

**SCHEME FOR
COMPENSATORY AFFORESTATION
OVER
1083HA. IN DEGRADED FOREST LAND AT
BANKAMUNDI R. F. (542 ha), GOUDADEI RF
(541 ha) IN BOUDH FOREST DIVISION**

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



General Manager
Naini Area, SCCL

Prepared by
Divisional Forest Officer
Boudh Forest Division

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General Manager
Naini Area, SCCL

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 from management point of view and is free from encroachments and encumbrances.

Place.....

Date.....



Divisional Forest Officer
Boudh Division



General Manager
Naini Area, SCCL

**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 784 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 manpower of 58,390.

SCCL diversified into power generation and established 2X600 MW power plants (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 103/211/2015/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 $20^{\circ}48'07''$ & $21^{\circ}07'07''$ North & Longitude $84^{\circ}52'56''$ & $84^{\circ}53'06''$ 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 643.095 Ha., & village forest area is 140.180 Ha which is also required to be diverted under Forest (Conservation) Act. The total forest area to be diverted is 783.275 Ha. The remaining area 129.52 Ha., is non-forest land. Hence, degraded forest area of (784×2) 1568 Ha., is required for processing the diversion of 783.275 Ha., 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 1568Ha. 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	Area Ha Identified in Ha.	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							1083 Ha.

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 blotic interference like grazing, fire hazard, fire wood collection by nearby villagers and encroachment. However, whatever regeneration is sprouting does 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 15⁰ C to 49⁰C 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 49⁰C and the mean daily minimum temperature of 35⁰ 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 add 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 (CAMP)-541, 2017 dated 13th 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 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 pifrata (Karanja)
3. Simarubaglauca (Simaruba)
4. Azadiractaindica (Neem)
5. PterocarpusmarsuPiun (Bija)
6. Emblica officinalis (Amla)
7. Terminalia belerica (Bahada)
8. Terminliachebula (Harida)
9. Dalbergialatifolia (Pahadissisoo)
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 weddings; 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 there off 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.



General Manager
Naini Area, SCCL

08. FUNDING AGENCY:

THE SINGARENI COLLIERIES COMPANY LTD.

09. TOTAL FINANCIAL OUTLAY FOR THE SCHEME:

The total financial outlay of the scheme is Rs. 18,20,85,000. (Rupees Eighteen Crore Twenty Lakh Eighty Five Thousand only.)



Divisional Forest Officer
Boudh Division



General Manager
Naini Area, SCCL

Divisional Forest Officer
Angul, Division

AIDED NATURAL REGENERATION @800 PLANTS / HA (ANR)
ESTIMATE OF COST FOR 1.00 HA. UNDER ANR WITH GAP PLANTATION MODEL

Wage Rate – Rs.280.00/Day

Sl. No.	Item of work	Period of execution	Labour in Man days	Labor cost @280/- (Rs)	Material cost. (Rs)	Total. (Rs)
0th Year						
1	Survey, Demarcation & pillar posting, GPS Reading with mapping	Nov/Dec	2	560	0	560
2	Site preparation.	Nov/Dec	2	560	0	560
3	Silvicultural Operation including clearance of weed, climber cutting, high stump cutting, singling of shoots	Jan/Feb	5	1400	0	1400
4	Nursery cost (6 months old seedlings) part @12.43/seedling. (Rs.8.67 in 0 th year and Rs.3.76 in 1 st year) 880 seedlings/ ha (Including 10% Casualty- 800+80)	Jan/Mar	22	6160	1470	7630
5	Contingency and Unforeseen Expenditures		0	0	230	230
Sub Total			31	8680	1700	10380
6	Monitoring & Supervision @5%					519
0th Year Grand Total			31	8680	1700	10899
1st Year Planting						
1	Maintenance of Nursery(Balance)	Apr-June	11	3080	230	3310
2	Pitting 30 cm cube size	Feb/Mar	24	6720	0	6720
3	Carriage and planting including casualty replacement.	Jul/Aug	20	5600	0	5600
4	Complete weeding, Soil working, Manuring	Aug/Sep	24	6720	0	6720
5	Cost of Vermi compost 200gm/ plant @Rs.20/- per kg (Rs.3200/-) and granular Insecticide @5 gm/plant @Rs.80/- per kg (Rs.320.00)	Aug/Sep	0	0	3520	3520
6	Cost of Chemical fertilizer (a) Urea 70 gms per plant in two doses @Rs.6.00 per kg = Rs.336/- (b) NPK 50 gms per plant @ 24/- per kg= Rs.960.00	Jul/Aug	0	0	1296	1296
7	Fire line Tracing and Inspection path.	Feb/Mar	3	840	0	840
8	Silvicultural Operation involving clearance of weeds, cutting of climbers, singling of shoots etc.	Sep/Oct	15	4200	0	4200
9	Soil Conservation Measures (staggered trenches of 2mx0.5mx0.5m @ 60 nos/ha	Sep/Oct	20	5600	0	5600

