagers have to be involved in protection of plantation raised under compensatory scheme . For this purpose, meeting to be conducted **and local V.S.S will be associated with the field work from very inception of the plantation.**

Plantation activities will be executed with the full involvement of the local Van Sarakhyan Samitees (VSS. Standard Entry Point Activities (EPA) will be included to ensure their participation.

**v) Plantation :**

The area will be stocked by way of raising plantations @ 800 plants per hectare in ANR model with the following species.

1. Tectonagrandis (Teak)
2. Pongamia Pinata (Karanja)
3. Simarubaglauca (Simaruba)
4. Azadiractaindica (Neem)
5. Pterocarpusmarsupiun (Bija)
6. Emblica Officinalis (Amla)
7. Terminalia Belerica (Bahada)
8. Terminliachebula (Harida)

9. Dalbergialatifolia (Pahadississou)
10. Cassia Siama (Chakunda)
11. Gmelinaaborea (Gambhar)
12. Madhucalatifolia (Mohula)
13. Terminalia Tomentosa (Asan)
14. Dendrocalamusstrictus (Salia Bamboo)

Different operations those will be taken up for plantation are follows :

i) Raising of Nursery :

Seeding required for this plantation shall be raised at nearly Permanent nursery, at Bamanda in close vicinity of the planting site with available infrastructures available. Nursery work will start one year in advance to the year of plantation, so that one year old seedling will be available for plantation, seeds shall be collected from plus/selected trees and should be treated before dibbling. Poly-pot seedlings should be raised 10% extra than the actual requirement to compensate the casualties during nursery stage as well as planting time. Standard nursery practices will be followed for raising such nursery.

ii) Alignment and Pitting :

Alignment and Pitting will be taken up in the month of November-December at perceptible gaps and pits of size 30 cm x 30 cm x 30 cm with the dug maintaining a spacing of 2.5 mtr x 2.5 mtr. and dug up earth will be piled preferably on the northern aspect.

iii) Planting :

The seedlings will be planted in the dugout pits with initial dose of manure. Plantation should be taken up after first regular shower of monsoon and should be completed by the end of July. Species should be planted as per the suitability of the soil condition. As per norm application of manure & fertiliser of desired dose must be applied. Anti-termite insecticide should also be applied to each pit while planting casualties if any, noticed should be replaced with the excess seedling

raised for the purpose. During second year also casualty replacement will be done for which seedling shall be raised.

iv) Weeding Soil Working & Manuring :

For establishment and better growth of the planted seedling, circular weeding, soil working and manuring are necessary. It is prescribed that two weeding; soil working and manuring will be done during the first year and second year of plantation and one weeding and soil working during third year. During the first year & second year, first weeding and manuring shall be carried out during August-September and the second one during October-November. First weeding shall be an entire area weeding (Scraping) and the second will be of strip weeding along the contour. The weeding of third year will be a strip weeding which will be carried out during August.

v) Application of Insecticides :

In the plantation site after planting good healthy seedling may cause influx of insects, which usually eat and damage the roots of the plants. To get rid of such insects attack application of the insecticides will be taken up in required doses at desired intervals. Spraying of insecticides shall be done preferably in a sunny day in the afternoon.

vi) Post Planting Operation :

After care of plantations are mandatory for having a good stand of crop of much density. Time line study with benchmark evaluation to have a remarkable achievement on crop condition. Third party evaluation of the crop must be taken up and result there off be reported.

## 05. INSPECTION, MONITORING & EVALUATION :

It was told by Late H.F.Mooney, Conservator of Forest that every visit of Forest Officer to plantation site will add manure to the plantation. Therefore, to make this Afforestation scheme successful, intensive inspection of the plantation by forest field staff and the officers at different level is required.

Moreover, for frequent monitoring & evaluation proper infrastructure facility shall have to be made in the scheme.

**06. CONTROL :**

The nursery journal, the plantation journal micro planning with other records shall be maintained for each patch separately in accordance with the provision of "The Odisha Forest Plantation Manual 1977 indication the Physical and Financial achievements. Necessary entries with regard to plantation activities undertaken shall be entered in the journals and shall be produced before the inspecting officers. The date of inspection and comments of the visitor will also find place in the journal.

**07. EXECUTIVE AGENCY :**


The Divisional Forest Officer, Bolangir Forest Division through his staff will execute the scheme as per fund to be provided by the user agency.

**08. FUNDING AGENCY :**

THE SINGARENI COLLIERIES COMPANY LTD.

**09. TOTAL FINANCIAL OUTLAY FOR THE SCHEME :**

The total financial outlay of the scheme is Rs. 9,75,63,422.00 (Rupees nine Crores seventy five lakhs sixty three thousand four hundred twenty two only)

  
Divisional Forest Officer  
Divisional Forest Officer  
Bolangir Forest Division  
Bolangir Division

