

**SCHEME FOR COMPENSATORY  
AFFORESTATION OVER 147.803 HA OF  
NON- FOREST GOVT. LAND @Rs. 333/- PER  
MANDAYS (AS PER ONETIME COST  
NORM) IDENTIFIED IN VILLAGE DERI  
UNDER BANSPAL TAHASIL BJP RANGE  
OF KEONJHAR FOREST DIVISION**

IN RESPECT OF

**JHUMKA PATHIRIPOSİ PAHAR IRON ORE  
BLOCK COMING UNDER BONAI FOREST  
DIVISION OF SUNDARGARH DISTRICT**

OF

**M/s RUNGTA MINES LTD**



**ELEMENTS OF THE SCHEME FOR COMPENSATORY  
AFFORESTATION**

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## CHAPTER- I

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

Government of Odisha, pursuant to the Mines and Minerals (Development and Regulation) Act, 1957 and the Mineral (Auction) Rules, 2015 as amended from time to time, issued the notice inviting tender dated 07.07.2021 to commence the auction process for grant of mining lease for Jumka Pathiriposhi Pahar Iron ore block over an area of 158.509 Hectare for Iron Ore located in Koira Mining circle, district Sundergarh, Odisha. The e-auction process was conducted in accordance with the tender document for the said mineral block on 24.09.2021 and Rungta Mines Ltd. was declared as the 'Preferred Bidder' under Rule 9(9)(iii) or Rule 10 (1A) of Auction Rules, having quoted highest Final Price Offer vide letter No.MXIII(b) 46/2021/7738/DM Dated 05.10.2021 issued by Director of Mines Government of Odisha.

As required under Rule 10(1) of the Auction Rules and the tender document for the said mineral block, Rungta Mines Ltd. has made payment of the first instalment, being 20% (twenty percent) of the upfront payment of Rs.49,21,44,251/-(Forty Nine Crore Twenty One Lakh Forty Four Thousand Two Hundred Fifty One) only through Treasury Challan vide e- Challan no. 0853/1886 dated 08.10.2021 at Cyber Treasury, Dist- Sundargarh

Accordingly, pursuant to Rule 10(2) of the Auction Rules and the terms of the Tender Document, the Government of Odisha is pleased to issue Letter of Intent (LOI) bearing no. IV(B)SM-49/2021/8716/SM, Bhubaneswar dated 28.10.2021 for grant of Mining Lease for Jumka Pathiriposhi Pahar Iron ore block for Iron ore located in 20 km south of Koira town in Kedeshala village Koidatahasil, Sundergarh district of 158.509 Hectare Area to Rungta Mines Ltd. for a period of 50 (fifty) years. Out of 158.509 Ha DGPS surveyed lease area, 147.803 Ha is in Sundargarh district and 10.706 Ha is in Keonjhar district. The total forest land included is 156.978 Ha. out of which 147.803 Ha is PRF in Sundargarh district.

The present Compensatory Afforestation scheme is so prepared to compensate the forest land being diverted for non-forestry use at the Non-forest Govt. land identified in village Deri under BJP Range of Banspal Tahasil allotted for the said purpose vide letter No. 1868 dt. 26.05.2022 of Collector, Keonjhar. The CA scheme is prepared at present prevailing wages rate i.e. @Rs. 333.00 per man days with maintenance period of 10 (ten) years (As per onetime cost norm provided by the PCCF, Odisha, Bhubaneswar vide their O.O. No. 1109 dated 08.11.2021 on Base Norm for the year 2022-23).

## CHAPTER- II

### DETAILS OF LAND IDENTIFIED FOR COMPENSATORY AFFORESTATION

#### A. LAND IDENTIFICATION AND JOINT VERIFICATION OF THE IDENTIFIED SITE.

The site for Compensatory Afforestation has been identified in village Deri under Bansapal Tahasil in B.J.P. Range of Keonjhar Forest Division over 147.803 ha in one patch and has been jointly verified by the Tahasildar, Bansapal, Revenue Inspector, Taramakanta, Range Officer, B.J.P. Range and Forest Section Officer, Suakati and found suitable for compensatory afforestation.