10	Watch & ward	Aug-Mar	7	1960	0	1960
11	Contingency and Unforeseen Expenditures		0	0	338	338
	Sub Total		124	34720	5384	40104
12	Monitoring & Supervision @5%					2005
	1st Year Grand Total		124	34720	5384	42109
2nd Year Maintenance						
1	Casualty Replacement including cost of seedling, carriage and planting.	Jul/Aug	4	1120	994.	2114
2	Complete weeding and cultural operation	Sep/Oct	8	2240	0	2240
3	Soil working and manuring	Sep/Oct	8	2240	0	2240
4	Cost of Fertiliser and insecticide (a) Vermi compost 200gm/ plant @Rs.20/- per kg (Rs.3200/-) (b) Granular Insecticide @5 gm/plant @Rs.80/- per kg for 80 plants =(Rs.32.00)	Sep/Oct	0	0	3232	3232
5	Fire line Tracing and Inspection path.	Feb/Mar	1	280	0	280
6	Soil Conservation Measures	Sep/Oct	8	2240	0	2240
7	Watch & ward (whole year)	Apr/Mar	7	1960	0	1960
8	Contingency and Unforeseen Expenditures		0	0	224	224
	Sub Total		36	10080	4450	14530
9	Monitoring & Supervision @5%					727
	2nd Year Grand Total		36	10080	4450	15257
3rd Year Maintenance						
1	Complete weeding and cultural operation	Aug/Sep	4	1120	0	1120
2	Soil working	Aug/Sep	4	1120	0	1120
3	Fire line Tracing and Inspection path.	Feb/Mar	1	280	0	280
4	Watch & ward (whole year)	Apr-Mar	7	1960	0	1960
	Sub Total		16	4480	0	4480
	Monitoring & Supervision @5%					224
	3rd Year Grand Total		16	4480	0	4704
4th Year Maintenance						
1	Fire line Tracing and Inspection path.	Feb/Mar	1	280	0	280
2	Watch & ward, Cultural operation	Apr/Mar	2	560	0	560
	Sub Total		3	840	0	840
	Monitoring & Supervision @5%					42
	4th Year Grand Total		3	840	0	882
5th Year Maintenance						
1	Fire line Tracing and Inspection path.	Feb/Mar	1	280	0	280
2	Watch & ward, Cultural operation	Apr/Mar	2	560	0	560