**Cost Norms for AIDED NATURAL REGENERATION (ANR) @ 800 Plants per Ha**  
**Wage rate Rs. 213.50/day**

Sl. No.	Item of Work	Preferable period of Execution	Person days	Labour (Rs)	Material (Rs)	Total (Rs)
<b>0<sup>th</sup> Year</b>						
1	Survey, Demarcation and Pillar Posting, GPS Reading with mapping	Nov/Dec	2	427	0	427
2	Site Preparation	Nov/Dec	2	427	0	427
3	Silvicultural Operation including clearance of weed, climber cutting, high stump cutting, singling of shoots etc	Jan/Feb	5	1067.5	0	1067.5
4	Nursery cost (6 months old seedling) part @ Rs 9.45/- seedling (Rs. 6.67 in 0 <sup>th</sup> year + Rs. 2.78 in 1 <sup>st</sup> year) for 880 seedlings (800 + 80)	Jan-Mar	22	4697.0	1470	6167.0
5	Contingency and Unforeseen Expenditures		0		430	430
	<b>Sub Total</b>		<b>31</b>	<b>6618.5</b>	<b>1900</b>	<b>8518.5</b>
<b>1<sup>st</sup> Year</b>						
1	Nursery cost (6 months old seedling) balance @ Rs. 2.78 for 880 seedlings.	Apr-Jul	11	2348.5	246	2594.5
2	Pitting 30 cm cube size	Feb/Mar	24	5124	0	5124
3	Carriage and planting including casualty replacement	Jul/Aug	20	4270	0	4270
4	Complete weeding, Soil working, manuring	Aug/Sep	24	5124		5124
5	Cost of Vermi compost 200 gms/plant @ Rs 20/- per kg = Rs 3200.00 and Granular Insecticide 5 gms/ plant @ Rs 80/- per kg = Rs 320.00	Aug/Sep	0	0	4520	4520
6	Cost of Chemical Fertiliser a. Urea 70 gms/plant in two	Feb/Mar	0	0	1350	1350

	subsequent doses @ Rs 6/- per kg = Rs 336.00 b. NPK 50 gms/ plant @ Rs 24/- per kg = Rs 960.00 as basal dose					
7	Fire line tracing and inspection path		3	640.5	0	640.5
8	Silvicultural Operation involving clearance of weeds, cutting of climbers, singling of shoot etc.		15	3202.5	0	3202.5
9	Soil conservation measures (staggered trenches of dimension 2m X 0.5m X 0.5m @ 60 nos per ha) or its equivalent		20	4270	0	4270
10	Watch & Ward		7	1494.5	0	1494.5
11	Contingency and unforeseen expenditure		0	0	438	438
	<b>Sub Total</b>		<b>124</b>	<b>26474</b>	<b>6554</b>	<b>33028</b>
<b>2<sup>nd</sup> Year</b>						
1	Casualty Replacement including cost of seedling, carriage and planting.		4	854	856	1710
2	Complete weeding and cultural operations		8	1708	0	1708
3	Soil working and manuring		8	1708	0	1708
4	Cost of fertilizers and Insecticide a. Vermicompost 200gms/ plant @ Rs 20/- per kg = Rs. 3500.00 b. Granular Insecticides 5 gms/ Plant for 80 plants 400 gms @ Rs 80/- per kg = Rs.32.00		0	0	3580	3580
5	Fire line tracing and inspection path		1	213.5	0	213.5
6	Soil conservation measures (Renovation of staggered trenches etc)		8	1708	0	1708
7	Watch & Ward (Whole Year)		7	1494.5	0	1494.5

8	Contingency and unforeseen expenditure		0	0	324	324
	<b>Sub Total</b>		<b>36</b>	<b>7686</b>	<b>4760</b>	<b>12446</b>
<b>3<sup>rd</sup> Year</b>						
1	Compete weeding and cultural operations		4	854	0	854
2	Soil working		4	854	0	854
3	Fire line tracing and inspection path		1	213.5	0	213.5
4	Watch & Ward (Whole Year)		7	1494.5	0	1494.5
	<b>Sub Total</b>		<b>16</b>	<b>3416</b>	<b>0</b>	<b>3416</b>
<b>4<sup>th</sup> Year</b>						
1	Fire line tracing and inspection path	Feb/Mar	1	213.5	0	213.5
2	Watch, Ward	Apr-Mar	2	427	0	427
	<b>Sub Total</b>		<b>3</b>	<b>640.5</b>	<b>0</b>	<b>640.5</b>
<b>5<sup>th</sup> Year</b>						
1	Fire line tracing and inspection path	Feb/Mar	1	213.5	0	213.5
2	Watch, Ward	Apr-Mar	2	427	0	427
	<b>Sub Total</b>		<b>3</b>	<b>640.5</b>	<b>0</b>	<b>640.5</b>
<b>6<sup>th</sup> Year</b>						
1	Fire line tracing and inspection path	Feb/Mar	1	213.5	0	213.5
2	Watch, Ward	Apr-Mar	2	427	0	427
	<b>Sub Total</b>		<b>3</b>	<b>640.5</b>	<b>0</b>	<b>640.5</b>
<b>7<sup>th</sup> Year</b>						
1	Fire line tracing and inspection path	Feb/Mar	1	213.5	0	213.5
2	Watch, Ward	Apr-Mar	2	427	0	427
	<b>Sub Total</b>		<b>3</b>	<b>640.5</b>	<b>0</b>	<b>640.5</b>
<b>8<sup>th</sup> Year</b>						
1	Fire line tracing and inspection path	Feb/Mar	1	213.5	0	213.5
2	Watch, Ward	Apr-Mar	2	427	0	427
	<b>Sub Total</b>		<b>3</b>	<b>640.5</b>	<b>0</b>	<b>640.5</b>
<b>9<sup>th</sup> Year</b>						
1	Fire line tracing and inspection path	Feb/Mar	1	213.5	0	213.5