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

The Tahasildar, Bansapal has given certificate of non-encroachment and non-encumbrance in respect of the non-forest Govt. land identified and allotted for Compensatory Afforestation over 147.803 ha in respect of Jhumka Pathiriposi Pahar Iron Ore Block coming under Bonai Forest Division of Sundargarh District of M/s Rungta Mines Ltd.

#### C. INFORMATION ON LAND STATUS.

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

Sl No	Khata no	Plot no	Kisam	Total area(ha)	Acquired area(ha)	Tenant
1	53	17(P)	HUDI	17.792	1.482	AAA
2	53	441	HUDI	8.000	8.000	AAA
3	53	442	HUDI	16.000	16.000	AAA
4	53	443	HUDI	16.000	16.000	AAA
5	53	444(P)	HUDI	5.920	5.312	AAA
6	53	445(P)	HUDI	12.432	5.302	AAA
7	53	446	HUDI	16.000	16.000	AAA
8	53	447(P)	HUDI	16.000	0.916	AAA
9	53	458(P)	HUDI	18.592	0.574	AAA
10	53	459(P)	HUDI	16.000	5.8180	AAA
11	53	460(P)	HUDI	16.000	5.4630	AAA
12	53	461(P)	HUDI	16.000	5.641	AAA
13	53	488(P)	HUDI	16.000	5.629	AAA
14	53	489(P)	HUDI	16.000	4.699	AAA
15	53	17/533(P)	HUDI	17.200	4.443	AAA
16	53	17/534(P)	HUDI	17.408	4.459	AAA
17	53	17/535	HUDI	16.000	16.000	AAA
18	53	17/536	HUDI	16.000	16.000	AAA
19	53	17/537(P)	HUDI	16.000	10.065	AAA
<b>Total Area</b>					<b>147.803</b>	

#### D. SUITABILITY OF IDENTIFIED SITE FOR COMPENSATORY AFFORESTATION.

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

The non-forest Govt. land identified in village Deri is in one patch situated on upland with gentle slope is suitable for Compensatory Afforestation in ANR model @500 seedlings/ ha over 50.00 ha is Open Forest and SMC work over 97.803 ha is MDF category as per the report of the Range Officer, BJP Range vide his memo No 351 dt. 28.05.2022.

### **CHAPTER-III**

#### **DELINEATION OF PROPOSED AREA ON SUITABLE MAP**

##### **III(1) GPS COORDINATES AND GPS MAP OF THE COMPENSATORY AFFORESTATION SITE**

The area has been demarcated through DGPS survey and 44 nos of 4' height RCC pillars have been posted around the identified area. The DGPS survey data showing latitude & Longitude of each point and their chainage with bearing has been depicted in the village sheet map (Map Enclosed). One durable sign boards has been erected at the identified site at a conspicuous location with name of the project, year of allotment, name of the scheme, details of plots etc. depicted there on.

##### **Decision Support System of Non-Forest Govt. land identified in village Deri under Banspal Tahasil**

Name of the site	Area identified for plantation (in ha)	MDF (in ha)	Open Forest (in ha)
Village- Deri under Banspal Tahasil	147.803	97.803	50.00

### **CHAPTER- IV**

#### **AGENCY RESPONSIBLE FOR COMPENSATORY AFFORESTATION**

##### **IV(1) AGENCY RESPONSIBLE FOR PLACEMENT OF FUNDS**

The user agency shall provide funds for raising Compensatory Afforestation as per the approved scheme.

##### **IV(2) AGENCY RESPONSIBLE FOR EXECUTION OF COMPENSATORY AFFORESTATION**

The Territorial Wing of the Forest Department i.e. Divisional Forest Officer, Keonjhar Division will be assigned with the task for execution of Compensatory Afforestation.