Sub Total			3	840	0	840
	Monitoring & Supervision @5%					42
5th Year Grand Total			3	840	0	882
6th Year Maintenance						
1	Fire line Tracing and Inspection path.	Feb/Mar	1	280	0	280
2	Watch & ward, Cultural operation	Apr/Mar	2	560	0	560
Sub Total			3	840	0	840
	Monitoring & Supervision @5%					42
6th Year Grand Total			3	840	0	882
7th Year Maintenance						
1	Fire line Tracing and Inspection path.	Feb/Mar	1	280	0	280
2	Watch & ward, Cultural operation	Apr/Mar	2	560	0	560
Sub Total			3	840	0	840
	Monitoring & Supervision @5%					42
7th Year Grand Total			3	840	0	882
8th Year Maintenance						
1	Fire line Tracing and Inspection path.	Feb/Mar	1	280	0	280
2	Watch & ward, Cultural operation	Apr/Mar	2	560	0	560
Sub Total			3	840	0	840
	Monitoring & Supervision @5%					42
8th Year Grand Total			3	840	0	882
9th Year Maintenance						
1	Fire line Tracing and Inspection path.	Feb/Mar	1	280	0	280
2	Watch & ward, Cultural operation	Apr/Mar	2	560	0	560
Sub Total			3	840	0	840
	Monitoring & Supervision @5%					42
9th Year Grand Total			3	840	0	882
10th Year Maintenance						
1	Fire line Tracing and Inspection path.	Feb/Mar	1	280	0	280
2	Watch & ward, Cultural operation	Apr/Mar	2	560	0	560
Sub Total			3	840	0	840
	Monitoring & Supervision @5%					42
10th Year Grand Total			3	840	0	882
GRAND TOTAL			228	63840	11534	79143

(Rupees Seventynine Thousand One Hundred Fourtythree only)


General Manager
Naini Area, SCCL


Divisional Forest Officer
Boudh Division

ABSTRACT (Rs.)

Year	Person days	Labour	Material & Contingencies	Monitoring & Supervision	Total
0 th Year	31	8680.00	1700.00	519.00	10899.00
1 st Year	124	34720.00	5384.00	2005.00	42109.00
2 nd Year	36	10080.00	4450.00	727.00	15257.00
3 rd Year	16	4480.00	0	224.00	4704.00
4 th Year	3	840.00	0	42.00	882.00
5 th Year	3	840.00	0	42.00	882.00
6 th Year	3	840.00	0	42.00	882.00
7 th Year	3	840.00	0	42.00	882.00
8 th Year	3	840.00	0	42.00	882.00
9 th Year	3	840.00	0	42.00	882.00
10 th Year	3	840.00	0	42.00	882.00
Total	228	63840.00	11534.00	3769.00	79143.00



General Manager
Naini Area, SCCL

TOTAL COST FOR ANR WITH GAP PLANTATION OVER 1083.00Ha.

Year	Labour cost Rs.	Material Rs.	Monitoring Rs.	Total Rs.	Escalation Cost 20%	Grand Total Rs.
0 th Year	9400440	1841100	562077	11803617	2360724	14164341
1 st Year	37601760	5830872	2171415	45604047	9120810	54724857
2 nd Year	10916640	4819350	787341	16523331	3304666	19827997
3 rd Year	4851840	0	242592	5094432	1018886	6113318
4 th Year	909720	0	45486	955206	191041	1146247
5 th Year	909720	0	45486	955206	191041	1146247
6 th Year	909720	0	45486	955206	191041	1146247
7 th Year	909720	0	45486	955206	191041	1146247
8 th Year	909720	0	45486	955206	191041	1146247
9 th Year	909720	0	45486	955206	191041	1146247
10 th Year	909720	0	45486	955206	191041	1146247
Total	69138720	12491322	4081827	85711869	17142373	102854242
VSS Incentive @5%						5142712
Grand Total						107996954

(Rupees Ten Crore Seventy nine Lakh Ninty six Thousand Nine Hundred Fifty four only)


**Divisional Forest Officer
Boudh Division**


**General Manager
Naini Area, SCCL**

COST OF BARBED WIRE FENCING AROUND THE AREA

5000 Mt. (5 km)

Sl. No.	Particulars	Rate	Amount in Rs.
1	Barbed Wire Fencing with all costs	Rs.630/- per running mt.	50,40,000.00
2	2 nd year maintenance @2%	Rs.12.60/mt	1,00,800.00
3	3 rd year maintenance @2%	Rs.12.60/mt	1,00,800.00
4	4 th year maintenance @2%	Rs.12.60/mt	1,00,800.00
	Total		53,42,400.00
5	Cost escalation, emergencies etc.	20%	10,68,480.00
	GRAND TOTAL		64,10,880.00

(Rupees Sixtyfour Lakh Ten Thousand Eight Hundred Eighty only).