2	Watch, Ward	Apr-Mar	2	427	0	427
	<b>Sub Total</b>		<b>3</b>	<b>640.5</b>	<b>0</b>	<b>640.5</b>
<b>10<sup>th</sup> Year</b>						
1	Fire line tracing and inspection path	Feb/Mar	1	213.5	0	213.5
2	Watch, Ward	Apr-Mar	2	427	0	427
	<b>Sub Total</b>		<b>3</b>	<b>640.5</b>	<b>0</b>	<b>640.5</b>
	<b>Grand Total</b>		<b>228</b>	<b>48678</b>	<b>13214</b>	<b>61892</b>

#### TOTAL COST OF PLANTATION IN 600 HA.

Rs.61,892/- x 600 ha. = Rs.3,71,35,200.00 + 20% Escalation : Rs.74,270,40.00 =  
Rs.4,45,62,240.00

  
Divisional Forest Officer  
Bolangir Forest Division


### TOTAL FINANCIAL OUTLAY

Sl.No.	Particulars	Amount in Rs.
01	Cost of Plantation @ 800 plants per Ha over 600 Ha @ Rs.61,892/- + 20%	4,45,62,240.00
02	Cost of barbed wire fencing over 5 km. On the foot hills to prevent cattle, goat etc., @ Rs.986/- per meter.	49,30,000.00
03	Boundary line clearance / masonry pillar posting / fire line creation & maintenance L.S	20,00,000.00
04	Pillar posting around periphery of R.F @ 5000 per pillar (788 pillars in all R.F of Bolangir range	39,40,000.00
05	Soil moisture conservation like LBCDs, staggered trenches, graded earthen bonds, diaphragm walls as per site specification requirement (Area is sloppy & nallahs are seen in each 5-10 ha.)	1,53,18,562.00
06	EPA activities including supply of gas chullah, solar light, awareness activities, meeting hall etc to the local VSS members @ 15% of the project cost.	1,06,12,620.00
07	Concrete check dam to conserve soil and moisture to enhance soil moisture regime and store water for wild life @ 500,000 / CD (25 CDs)	1,25,00,000.00
08	Supply of GPS (20), walkie talkie (20) and leaf blowers (20) for fire prevention and checking of illicit felling and biotic interference.	25,00,000.00
09	One vehicle for supervision, successful implementation and protection activities	12,00,000.00
	<b>Total :</b>	<b>9,75,63,422.00</b>

  
Divisional Forest Officer  
Bolangir Division

## Land Suitability Certificate

This is to certify that 600 ha of degraded forest land in Tikhari R.F of Muribahal Range in Bolangir Forest Division identified for Compensatory Afforestation is suitable for plantation from management point of view and is free from encroachments and encumbrances.

  
Divisional Forest Officer  
Bolangir Division  
Divisional Forest Officer  
Bolangir Forest Division

Place :

Date :



OFFICE OF THE DIVISIONAL FOREST OFFICER: BALANGIR  
FOREST DIVISION

AT / PO / DIST :- Balangir- ODISHA

Phone & Fax – 06652-232948 (O), Email – dfobalangir@gmail.com

Memo No \_\_\_\_\_/4F-Misc

Dated, Balangir the \_\_\_\_\_ th November, 2017

To

Divisional Forest Officer,  
Angul Forest Division.

Sub


Identification of degraded forest land for Compensatory Afforestation in respect of Naini Coal Mines of the Singareni Collieries Company Limited-reg.

Ref:-

Memo No.22169 dt.17.10.2017 of Add.P.CCF,(FD & Nodal)FC Act,O/O the Pr.CCF,Odisha.


In inviting a kind reference to the subject cited above, the required degraded forest land for Naini Coal Mines of the Singareni Collieries Company Limited 600 Ha.for raising compensatory Afforestation with site map and C.A.Scheme six copies is enclosed for information and necessary action.

Encl: As above.

  
Divisional Forest Officer  
Balangir Forest Division


Memo No. \_\_\_\_\_/4F, Dtd.


Copy forwarded to the Additional Principal Chief Conservator of Forests,(Forest Diversion & Nodal Officer, FC,Act.)O/O the Pr.CCF,Odisha,Bhubaneswar for favour of kind information and necessary action with reference to his memo No.22169 dt.17.10.2017.

  
Divisional Forest Officer  
Balangir Forest Division

Memo No. 5046 /4F, Dtd. 13-11-17

Copy forwarded to the the General Manager,M/S Singareni Collieries Company Limited(SOCL)H.No.129 of NAC,Mishrapada,Angul 759122 for his information and necessary action.

  
Divisional Forest Officer  
Balangir Forest Division

Dp.E. Mgr  
  
14/11

h putted  
head  
14/11/2017



**OFFICE OF THE DIVISIONAL FOREST OFFICER  
BOUDH FOREST DIVISION, BOUDH**

Phone/ Fax No. 06841- 222073

e-mail – [boudhdfo@gmail.com](mailto:boudhdfo@gmail.com)

Memo No. 6302 / 4 F -17/2017 Dt. 25/10/2017

To


Divisional Forest Officer,  
Angul Forest Division.

Sub:- Identification of Degraded Forest land for compensatory afforestation in respect of Naini Coal Mines of the Singareni Collieries Company Limited-reg.