## CHAPTER- V

### **DETAILS OF WORK SCHEDULE PROPOSED FOR COMPENSATORY AFFORESTATION**

#### **A. PLANTING PLAN**

Planting Plan reflects the species specific treatment of the identified site. Choice of species is based on the geo-morphology of the site, soil-texture, structure, fertility and depth, proneness of the site to water logging etc. Specific treatment of the site in terms of soil and moisture conservation intervention will be depicted in the treatment map. A treatment map will invariably be prepared for Species to be planted and treatments to be applied to the different patches shown in the treatment map and planting plan. This plan will be followed when actual planting is carried out. The Range Officer, BJP Range has submitted verification report vide his memo No. 351 dated 28.05.2022. The report of GIS based DSS is enclosed herewith.

#### **Species to be planted:-**

1. *Syzgium cumini* (Jamu)
2. *Adina cardifolia* (Kuruma)
3. *Anogeissus latifolia* (Dhaura)
4. *Dalbergia sissoo* (Sissoo)
5. *Azadirachta indica* (Neem)
6. *Gmelina arborea* (Gambar)
7. *Pongamia pinnata* (Karanja)
8. *Embllica officinalis* (Amla)
9. *Artocarpus integrifolia* (Panasa)

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

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

Nursery will be raised @550 seedlings per ha including seedlings for 10% casualty replacement for 50.00 ha.

##### **B(II)-SURVEY, DEMARCATION & PILLAR POSTING, GPS READING WITH MAPPING-**

The planting area has been surveyed and demarcated through DGPS survey and 44 nos of 4' height RCC pillars have been posted (as per the direction of forest Range Officer, BJP Range) with GPS co-ordinates, forward and backward bearing, pillar No. and distance between pillars inscribed in it. A DGPS map in the scale of 1:4000 has been prepared along with DGPS co-ordinates forward and backward bearing, pillar No. and distance between pillars reflected in the map. Two durable sign boards have been erected at a conspicuous location with name of the site, scheme, area etc. depicted on it.

##### **B(III)-SITE PREPARATION AND SILVICULTURAL OPERATION INCLUDING CLEARANCE OF WEED, CLIMBER CUTTING, HIGH STUMP CUTTING, SINGLING OF SHOOTS-**

The clearing of the site involving removal of invasive weeds, bushes, climbers, high stumps and singling of shoots will be taken up preferably by the end of February and latest by the end of March. Pits of the dimension 45cm<sup>3</sup> will be dug ANR model @500 seedlings/ ha over 50.00 ha preferably 2 months before or at least a month before planting of seedlings.

## **C. PLANTING OPERATION**

Planting of seedlings will be taken up in the month of July. The polythene {(size 12 x 10) (300 gauge)} covering of the balls of earth will be carefully removed before planting. Care will be taken to see that the ball of earth is not broken while doing so. The seedling with the ball of earth will then be placed firmly in the pit and buried at such a depth that the root collar is well below the surface of the soil. The soil around the plant will be well compacted with the heel as a final step so that there is a proper bond between the ball and the surrounding soil. The earth close to the collar will be slightly elevated so that rain water does not accumulate very close to the plant.

## **D. POST PLANTING OPERATION**

### **D(1)-CASUALTY REPLACEMENT**

The entire area will be gone over in the same order as plantation was carried out and casualties, if any, will be replaced as soon as the main plantation operation is over.

### **D(2)-WEEDING AND SOIL WORKING**

Regular and efficient weeding will start immediately after sprouting of the stumps is complete or after the seedlings have started throwing up new buds.

### **D(3)-MANURING AND INSECTICIDE APPLICATION**

On degraded sites urban compost or farmyard manure, wherever available, will be added to the soil while refilling the pits. As regards artificial fertilizers, the minerals required and dosage @ 50 gms of patent mixtures like 'Gromor' or N.P.K. (2:2:1) will be applied in two split doses one in August and the other in September.

### **D(4)-SOIL MOISTURE CONSERVATION MEASURES**

Special Soil Moisture Conservation Measures will be taken up through construction of LBCD structures of dimension 10' x 10' x 5' to the tune of 148 nos. over the entire plantation site.

### **D(5)-WATERING PROVISION**

10 nos. borewell will be dug for watering over the plantation site (one diesel pump set fitted with borewell for 5 ha plantation) with maintenance and recurring expenditure for 5 years.