Divisional Forest Officer
Boudh Division


General Manager
Naini Area, SCCL

1. YEAR WISE REQUIREMENT OF FUNDS (ANR & BARBED WIRE FENCING):

Year	ANR Plantation in Rs.			Barbed Wire Fencing in Rs.			TOTAL
	ANR	Cost escalation 20%	Sub Total	Fencing/ maint.	Cost escalation 20%	Sub Total	
0 th Year	11803617	2360724	14164341	0	0	0	14164341
1 st Year	45604047	9120810	54724857	5040000	1008000	6048000	60772857
2 nd Year	16523331	3304666	19827997	100800	20160	120960	19948957
3 rd Year	5094432	1018886	6113318	100800	20160	120960	6234278
4 th Year	955206	191041	1146247	100800	20160	120960	1267207
5 th Year	955206	191041	1146247	0	0	0	1146247
6 th Year	955206	191041	1146247	0	0	0	1146247
7 th Year	955206	191041	1146247	0	0	0	1146247
8 th Year	955206	191041	1146247	0	0	0	1146247
9 th Year	955206	191041	1146247	0	0	0	1146247
10 th Year	955206	191041	1146247	0	0	0	1146247
	85711869	17142373	102854242	5342400	1068480	6410880	109265122
VSS Incentive @5%			5142712				5142712
			107996954				
GRAND TOTAL							109779834

Rupees Ten Crore Nintyseven Lakh Seventynine Thousand Eight Hundred Thirtyfour only.


Divisional Forest Officer
Boudh Division


General Manager
Naini Area, SCCL

OTHER WORKS AS SUGGESTED BY THE DFO (BOUDH)

(To be taken up within the adjoining Area)

Sl. No.	PARTICULARS OF WORK	Amount Proposed in Rs.
1	Boundary line clearance, Masonry Pillar posting , Fire line clearance and maintenance	20,00,000
2	Posting of 788 pillars around the periphery of other RFs @5000/- (all RFs of Boudh Range)	39,40,000
3	Soil & Moisture conservation measures such as LBCD, Staggered Trenches, Earthen Bonds, Diaphragm walls as per site requirement.	1,53,18,562
4	EPA activities including supply of Gas Stoves, Solar Lights, Awareness Activities, Meeting Hall for the local VSS members etc. @15% of the project cost.	1,64,43,595
5	45 nos of Concrete Check Dams to conserve Soil & Moisture to enhance soil moisture regime and store water for Wildlife @500000/-	2,25,00,000
6	Permanent Water supply to the Permanent Nursery at Bamanda developed under CAMPA from nearby nallah by installing Pump House, Over Head Tank etc as per estimate of RWSS Wing.	37,75,000
7	Supply of GPS – 20 nos, Walki Talkies- 20 nos, Leaf Blowers -20 nos for fire prevention and checking of illicit felling and biotic interference.	25,00,000
7	One Vehicle for supervision, successful implementation and protection activities.	12,00,000
	TOTAL	6,76,77,157

Rupees Six Crore Seventysix Lakh Seventyseven Thousand One Hundred Fiftyseven only.


General Manager
Naini Area, SCCL


Divisional Forest Officer
Boudh Division

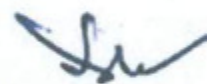
ABSTRACT

Sl. No.	PARTICULARS	Amount in Rs.
1	ANR Plantation Cost	10,79,96,954
2	Barbed Wire Fencing	64,10,880
3	Other Works as above	6,76,77,157
TOTAL		18,20,84,991
or		18,20,85,000

(Rupees Eighteen Crore Twenty Lakh Eighty Five Thousand only)



General Manager
Naini Area, SCCL



Divisional Forest Officer
Boudh Division



Divisional Forest Officer
Angul, Division

**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
783.275 HA. NAINI COAL MINE IN ANGUL DISTRICT
ALLOCATED 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



General Manager
Naini Area, SCCL

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01	Suitability certificate	01
02	Scheme write up	02
03	Financial forecast	10
04	Cost norm for ANR Plantation (800 per ha)	20
05	GPS Co-ordinates of Compensatory Afforestation area map	ENCLOSED
06	Surveyed map	ENCLOSED


General Manager
Naini Area, SCCL

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 point of view and is free from encroachment and encumbrances.