Ref:- Memo No. 21754 dt. 09.10.2017 of Addl. P.C.C.F, (FD & NO) FC Act. O/o. P.C.C.F, Odisha, Bhubaneswar to your address.

In inviting a kind reference to the subject cited above, the required degraded forest land for Naini Coal Mines of the Singareni Collieries Company Limited of 1083 Ha. for raising compensatory afforestation with site map and C.A. scheme six copies is enclosed for information and necessary action.


Encl. As above.

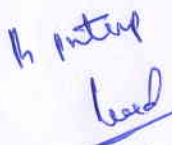
  
Divisional Forest Officer,  
Boudh Division.

Memo No. \_\_\_\_\_ Dt. \_\_\_\_\_

Copy forwarded to the Additional Principal Chief Conservator of Forests, (Forest Diversion & Nodal Officer, F.C. Act.) O/o Principal Chief Conservator of Forests, Odisha, Bhubaneswar for favour of kind information and necessary action with reference to his memo no. 21752 dt. 09.10.2017.

Divisional Forest Officer  
Boudh Division

  
Dy. B. Singh  
14/11

  
H. Prasad  
14/11/2017

Memo No. \_\_\_\_\_ Dt. \_\_\_\_\_

Copy forwarded to the Regional Chief Conservator of Forests, Angul Circle, Angul for favour of kind information and necessary action.

Divisional Forest Officer  
Boudh Division

Memo No. \_\_\_\_\_ Dt. \_\_\_\_\_

Copy forwarded to the Regional Chief Conservator of Forests, Berhampur Circle, Berhampur for favour of kind information and necessary action with reference to his memo no. 6381 dt. 12.10.2017.

Divisional Forest Officer  
Boudh Division

Memo No. \_\_\_\_\_ Dt. \_\_\_\_\_

Copy forwarded to the General Manager, M/s. Singareni Collieries Company Ltd. (SCCL) H.No. 129 of NAC, Mishrapada, Angul-759122 for information and necessary action.

Divisional Forest Officer  
Boudh Division

**SCHEME FOR  
COMPENSATORY AFFORESTATION  
OVER**

**1083HA. IN DEGRADED FOREST LAND AT  
BANKAMUNDIR. F. (542 ha), GOUDADEI RF (541 ha)  
INBOUDHFOREST DIVISION**

**AGAINST DIVERSION OF FOREST LAND FOR PROPOSED 765.85 HA. NAINI  
COAL MINE IN ANGUL DISTRICT ALOCATED IN FAVOUR OF THE SINGARENI  
COLLIERIES COMPANY LTD. (SCCL), ANGUL, ODISHA  
(A GOVT. OF INDIA MINING COMPANY)**

**Prepared by  
Divisional Forest Officer  
Boudh Forest Division**

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**SCHEME FOR COMPENSATORY AFFORESTATION 1083 HA. IN DEGRADED  
FOREST LAND AT BANKAMUNDI R. F. (542 ha), GOUD DEI RF (541ha) IN BOUDH  
FOREST DIVISION AGAINST DIVERSION OF FOREST LAND FOR PROPOSED  
765.85 HA. NAINI COAL MINE IN ANGUL DISTRICT ALOCATED IN FAVOUR OF  
THE SINGARENI COLLIERIES COMPANY LTD. (SCCL), ANGUL, ODISHA**

**01. INTRODUCTION:**

The **Singareni Collieries Company Ltd. (SCCL)** is the oldest Govt. Mining Company working in the State of Telangana and having a history of 127 years' experience in Coal mining. SCCL is a Govt. Company with equity participation of Telangana State and Government of India in the ratio of 51:49 respectively. SCCL is presently operating 16 Open Cast and 31 Under Ground Mines with a Manpower of 58,390.

SCCL diversified into power generation and established 2X600 MW power plant (STPP) in the Manchiriyal District of Telangana. The STPP was dedicated to the Nation by our Honorable Prime Minister on 07.08.2016. Another Unit of 600 MW power plant is under construction.

Ministry of Coal, GOI allotted Naini Coal Mine for meeting the Coal requirement of STPP. Nominated Authority, Ministry of Coal, GOI vide order No.103/21/2015/NA dtd 13.08.2015, allotted Naini Coal Mine in the state of Odisha to SCCL for end use in STPP. Naini coal mine spans over an area of 9.12 sq. km between Latitude 20°48'07" & 21°07'07" North & Longitude 84°52'56" & 84°53'06" East. Naini Coal Mine is covered under Survey of India Toposheet No.73 C/16 on R.F. 1:50000. Special topo sheet Nos. L-11 and M-11 on the RF 1:10000 and falls within Angul district of Odisha. Total geological reserves estimated is 455.18 Million tonnes (Mt) upto a depth of 550 m. Rated capacity of coal production is 10.0 MTPA

Naini Coal Mine comprises an area of 912.789 Ha., out of which, RF area is 643.09 Ha., & village forest area is 122.76 Ha which is also required to be diverted under Forest (Conservation) Act. The total forest area to be diverted is 765.85 Ha. The remaining area 146.93 Ha., is non-forest land. Hence, degraded forest area of (765.85X2)1531.70 Ha., is required for processing the diversion of 765.85Ha., forest land situated in the Naini Coal Mine.