### **D(6)-PROTECTION AGAINST FIRE AND BIOTIC INTERFERENCE**

It is proposed to protect the plantation from grazing by domestic animals using Fencing Angle Iron & Chain Link wire mesh. The total length of such Fencing Angle Iron & Chain Link wire mesh for the patch which comes to 6.49 Km. of the total non-forest land. Fire line tracing will be ensured to protect the plantation from fire and watch & ward will be provided as per the approved norm for protecting the plantation from grazing with involvement of Birikala VSS.

## CHAPTER- VI

### COST STRUCTURE OF PLANTATION, PROVISION OF FUNDS AND UTILIZATION

**Base Cost Norm for ANR Plantation @500 seedlings per ha (18 months old seedlings) @ 333.00/- Mandays as per onetime cost norm provided by the PCCF, Odisha, Bhubaneswar vide their O.O. No. 1109 dated 08.11.2021 (As per base norm of Matrix for the year 2022-23) and the revised wage rate by Labour Commissioner, Odisha, Bhubaneswar vide Notification No. 6078/LC dated 19.10.2022.**

ANNEXURE-7

Base Cost Norms for Compensatory Afforestation through Aided Natural Regeneration (ANR) @ 500 Seedlings/Ha.						
WAGE RATE Rs- 311/- PER MANDAY						
Sl. No	Items of work	Preferable Period of Execution	No of Mandays	Labour Cost (In Rs.)	Material Cost (In Rs.)	Total cost (In Rs.)
<b>0th Year (Advance work) Pre-Planting Operation</b>						
1	Survey, Demarcation and Pillar posting	Nov/Dec	2	622	0	622
2	Preparation of Treatment Map (Digital Map)	Nov/Dec	1	311	100	411
3	Site preparation	Nov/Dec	2	622	0	622
4	Silvicultural operations including clearance of weed, cutting of climber, High stump cutting, slinging of shoots & removal of cut out after drying from the field to blank space.	Jan/Feb	15	4665	0	4665
5	Alignment and stacking for digging of pits	Feb/Mar	1	311	0	311
6	Digging of pits (45 cm x 45 cm X 45 cm) in hard and gravelly soil	Feb/Mar	20	6220	0	6220
Total			41	12751	100	12851
<b>1st Year/Planting Year</b>						
1	Refilling of pits by altering the dugout soil of the pits, application of organic compounds/ CDM/ FYM & mixing the same perfectly.	June/Jul	4	1244	2500	3744
2	Transportation of 18 months old polythene bag seedlings in hired track /tractor from the permanent/Mega nursery to planting site including loading & unloading (Average lead of 10 (km) & Stacking the seedling @ Rs.6/ Seedling (550 nos)	Jul/Aug	0	0	3300	3300
3	Watering polythene bag seedlings at stacking site of plantation	Jul/Aug	1	311	0	311
4	Conveyance of polythene bag seedlings on head load from the stacking site to individual dugout pits within the planting site, applying insecticide, fertilizer & planting after scooping the soil with other applied materials and pressing the soil perfectly around the planted seedling	Jul/Aug	11	3421	0	3421
5	Cost of Fertilizer & insecticide (a) NPK/ Bio fertilizer @ 50 gms/plant as basal dose 25kg @ Rs 30/- per kg = Rs. 750.0 (b) Urea/Vermicompost/Mo Khata/any other fertilizer @ Rs. 375.00 (c) Insecticide/ Bio pesticide @ 5 gms/plant = 2.5 kg @ Rs. 150/- per kg = Rs. 375/-	Jul/Aug	0	0	1500	1500
6	Casualty Replacement @ 10% (50 nos)	Jul/Aug	1.5	466.5	0.0	466.5
7	1st weeding & Manuring	Aug/Sept	5	1555	0	1555