Divisional Forest Officer
Bolangir Forest Division

Place.....

Date.....



General Manager
Naini Area, SCCL

**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 operation 16 open cast and 31 underground mines with manpower of 58.390.

SCCL diversified into power generation and established 2x600 MW power plants (STPP) in the Manchiriyal 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 plants 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.103/211201s/NA dt. 13.08.2015 allotted Naini Coal Mine in the state of Odisha to SCCL for end use kin 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 643.095 Ha & village forest area is 140.180 Ha which is also required to be diverted under Forrest (Conservation) Act. The total forest area to be diverted is 783.275Ha. The remaining area 129.52 Ha is non forest land. Hence degraded forest area of (784 x 2) 1568 Ha is required for processing the diversion of 783.275 Ha forest land situated kin the Naini Coal Mine.


General Manager
Naini Area, SCCL

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 1568 Ha 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 one patch as detailed below.

Sl. No.	Name of the RF	Name of the Range	Name of the Section	Area Ha identified inHa.
1	Tikhari	Muribahal	Bolangir	600
	Total:			600


General Manager
Naini Area, SCCL

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 does 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 15⁰ C to 49⁰ 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 49⁰C and the mean daily minimum temperature of 35⁰C. 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,


General Manager
Naini Area, SCCL

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, Bhabanipatna.

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.1044110F (CAMP A)-54t2017 dated 13th 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)
- B. Terminliachebula (Harida)
9. Dalbergialatifolia (Pahadisissou)
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. Antitermite 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.



General Manager
Naini Area, SCCL

09. TOTAL FINANCIAL OUTLAY FOR THE SCHEME:

The total financial outlay of the scheme is Rs. 11,14,70,090 (Rupees Eleven Crore Fourteen Lakh Seventy Thousand and Ninty only).


Divisional Forest Officer
Bolangir Forest Division


General Manager
Naini Area, SCCL

**AIDED NATURAL REGENERATION @800 PLANTS / HA
(ANR)**

ESTIMATE OF COST FOR 1.00 HA. UNDER ANR WITH GAP
PLANTATION MODEL

Wage Rate – Rs.280.00/Day

Sl. No.	Item of work	Period of execution	Labour in Man days	Labor cost @280/- (Rs)	Material cost. (Rs)	Total. (Rs)
0th Year						
1	Survey, Demarcation & pillar posting, GPS Reading with mapping	Nov/Dec	2	560	0	560
2	Site preparation.	Nov/Dec	2	560	0	560
3	Silvicultural Operation including clearance of weed, climber cutting, high stump cutting, singling of shoots	Jan/Feb	5	1400	0	1400
4	Nursery cost (6 months old seedlings) part @12.43/seedling. (Rs.8.67 in 0 th year and Rs.3.76 in 1 st year) 880 seedlings/ ha (Including 10% Casualty- 800+80)	Jan/Mar	22	6160	1470	7630
5	Contingency and Unforeseen Expenditures		0	0	230	230
Sub Total			31	8680	1700	10380
6	Monitoring & Supervision @5%					519
0th Year Grand Total			31	8680	1700	10899
1st Year Planting						
1	Maintenance of Nursery(Balance)	Apr-June	11	3080	230	3310
2	Pitting 30 cm cube size	Feb/Mar	24	6720	0	6720
3	Carriage and planting including casualty replacement.	Jul/Aug	20	5600	0	5600
4	Complete weeding, Soil working, Manuring	Aug/Sep	24	6720	0	6720
5	Cost of Vermi compost	Aug/Sep	0	0	3520	3520