MoEF & CC (FC Division) vide letter No.F.No.11-423/2011-FC, dtd.31.01.2011 accorded status of Central Public-Sector Unit (CPSU) to SCCL for the purpose of creation of compensatory afforestation (double the degraded forest lands) in respect of proposals seeking prior approval of Central Government under Sec.2 of Forest (Conservation) Act, 1980.

SCCL is required to get about 1531.70Ha. of degraded forest area and accordingly vide letter dated 30.11.2016 requested DFO, Angul for identifying the degraded forest lands for CA Purpose in Angul Division. DFO, Angul vide letter No.10366 dtd.07.12.2016 informed that no degraded forest lands for CA Purpose is available in his division and advised to approach the neighboring divisions.

Accordingly, SCCL approached Addl. PCCF, Nodal Officer for arranging identification of degraded forest lands for CA Purpose. Addl. PCCF/Nodal Officer vide letters no. 19349 dtd. 04.09.2017 requested DFO, Boudh divisions for identifying degraded forest lands for CA Purpose.

SCCL officials also visited the Office of DFO, Boudh and requested for early action in the matter as they have to submit Application for diversion of Forest land involved in the Naini Coal Mine on priority basis as the Ministry of Coal is insisting for early action in the matter.

The survey and demarcation of boundary putting RCC pillars in the field is completed in the above mention proposed two Reserve Forest required for compensatory afforestation.

DFO, Boudh has identified the degraded forest in two patches of different RF as detailed below.

Sl No.	Name of the RF	Name of the Range	Name of the Section	Name of the Beat	Total RF area in Ha.	Working Circle	Area identified in Ha.
1	Bankamundi	Boudh	Boudh	Debagada & Beredabari	4649	Rehabilitation Working Circle Compt No. 1 2, 3, 4, 5 & 6	542
2	Goud Dei		Boudh	Pankhimal	1015	Rehabilitation Working Circle Compt. No. 1, 2 & 3	541
Total							1083Ha.

## **02. DETAILS OF THE SITE SELECTED:**

Due to biotic interference, erratic rainfall, prolonged heat conditions the vegetation is in degraded condition. This results to bushy growth, pole size crop with scattered matured trees. The growing stock is struggling against the biotic interference like grazing, fire hazard, fire wood collection by nearby villagers and encroachment. However, whatever regeneration is sprouting do not grow vigorously due to biotic interference by fringe villagers encircling those R.Fs.

### ***(a) Crop Composition:***

The main species noticed on the above R.Fs are Sal (*Shorea robusta*), Asan (*Terminalia alata*), Dhaura (*Anogeissus latifolia*), Moi (*Lannea coromandelica*), Salai (*Boswellia serrata*), Kendu (*Diospyros melanoxylon*), Simal (*Bombax ceiba*), Karada (*Cleistanthus collinus*), Kangada (*Xylocarpus*), Tangan (*Albizia lebbek*), Char (*Buchanania lanzan*) and Salia bamboo (*Dendocalamus strictus*) with shrubs and herbs of profound importance to maintain the Bio diversity.

### ***(b) Temperature:***

The average annual temperature varies from 15°C to 49°C the minimum being in December- January and the maximum in May-June.

### ***(c) Rain fall:***

The annual average rainfall varies from 780 to 1880 mm. The maximum rainfall is received during the rainy season from July to August.

**(d) Climate.**

The climate of this area is characterized by a hot dry summer and well distributed rainfall by the South-West monsoon season. The hot season starts from March and continues till June, which is the hottest month of the year with mean daily maximum temperature of 49°C and the mean daily minimum temperature of 35°C. The rainy season starts from July to September, August being the month with the heaviest shower. Relative humidity is high in the South-West monsoon season. The rainfall is fairly uniform throughout the Division. Storms and depressions from the Bay of Bengal during the monsoon season pass across the Division causing rainfall and strong wind. The winter starts from November to February.

**03. SPECIAL OBJECTS OF MANAGEMENT:**

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

#### **04. ITEM OF WORK TO BE TAKEN UP:**

To achieve the objective narrated in the foregoing para, the following items of work are mainly prescribed to be taken up.

##### ***i) SURVEY AND DEMARCATION OF BOUNDARY***

The boundary line of this block will be cleared of weeds at a width of 5m and Stone pillars will be constructed at every curvature. The proposed Compensatory Plantation Area will be surveyed and demarcated in the field by the User Agency at the Project cost by putting RCC pillars. Before one year of planting, the treatment area will be surveyed and demarcated in the field. Silvicultural cleaning will be done in this area to provide facility to dominant prominent species to grow faster than the others. The plantation area will be indicated by signboards at corners or at points of intersection with roads, inspection paths and boundary lines. The signboard should contain the name of the plantation site, area, scheme and year of planting, model of plantation, project cost, species preferred and other details. Treatment map must be prepared before execution of work and the same should be approved by DFO with intimation to the RCCF, Berhampur.

##### ***ii) FENCING***

As the area is nearer to the habitation and lies adjacent to the agricultural land and there is every chance of biotic interference to the plantation area. Therefore, it has been proposed to provide barbed wire fencing all along the boundary approaching to human habitation.