Sl. No	Items of work	Preferable Period of Execution	No of Mandays	Labour Cost (In Rs.)	Material Cost (In Rs.)	Total cost (In Rs.)
8	2nd Weeding, Soil working (1mt. diametre around the plants) & Manuring	Oct/Nov	8	2488	0	2488
9	Fire line tracing & Inspection path	Feb/Mar	3	933	0	933
10	Watch & Ward including watering as per requirement	Apr/Mar	8	2488	0	2488
	<b>Total</b>		<b>41.5</b>	<b>12906.5</b>	<b>7300.0</b>	<b>20206.5</b>
<b>2nd Year Maintenance</b>						
1	Transportation of 50 seedlings from Nursery to plantation site including loading, unloading & conveyance by Tractor @ Rs.6/- per seedlings	Jul	0.0	0.0	300.0	300.0
2	Casualty replacement	Jul	1.5	466.5	0.0	466.5
3	Cost of Fertilizer & Insecticide: A) Cost of Insecticide/ Bio-pesticide (Themet/ Forate) @ 5 gms/plant = .25 Kg @ Rs.150/- per kg = Rs.37.50 B) Urea/NPK/Bio-fertilizer/Vermicompost/Mo Khata/any other fertilizer = Rs. 1400/-	July/Aug	0	0	1437.5	1437.5
4	Weeding (Complete weeding), Manuring & Soil working, (1mt. diametre around the plants)	Sep/Oct	8	2488	0	2488
5	Fire line tracing (2 m. wide fire line) & Inspection path	Feb/Mar	3	933	0	933
6	Watch & Ward including watering as per requirement	Apr/Mar	12	3732	0	3732
	<b>Total</b>		<b>24.5</b>	<b>7619.5</b>	<b>1737.5</b>	<b>9357</b>
<b>3rd Year Maintenance</b>						
3	Cost of Fertilizer Urea/NPK/Bio-fertilizer/Vermicompost/Mo Khata/any other fertilizer = Rs. 1400/-	July/Aug	0	0	1400.0	1400.0
4	Weeding (Complete weeding), Manuring & Soil working, (1mt. diametre around the plants)	Sep/Oct	8	2488	0	2488
5	Fire line tracing (2 m. wide fire line) & Inspection path	Feb/Mar	3	933	0	933
6	Watch & Ward including watering as per requirement	Apr/Mar	12	3732	0	3732
	<b>Total</b>		<b>23.0</b>	<b>7153.0</b>	<b>1400.0</b>	<b>8553.0</b>
<b>4th Year Maintenance</b>						
1	Fire line tracing (2 m. wide fire line) & Inspection path	Feb/Mar	3	933	0	933
2	Watch & Ward including watering as per requirement	Apr/Mar	12	3732	0	3732
	<b>Total</b>		<b>15</b>	<b>4665</b>	<b>0</b>	<b>4665</b>
<b>5th Year Maintenance</b>						
1	Fire line tracing (2 m. wide fire line over 400 m length)	Feb/Mar	3.0	933.00	0	933
2	Watch & Ward including watering as per requirement	Apr/Mar	12	3732.00	0	3732
	<b>Total</b>		<b>15.0</b>	<b>4665.0</b>	<b>0</b>	<b>4665</b>
<b>6th Year Maintenance</b>						
1	Fire line tracing (2 m. wide fire line over 400 m length)	Feb/Mar	3	933.00	0	933
2	Watch & Ward including watering as per requirement	Apr/Mar	12	3732.00	0	3732
	<b>Total</b>		<b>15.0</b>	<b>4665.0</b>	<b>0.0</b>	<b>4665.0</b>
<b>7th Year Maintenance</b>						
1	Fire line tracing (2 m. wide fire line over 400 m length)	Feb/Mar	3	933.00	0	933
2	Watch & Ward including watering as per requirement	Apr/Mar	12	3732.00	0	3732
	<b>Total</b>		<b>15.0</b>	<b>4665.0</b>	<b>0.0</b>	<b>4665.0</b>
<b>8th Year Maintenance</b>						
1	Fire line tracing (2 m. wide fire line over 400 m length) & cultural operation	Feb/Mar	3	933.00	0	933
2	Watch & Ward including watering as per requirement	Apr/Mar	12	3732.00	0	3732
	<b>Total</b>		<b>15.0</b>	<b>4665.0</b>	<b>0.0</b>	<b>4665.0</b>
<b>9th Year Maintenance</b>						
1	Fire line tracing (2 m. wide fire line over 400 m length)	Feb/Mar	3	933.00	0	933
2	Watch & Ward including watering as per requirement	Apr/Mar	12	3732.00	0	3732
	<b>Total</b>		<b>15.0</b>	<b>4665.0</b>	<b>0.0</b>	<b>4665.0</b>
<b>10th Year Maintenance</b>						
1	Fire line tracing (2 m. wide fire line over 400 m length)	Feb/Mar	3	933.00	0	933
2	Watch & Ward including watering as per requirement	Apr/Mar	12	3732.00	0	3732
	<b>Total</b>		<b>15.0</b>	<b>4665.0</b>	<b>0.0</b>	<b>4665.0</b>
<b>Year wise Abstract of Cost Norm (showing seedling cost separately)</b>						