	200gm/ plant @Rs.20/- per kg (Rs.3200/-) and granular Insecticide @5 gm/plant @Rs.80/- per kg (Rs.320.00)					
6	Cost of Chemical fertilizer (a) Urea 70 gms per plant in two doses @Rs.6.00 per kg = Rs.336/- (b) NPK 50 gms per plant @ 24/- per kg = Rs.960.00	Jul/Aug	0	0	1296	1296
7	Fire line Tracing and Inspection path.	Feb/Mar	3	840	0	840
8	Silvicultural Operation involving clearance of weeds, cutting of climbers, singling of shoots etc.	Sep/Oct	15	4200	0	4200
9	Soil Conservation Measures (staggered trenches of 2mx0.5mx0.5m @ 60 nos/ha	Sep/Oct	20	5600	0	5600
10	Watch & ward	Aug-Mar	7	1960	0	1960
11	Contingency and Unforeseen Expenditures		0	0	338	338
	Sub Total		124	34720	5384	40104
12	Monitoring & Supervision @5%					2005
	1st Year Grand Total		124	34720	5384	42109
2nd Year Maintenance						
1	Casualty Replacement including cost of seedling, carriage and planting.	Jul/Aug	4	1120	994	2114
2	Complete weeding and cultural operation	Sep/Oct	8	2240	0	2240
3	Soil working and manuring	Sep/Oct	8	2240	0	2240
4	Cost of Fertiliser and insecticide (a) Vermi compost 200gm/ plant @Rs.20/- per kg (Rs.3200/-) (b) Granular Insecticide @5 gm/plant @Rs.80/- per kg for 80 plants =(Rs.32.00)	Sep/Oct	0	0	3232	3232
5	Fire line Tracing and Inspection path.	Feb/Mar	1	280	0	280
6	Soil Conservation Measures	Sep/Oct	8	2240	0	2240
7	Watch & ward (whole year)	Apr/Mar	7	1960	0	1960
8	Contingency and Unforeseen Expenditures		0	0	224	224
	Sub Total		36	10080	4450	14530

9	Monitoring & Supervision @5%					727
2nd Year Grand Total			36	10080	4450	15257
3rd Year Maintenance						
1	Complete weeding and cultural operation	Aug/Sep	4	1120	0	1120
2	Soil working	Aug/Sep	4	1120	0	1120
3	Fire line Tracing and Inspection path.	Feb/Mar	1	280	0	280
4	Watch & ward (whole year)	Apr-Mar	7	1960	0	1960
Sub Total			16	4480	0	4480
	Monitoring & Supervision @5%					224
3rd Year Grand Total			16	4480	0	4704
4th Year Maintenance						
1	Fire line Tracing and Inspection path.	Feb/Mar	1	280	0	280
2	Watch & ward, Cultural operation	Apr/Mar	2	560	0	560
Sub Total			3	840	0	840
	Monitoring & Supervision @5%					42
4th Year Grand Total			3	840	0	882
5th Year Maintenance						
1	Fire line Tracing and Inspection path.	Feb/Mar	1	280	0	280
2	Watch & ward, Cultural operation	Apr/Mar	2	560	0	560
Sub Total			3	840	0	840
	Monitoring & Supervision @5%					42
5th Year Grand Total			3	840	0	882
6th Year Maintenance						
1	Fire line Tracing and Inspection path.	Feb/Mar	1	280	0	280
2	Watch & ward, Cultural operation	Apr/Mar	2	560	0	560
Sub Total			3	840	0	840
	Monitoring & Supervision @5%					42
6th Year Grand Total			3	840	0	882
7th Year Maintenance						
1	Fire line Tracing and Inspection path.	Feb/Mar	1	280	0	280
2	Watch & ward, Cultural	Apr/Mar	2	560	0	560