### **III) SOIL MOISTURE CONSERVATION**

As per Office Order No.1044/10F (CAMPA)-54/2017 dated 13<sup>th</sup> October, 2017 of the Principal CCF, Odisha Soil and Moisture Conservation Structures has to be reflected at the sites keeping in view the gradient and aspect. In addition to that at the foot hill side concrete massonary check dams with diaphragm wall to be constructed to arrest flow of water resulting increase in water table and soil moisture regime of the locality.

### **IV) PROTECTION MEASURE:**

The identified site of Bankamundi and Goudadei are having thin forest cover with a few scattered trees of miscellaneous species and good sal crop at sparse. Due to biotic interference and to save the area from damage and further degradation , the following protection measures have been prescribed.

#### **(a) Watch and ward.**

The Compensatory Area will have to be protected by engaging watchers for 10 years, i.e. till establishment of the planted trees and saplings. In addition at strategic locations entrance gate will be provided to check sudden trespass of cattle.

#### **(b) Motivation of people:**

As per Govt. resolution of 1993, the villagers of Beredabari, Nuagada, Debagada, Kanpur, Raipur, Khandahata, Erda and Karunapalli etc. villages have to be involved in protection of plantation raised under compensatory scheme. For this purpose, meeting to be conducted and local V.S.S will be associated with the field work from very inception of the plantation.

Plantation activities will be executed with the full involvement of the local Van Sarakhyan Samitees (VSS). Standard Entry Point Activities (EPA) will be included to ensure their participation.

## V) **PLANTATION:**

The area will be stocked by way of raising plantations @800 plants per hectare in ANR model with the following species

1. Tectonagrandis (Teak)
2. Pongamia piñata (Karanja)
3. Simarubaglauca (Simaruba)
4. Azadiractaindica (Neem)
5. Pterocarpusmarsupium (Bija)
6. Emblica officinalis (Amla)
7. Terminalia belerica(Bahada)
8. Terminliachebula(harida)
9. Dalbergialatifolia(Pahadisissou)
- 10.Cassia siama (Chakunda)
- 11.Gmelinaarborea (Gambhar)
- 12.Madhucalatifolia (Mohula)
- 13.Terminalia tomentosa(Asan)
- 14.Dendrocalamusstrictus( Salia Bamboo)

Different operations those will be taken up for plantation are as follows :-.

### *i) **Raising of nursery:***

Seedling required for this plantation shall be raised at nearby Permanent nursery, at Bamanda in close vicinity of the planting site with available infrastructures available. Nursery work will start one year in advance to the year of plantation, so that one-year old seedlings will be available for plantation; Seeds shall be collected from plus/ selected trees and should be treated before dibbling. Poly-pot seedlings should be raised 10% extra than the actual requirement to compensate the casualties during nursery stage as well as planting time. Standard nursery practices will be followed for raising such nursery.

## ***ii) Alignment and pitting:***

Alignment and pitting will be taken up in the month of November-December at perceptible gaps and pits of size 30 cm x 30 cm x 30 Cm will be dug maintaining a spacing of 2.5 mtr x 2.5 mtr and dug up earth will be piled preferably on the northern aspect.

## ***iii) Planting:***

The seedlings will be planted in the dugout pits with initial dose of manure. Plantation should be taken up after first regular shower of monsoon and should be completed by the end of July. Species should be planted as per the suitability of the soil condition. As per norm application of manure & fertilizer of desired dose must be applied. Anti-termite insecticide should also be applied to each pit while planting. Casualties if any noticed should be replaced with the excess seedling raised for the purpose. During second year also casualty replacement will be done for which seedling shall be raised.

## ***iv) Weeding, Soil working & manuring:***

For establishment and better growth of the planted seedling, circular weeding, soil working and manuring are necessary. It is prescribed that two weeding; soil working and manuring will be done during the first year and second year of plantation and one weeding and soil working during third year. During the first year and second year first weeding and manuring shall be carried out during August-September and the second one during October-November. First weeding shall be an entire area weeding (scraping) and the second will be of strip weeding along the contour. The weeding of third year will be a strip weeding which will be carried out during August.

#### **V) Application of insecticides.**

In the plantation site after planting good healthy seedling may cause influx of insects, which usually eat and damage the roots of the plants. To get rid of such insects attack application of the insecticides will be taken up in required doses at desired intervals. Spraying of insecticides shall be done preferably in a sunny day in the afternoon.

#### **VI) Post Planting Operations**

After care of plantations are mandatory for having a good stand of crop of much density. Time line study with benchmark evaluation to have a remarkable achievement on crop condition. Third party evaluation of the crop must be taken up and result thereof be reported.

#### **05. INSPECTION, MONITORING & EVALUATION:**

It was told by Late H.F.Mooney, Conservator of Forests that every visit of Forest Officer to plantation site will add manure to the plantation. Therefore, to make this Afforestation scheme successful, intensive inspection of the plantation by forest field staff and the officers at different level is required. Moreover, for frequent monitoring & evaluation proper infrastructure facility shall have to be made in the scheme.

#### **06. CONTROL:**

The nursery journal, the plantation journal micro planning with other records shall be maintained for each patch separately in accordance with the provision of "The Odisha Forest Plantation Manual 1977 indicating the Physical and financial achievements. Necessary entries with regard to plantation activities undertaken shall be entered in the journals and shall be produced before the inspecting officers. The date of inspection and comments of the visitor will also find place in the journal.

**07. EXECUTIVE AGENCY:**

The Divisional Forest Officer, Boudh Forest Division through his staff will execute the scheme as per fund to be provided by the user agency.