Sl. No	Items of work	Preferable Period of Execution	No of Mandays	Labour Cost (In Rs.)	Material Cost (In Rs.)	Total cost (In Rs.)	
Sl. No	Year	No. person days	Labour cost @ Rs. 311/- per day (Rs)	Material Cost	Monitoring Evaluation, Learning, Documentation and Other Contingency (5%) of (4+5)	Cost of Seedlings @Rs.50.31 per seedlings	TOTAL COST
1	2	3	4	5	6	7	8
1	0th year	41	12751.0	100.0	549.00	0.00	13400.00
2	1st year	41.5	12906.5	7300.0	993.50	27671.00	48871.00
3	2nd year	24.5	7619.5	1737.5	443.00	2516.00	12316.00
4	3rd year	23.0	7153.0	1400.0	347.00	0.00	8900.00
5	4th year	15	4665.0	0.0	135.00	0.00	4800.00
6	5th year	15	4665.0	0.0	135.00	0.00	4800.00
7	6th year	15	4665.0	0.0	135.00	0.00	4800.00
8	7th year	15	4665.0	0.0	135.00	0.00	4800.00
9	8th year	15	4665.0	0.0	135.00	0.00	4800.00
10	9th year	15	4665.0	0.0	135.00	0.00	4800.00
11	10th year	15	4665.0	0.0	135.00	0.00	4800.00
	<b>Total:</b>	<b>235.0</b>	<b>73085.0</b>	<b>10537.5</b>	<b>3277.5</b>	<b>30187</b>	<b>117087.00</b>

Note:

- 1 Priority must be given to the indigenous local species available nearby to the site of plantation.
- 2 10% indigenous fruit bearing trees must be preferred to Plantation.
- 3 Site specific Soil conservation work like LBCD, Gully Plugging, Staggered Trench, Contour Trench, Graded bund, etc. may be taken up
- 4 Chain link fencing can be adopted in the CA plantation taken up outside the forest area and Bamboo twigs fencing may be preferred to CA plantations
- 5 Watering facilities for procurement of water & watering may be adopted as per the availability of water.
- 6 The Cost Norm of various items can be changed with the approval of the concerned RCC's keeping the overall cost norm fixed for each Financial Year



APCCF (Forest Diversion & NO, FC Act)

**Matrix for ANR-500 Plants / Ha**

Sl. NO.	Commencement Year	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	XIII	XIV	XV	XVI	XVII	XVIII	XIX	XX	XXI	Total Cost
	Base Norm	13400	48871	12316	8900	4800	4800	4800	4800	4800	4800	4800											
1	2021-22	13400	51315	13577	10303	5834	6125	6432	6754	7092	7446	7819											136098
2	2022-23		14070	53881	14256	10818	6126	6432	6754	7092	7447	7818	8210										142904
3	2023-24			14774	55575	14969	11359	6432	6754	7092	7447	7819	8209	8621									150051
4	2024-25				15513	59404	15717	11977	6754	7092	7447	7819	8210	8619	9057								157554
5	2025-26					16289	60374	16503	12523	7092	7447	7819	8210	8621	9050	9505							165433
6	2026-27						17103	65493	17379	13149	7447	7819	8210	8621	9052	9503	9980						173705
7	2027-28							17958	68768	18194	13806	7819	8210	8621	9052	9505	9978	10479					182390
8	2028-29								18856	77706	19104	14496	8210	8621	9052	9505	9980	10477	11003				191510
9	2029-30									19799	75816	16055	15221	8621	9052	9505	9980	10479	11001	11553			201086
10	2030-31										20799	79607	21062	15982	9052	9505	9980	10479	11003	11551	12131		211141