	operation					
	Sub Total		3	840	0	840
	Monitoring & Supervision @5%					42
	7th Year Grand Total		3	840	0	882
8th Year Maintenance						
1	Fire line Tracing and Inspection path.	Feb/Mar	1	280	0	280
2	Watch & ward, Cultural operation	Apr/Mar	2	560	0	560
	Sub Total		3	840	0	840
	Monitoring & Supervision @5%					42
	8th Year Grand Total		3	840	0	882
9th Year Maintenance						
1	Fire line Tracing and Inspection path.	Feb/Mar	1	280	0	280
2	Watch & ward, Cultural operation	Apr/Mar	2	560	0	560
	Sub Total		3	840	0	840
	Monitoring & Supervision @5%					42
	9th Year Grand Total		3	840	0	882
10th Year Maintenance						
1	Fire line Tracing and Inspection path.	Feb/Mar	1	280	0	280
2	Watch & ward, Cultural operation	Apr/Mar	2	560	0	560
	Sub Total		3	840	0	840
	Monitoring & Supervision @5%					42
	10th Year Grand Total		3	840	0	882
GRAND TOTAL			228	63840	11534	79143

(Rupees Seventynine Thousand One Hundred Fourtythree only).

[Signature]
 Divisional Forest Officer
 Bolangir Forest Division

[Signature]
 General Manager
 Naini Area, SCCL

ABSTRACT (Rs.)

Year	Person days	Labour	Material & Contingencies	Monitoring & Supervision	Total
0 th Year	31	8680.00	1700.00	519.00	10899.00
1 st Year	124	34720.00	5384.00	2005.00	42109.00
2 nd Year	36	10080.00	4450.00	727.00	15257.00
3 rd Year	16	4480.00	0	224.00	4704.00
4 th Year	3	840.00	0	42.00	882.00
5 th Year	3	840.00	0	42.00	882.00
6 th Year	3	840.00	0	42.00	882.00
7 th Year	3	840.00	0	42.00	882.00
8 th Year	3	840.00	0	42.00	882.00
9 th Year	3	840.00	0	42.00	882.00
10 th Year	3	840.00	0	42.00	882.00
Total	228	63840.00	11534.00	3769.00	79143.00



General Manager
Naini Area, SCCL

TOTAL COST FOR ANR WITH GAP PLANTATION OVER 600.00Ha.

TIKHARI RESERVED FOREST

BOLANGIR FOREST DIVISION

Year	Labour cost Rs.	Material Rs.	Monitoring Rs.	Total Rs.	Escalation Cost 20%	Grand Total Rs.
0 th Year	5208000	1020000	311400	6539400	1307880	7847280
1 st Year	20832000	3230400	1203000	25265400	5053080	30318480
2 nd Year	6048000	2670000	436200	9154200	1830840	10985040
3 rd Year	2688000	0	134400	2822400	564480	3386880
4 th Year	504000	0	25200	529200	105840	635040
5 th Year	504000	0	25200	529200	105840	635040
6 th Year	504000	0	25200	529200	105840	635040
7 th Year	504000	0	25200	529200	105840	635040
8 th Year	504000	0	25200	529200	105840	635040
9 th Year	504000	0	25200	529200	105840	635040
10 th Year	504000	0	25200	529200	105840	635040
Total	3,83,04,000	69,20,400	22,61,400	4,74,85,800	94,97,160	5,69,82,960
VSS Incentive @5%						28,49,148
Grand Total						5,98,32,108

(Rupees Five Crore Nintyeight Lakh Thirtytwo Thousand One Hundred Eight only).



General Manager
Naini Area, SCCL



Divisional Forest Officer
Bolangir Forest Division

COST OF BARBED WIRE FENCING AROUND THE AREA

5000 Mt. (5 km)

Sl. No.	Particulars	Rate	Amount
1	Barbed Wire Fencing with all costs	Rs.630/- per running mt.	Rs.31,50,000.00
2	2 nd year maintenance @2%	Rs.12.60/mt	Rs. 63,000.00
3	3 rd year maintenance @2%	Rs.12.60/mt	Rs. 63,000.00
4	4 th year maintenance @2%	Rs.12.60/mt	Rs. 63,000.00
	TOTAL		Rs.33,39,000.00
5	Cost escalation, emergencies etc.	20%	Rs.6,67,800.00
	GRAND TOTAL		Rs.40,06,800.00

(Rupees Fourty Lakh Six Thousand Eight Hundred only).