**08. FUNDING AGENCY:**

**THE SINGARENI COLLIERIES COMPANY LTD.**

**09. TOTAL FINANCIAL OUTLAY FOR THE SCHEME:**

The total financial outlay of the scheme is ***Rs.15,60,00,000.00***  
***(Rupees Fifteen Core Sixty lakh)***

  
Divisional Forest Officer  
Boudh Division

## Annexure-1

### TOTAL FINANCIAL OUT LAY

SL. No.	PARTICULARS	AMOUNT IN RS.
01	Cost of PLANTATION @ 800 Plants per Ha. over 1083Ha. @Rs. 61,892/-+ 20%	<b>8,04,34,843.00</b>
02	Cost of barbed wirefencing over 8 Kms. On the foot hills to prevent cattle etc.@ Rs. 986/- per mt.	<b>78,88,000.00</b>
03	Boundary line clearance/ masonry pillar posting/Fire line creation and maintenance on L.S	<b>20,00,000.00</b>
04	Pillar Posting around periphery of RF @5000/ pillar (788 pillars in all RFs of Boudh Range)	<b>39,40,000.00</b>
05	Soil Moisture Conservation like LBCDs, Staggered Trenches, Graded Earthen Bonds, Diaphragm Wallas per site specific requirement. (Area is sloppy and nallahs are seen in each 5-10 ha.)	<b>1,53,18,562.00</b>
06	EPA activities including supply of Gas Chullah, Solar light, awareness activities, meeting hall etc. to the local VSS members @ 15% of the Project cost.	<b>1,64,43,595.00</b>
07	Concrete check dams to conserve soil & moisture to enhance soil moisture regime and store water for Wildlife @5Lakh/CD (45 CD)	<b>2,25,00,000.00</b>
08	Permanent Water Supply to the Permanent Nursery at Bamanda developed under CAMPA from nearby nallah by By Pump house, Overhead tank etc. as per estimate by RWSS wing.	<b>37,75,000.00</b>
09	Supply of GPS (20), Walkie-Talkie (20) and 20 Leaf Blowers for fire prevention and checking of illicit felling and biotic interference.	<b>25,00,000.00</b>
10	One Vehicle for supervision, successful implementation and protection activities.	<b>12,00,000.00</b>
<b>Total</b>		<b>15,60,00,000.00</b>

  
Divisional Forest Officer  
Boudh Division

**Cost Norms for AIDED NATURAL REGENERATION (ANR) @ 800  
Plants per Ha Wage rate Rs. 213.50/day**

Sl. No.	Item of Work	Preferable period of Execution	Person days	Labour (Rs)	Material (Rs)	Total (Rs)
<b>0<sup>th</sup> Year</b>						
1	Survey, Demarcation and Pillar Posting, GPS Reading with mapping	Nov/Dec	2	427	0	427
2	Site Preparation	Nov/Dec	2	427	0	427
3	Silvicultural Operation including clearance of weed, climber cutting, high stump cutting, singling of shoots etc	Jan/Feb	5	1067.5	0	1067.5
4	Nursery cost (6 months old seedling) part @ Rs 9.45/- seedling (Rs. 6.67 in 0 <sup>th</sup> year + Rs. 2.78 in 1 <sup>st</sup> year) for 880 seedlings (800 + 80)	Jan-Mar	22	4697.0	1470	6167.0
5	Contingency and Unforeseen Expenditures		0		430	430
	<b>Sub Total</b>		<b>31</b>	<b>6618.5</b>	<b>1900</b>	<b>8518.5</b>
<b>1<sup>st</sup> Year</b>						
1	Nursery cost (6 months old seedling) balance @ Rs. 2.78 for 880 seedlings.	Apr-Jul	11	2348.5	246	2594.5
2	Pitting 30 cm cube size	Feb/Mar	24	5124	0	5124
3	Carriage and planting including casualty replacement	Jul/Aug	20	4270	0	4270
4	Complete weeding, Soil working, manuring	Aug/Sep	24	5124		5124
5	Cost of Vermi compost 200 gms/plant @ Rs 20/- per kg = Rs 3200.00 and Granular Insecticide 5 gms/ plant @ Rs 80/- per kg = Rs 320.00	Aug/Sep	0	0	4520	4520

6	Cost of Chemical Fertiliser a. Urea 70 gms/plant in two subsequent doses @ Rs 6/- per kg = Rs 336.00 b. NPK 50 gms/ plant @ Rs 24/- per kg = Rs 960.00 as basal dose	Feb/Mar	0	0	1350	1350
7	Fire line tracing and inspection path		3	640.5	0	640.5
8	Silvicultural Operation involving clearance of weeds, cutting of climbers, singling of shoot etc.		15	3202.5	0	3202.5
9	Soil conservation measures (staggered trenches of dimension 2m X 0.5m X 0.5m @ 60 nos per ha) or its equivalent		20	4270	0	4270
10	Watch & Ward		7	1494.5	0	1494.5
11	Contingency and unforeseen expenditure		0	0	438	438
	<b>Sub Total</b>		<b>124</b>	<b>26474</b>	<b>6554</b>	<b>33028</b>
<b>2<sup>nd</sup> Year</b>						
1	Casualty Replacement including cost of seedling, carriage and planting.		4	854	856	1710
2	Complete weeding and cultural operations		8	1708	0	1708
3	Soil working and manuring		8	1708	0	1708
4	Cost of fertilizers and Insecticide a. Vermicompost 200gms/ plant @ Rs 20/- per kg = Rs. 3500.00 b. Granular Insecticides 5 gms/ Plant for 80 plants 400 gms @ Rs 80/- per kg = Rs.32.00		0	0	3580	3580
5	Fire line tracing and inspection path		1	213.5	0	213.5
6	Soil conservation measures (Renovation of staggered trenches etc)		8	1708	0	1708