Matrix for Model-II A (ANR-500 Plants/ Ha)

In Rupees

ABCCF (Forest Diversion & NO, FC Act)

**Cost Norms for Creation of Compensatory Afforestation with Stabilization of Soil  
Moisture Conservation (SMC)**

Annexure-11			
Cost Norms for creation of Compensatory Afforestation with Stabilization of Soil & Conservation of Moisture (1000)			
WAGE RATE Rs- 311/- PER DAY			
Sl.No	Item of Works	Preferable Period of Execution	Total Cost
0th Year (Pre-Planting Operation)			
1	Nil		0
1st Year			
2	Soil Conservation measure structures like Staggered Trench, Percolation pit, Contour trench, Graded earthen bund, LBCD, Wire mesh LBCD, Sub surface Dyke & WHS as per the slope & site requirement on LS	Apr/Sept.	20,215
2nd Year			
3	Maintenance of SMC structures @ 15 % of initial year cost	Apr/Jul	3,032
3rd Year			
4	Maintenance of SMC structures @ 15 % of initial year cost	Apr/Jul	3,032
4th Year			
5	Maintenance of SMC structures @ 15 % of initial year cost	Apr/Jul	3,032
4th Year			
5	Maintenance of SMC structures @ 15 % of initial year cost	Apr/Jul	3,032
<b>Total</b>			<b>32,343.0</b>

Abstract					
Sl. No	Year	No. person days	Labour cost @ Rs. 311/-per day	Material Cost	Total cost [Rs.]
1	0th year	0.0	0.0	0.0	0.0
2	1st year	0.0	0.0	20,215.0	20,215.00
3	2nd year	0.0	0.0	3,032.00	3,032.00
4	3rd year	0.0	0.0	3,032.00	3,032.00
5	4th year	0.0	0.0	3,032.00	3,032.00
6	5th year	0.0	0.0	3,032.00	3,032.00
<b>Total</b>		<b>0.00</b>	<b>0.00</b>	<b>32,343.0</b>	<b>32,343.0</b>

Different types of SMC structures may be taken up as per the scope & requirements of the plantation site out of the design & specification of different structures annexed along this document.

  
 A.P.C.C.F. (Forest Diversinn & NI, FC Act)

**Matrix for (SMC)**

Sl. NO.	Commencement Year	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	XIII	XIV	XV	XVI	Total Cost
	Base Norm	0	20215	3032	3032	3032	3032											
1	2021-22	0	22276	3342	3510	3655	3870											35633
2	2022-23		0	22287	3509	3686	3869	4054										37415
3	2023-24			0	23401	3694	3870	4057	4257									39284
4	2024-25				0	24571	3868	4054	4255	4480								41248
5	2025-26					0	25800	4051	4257	4476	4704							43310
6	2026-27						0	27030	4254	4480	4702	4930						45475
7	2027-28							0	28245	4477	4704	4937	5156					47749
8	2028-29								0	29867	4701	4939	5184	5445				50136
9	2029-30									0	31360	4936	5186	5443	5717			52642
10	2030-31										0	31918	5183	5445	5715	5003		55274

Matrix for (SMC)

In Rupees

  
 APCCF (Forest Diversion & NO, FC Act)

## Fencing Model F-II

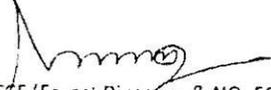
### Fencing for Compensatory Plantation raised outside the Forest Areas using Angle Iron & Chain Link Fencing