Divisional Forest Officer
Bolangir Forest Division

1. YEAR WISE REQUIREMENT OF FUNDS (ANR & BARBED WIRE FENCING):

Year	ANR Plantation in Rs.			Barbed Wire Fencing in Rs.			TOTAL
	ANR	Cost escalation 20%	Sub Total	Fencing/ maint.	Cost escalation 20%	Sub Total	
0 th Year	6539400	1307880	7847280	0	0	0	7847280


General Manager
Naini Area, SCCL

1 st Year	25265400	5053080	30318480	3150000	630000	3780000	34098480
2 nd Year	9154200	1830840	10985040	63000	12600	75600	11060640
3 rd Year	2822400	564480	3386880	63000	12600	75600	3462480
4 th Year	529200	105840	635040	63000	12600	75600	710640
5 th Year	529200	105840	635040	0	0	0	635040
6 th Year	529200	105840	635040	0	0	0	635040
7 th Year	529200	105840	635040	0	0	0	635040
8 th Year	529200	105840	635040	0	0	0	635040
9 th Year	529200	105840	635040	0	0	0	635040
10 th Year	529200	105840	635040	0	0	0	635040
	4,74,85,800	94,97,160	5,69,82,960	33,39,000	6,67,800	40,06,800	6,09,89,760
VSS Incentive @5%			28,49,148				28,49,148
			5,98,32,108				
GRAND TOTAL							6,38,38,908

(Rupees Six Crore Thirtyeight Lakh Thirtyeight Thousand Nine Hundred Eight only)


Divisional Forest Officer
Bolangir Forest Division


General Manager
Naini Area, SCCL

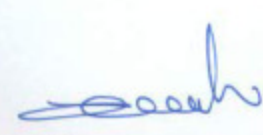
OTHER WORKS AS SUGGESTED BY THE DFO (BOLANGIR)

(To be taken up within the adjoining Area)

Sl. No.	PARTICULARS OF WORK	Amount Proposed in Rs.
1	Boundary line clearance, Masonry Pillar posting , Fire line clearance and maintenance	20,00,000
2	Posting of 700 pillars around other RFs @5000/-	35,00,000
3	Soil & Moisture conservation measures such as LBCD, Staggered Trenches, Earthen Bonds, Diaphragm walls as per site requirement.	1,53,18,562
4	EPA activities including supply of Gas Stoves, Solar Lights, Awareness Activities, Meeting Hall for the local VSS members etc. @15% of the project cost.	1,06,12,620
5	25 nos of Concrete Check Dams to conserve Soil & Moisture to enhance soil moisture regime and store water for Wildlife @500000/-	1,25,00,000
6	Supply of GPS – 20 nos, Walki Talkies- 20 nos, Leaf Blowers - 20 nos for fire prevention and checking of illicit felling and biotic interference.	25,00,000
7	One Vehicle for supervision, successful implementation and protection activities.	12,00,000
	TOTAL	4,76,31,182

(Rupees Four Crore Seventysix Lakh Thirtyone Hundred One Hundred Eightytwo only).


Divisional Forest Officer
Bolangir Forest Division


General Manager
Naini Area, SCCL

ABSTRACT

Sl. No.	PARTICULARS	Amount in Rs.
1	ANR Plantation Cost	5,98,32,108
2	Barbed Wire Fencing	40,06,800
3	Other Works as above	4,76,31,182
TOTAL		11,14,70,090

(Rupees Eleven Crore Fourteen Lakh Seventy Thousand and Ninty only)


Divisional Forest Officer
Bolangir Forest Division


General Manager
Naini Area, SCCL


Divisional Forest Officer
Angul, Division