7	Watch & Ward (Whole Year)		7	1494.5	0	1494.5
8	Contingency and unforeseen expenditure		0	0	324	324
	<b>Sub Total</b>		<b>36</b>	<b>7686</b>	<b>4760</b>	<b>12446</b>
<b>3<sup>rd</sup> Year</b>						
1	Compete weeding and cultural operations		4	854	0	854
2	Soil working		4	854	0	854
3	Fire line tracing and inspection path		1	213.5	0	213.5
4	Watch & Ward (Whole Year)		7	1494.5	0	1494.5
	<b>Sub Total</b>		<b>16</b>	<b>3416</b>	<b>0</b>	<b>3416</b>
<b>4<sup>th</sup> Year</b>						
1	Fire line tracing and inspection path	Feb/Mar	1	213.5	0	213.5
2	Watch, Ward	Apr-Mar	2	427	0	427
	<b>Sub Total</b>		<b>3</b>	<b>640.5</b>	<b>0</b>	<b>640.5</b>
<b>5<sup>th</sup> Year</b>						
1	Fire line tracing and inspection path	Feb/Mar	1	213.5	0	213.5
2	Watch, Ward	Apr-Mar	2	427	0	427
	<b>Sub Total</b>		<b>3</b>	<b>640.5</b>	<b>0</b>	<b>640.5</b>
<b>6<sup>th</sup> Year</b>						
1	Fire line tracing and inspection path	Feb/Mar	1	213.5	0	213.5
2	Watch, Ward	Apr-Mar	2	427	0	427
	<b>Sub Total</b>		<b>3</b>	<b>640.5</b>	<b>0</b>	<b>640.5</b>
<b>7<sup>th</sup> Year</b>						
1	Fire line tracing and inspection path	Feb/Mar	1	213.5	0	213.5
2	Watch, Ward	Apr-Mar	2	427	0	427
	<b>Sub Total</b>		<b>3</b>	<b>640.5</b>	<b>0</b>	<b>640.5</b>
<b>8<sup>th</sup> Year</b>						
1	Fire line tracing and inspection path	Feb/Mar	1	213.5	0	213.5
2	Watch, Ward	Apr-Mar	2	427	0	427
	<b>Sub Total</b>		<b>3</b>	<b>640.5</b>	<b>0</b>	<b>640.5</b>

9 <sup>th</sup> Year						
1	Fire line tracing and inspection path	Feb/Mar	1	213.5	0	213.5
2	Watch, Ward	Apr-Mar	2	427	0	427
	<b>Sub Total</b>		<b>3</b>	<b>640.5</b>	<b>0</b>	<b>640.5</b>
10 <sup>th</sup> Year						
1	Fire line tracing and inspection path	Feb/Mar	1	213.5	0	213.5
2	Watch, Ward	Apr-Mar	2	427	0	427
	<b>Sub Total</b>		<b>3</b>	<b>640.5</b>	<b>0</b>	<b>640.5</b>
	<b>Grand Total</b>		<b>228</b>	<b>48678</b>	<b>13214</b>	<b>61892</b>

## **Abstract**

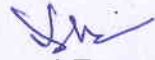
Year	Person Days	Labour (Rs)	Material (Rs.)	Total Cost (Rs)
<b>0<sup>th</sup> Year</b>	31	6618.5	1900	8518.5
<b>1<sup>st</sup> Year</b>	124	26474	6554	33028
<b>2<sup>nd</sup> Year</b>	36	7686	4760	12446
<b>3<sup>rd</sup> Year</b>	16	3416	0	3416
<b>4<sup>th</sup> Year</b>	3	640.5	0	640.5
<b>5<sup>th</sup> Year</b>	3	640.5	0	640.5
<b>6<sup>th</sup> Year</b>	3	640.5	0	640.5
<b>7<sup>th</sup> Year</b>	3	640.5	0	640.5
<b>8<sup>th</sup> Year</b>	3	640.5	0	640.5
<b>9<sup>th</sup> Year</b>	3	640.5	0	640.5
<b>10<sup>th</sup> Year</b>	3	640.5	0	640.5
<b>TOTAL</b>	<b>228</b>	<b>48678</b>	<b>13214</b>	<b>61892</b>

Rs. 61,892/- x 1083Ha = Rs. 6,70,29,036/- + 20%  
escalation Rs. 1,34,05,807/- = Rs. 8,04,34,843/-

  
Divisional Forest Officer  
Boudh Division

## Land Suitability Certificate

This is to certify that 1083ha. in Bankamundi R.F 542 ha., & Gouda Dei R.F 541 ha. of Boudh Range in Boudh Forest Division identified for Compensatory Afforestation is suitable for plantation form management point of view and his free from encroachments and encumbrances.

  
Divisional Forest Officer,  
Boudh Division

Place.....

Date.....