Fencing Model-F-II						
Fencing for Compensatory Plantation raised outside the Forest Areas using Angle Iron & Chain Link wire mesh (250 Rmt/Ha.)						
WAGE RATE Rs- 311/- PER DAY						
Sl. No	Items of work	Preferable Period of Execution	Man days	Wages	Material cost (Rs)	Total Cost (Rs. per Ha.)
<b>0th Year (PPO)</b>						
1	Earth work (excavation of hole) in Hard soil at a distance 3 mt. 0.40m x 0.40m x 0.40m = 0.064 x 84 = 5.376 cum @ Rs. 140/ cum = Rs. 753		2.42	752.62	0.0	752.6
2	Cement concrete (1:4:B) using 40 mm B16 metal 84 X 0.40m X 0.40m X 0.10m = 1.344 @ 3755.94/cum		0	0	5,047.4	5,047.4
3	Angle iron pole of size 50 mm X 50 mm X 6 mm of height 2.40 mt. 84 x 2.40 = 201.60 Sqmt. @ 4.50/kg/ Sqmt. = 907.20 kg @ 69.50 per kg				63,050.0	63,050.0
4	Cement concrete (1:2:4) for fixing the iron angle pole using 12mm BHC Chips 84 X 0.40m X 0.40m X 0.30m = 4.032 cum @ 5486.77/cum				22,123.0	22,123.0
5	Cost of Chain link mess using 4 mm Dia GI wire having gap size 50 mm X 50 mm 250 Rmt X 2.10 mt = 525 Sq. mt @ 331/Sqmt = Rs. 1,73,775				1,73,775.0	1,73,775.0
6	Double coat painting of iron angle pole over a coat of primer using good quality enamel paint 84 x 2.10 x 0.20 = 35.28 sqmt. @ Rs 108 80/Sqmt				3,838.0	3,838.0
7	Painting of GI chain link mess 250 x 2.10 x 2 = 1050/10 = 105 Sqmt. @ Rs. 108 80 Sqmt.				11,424.0	11,424.0
8	Transportation of Chain link mess, Iron angle, Straightening & tying of chain link mess etc. @ 2% of the total cost.				5,600.0	5,600.0
<b>TOTAL</b>			2.42	752.62	2,84,857.4	2,85,610.0
Rate per running mt. 2,85,610/ 250= Rs. 1142/Rmt						
<b>1st Year Maintenance</b>						
1	No Maintenance is required.	Sept./Oct	0	0	0	0
<b>2nd Year Maintenance</b>						
1	Maintenance of wire mess fence @ 1% per running mt. cost of installation in 1st yr. 1142x 1% = 11.42 say Rs. 11	Sept./Oct	0	0	11000	11000
<b>3rd Year Maintenance</b>						
1	Maintenance of wire mess fence @ 1% per running mt. cost of installation in 1st yr. 1142x 1% = 11.42 say Rs. 11	Sept./Oct	0	0	11000	11000
<b>4th Year Maintenance</b>						
1	Maintenance of wire mess fence @ 1% per running mt. cost of installation in 1st yr. 1142x 1% = 11.42 say Rs. 11	Sept./Oct	0	0	11000	11000
<b>5th Year Maintenance</b>						
1	Maintenance of wire mess fence @ 1% per running mt. cost of installation in 1st yr. 1142x 1% = 11.42 say Rs. 11	Sept./Oct	0	0	11000	11000
<b>6th Year Maintenance</b>						
1	Maintenance of wire mess fence @ 1% per running mt. cost of installation in 1st yr. 1142x 1% = 11.42 say Rs. 11	Sept./Oct	0	0	11000	11000
<b>7th Year Maintenance</b>						
1	Maintenance of wire mess fence @ 1% per running mt. cost of installation in 1st yr. 1142x 1% = 11.42 say Rs. 11	Sept./Oct	0	0	11000	11000
<b>8th Year Maintenance</b>						
1	Maintenance of wire mess fence @ 1% per running mt. cost of installation in 1st yr. 1142x 1% = 11.42 say Rs. 11	Sept./Oct	0	0	11000	11000
<b>9th Year Maintenance</b>						
1	Maintenance of wire mess fence @ 1% per running mt. cost of installation in 1st yr. 1142x 1% = 11.42 say Rs. 11	Sept./Oct	0	0	11000	11000
<b>10th Year Maintenance</b>						

Sl. No	Items of work	Preferable Period of Execution	Man days	Wages	Material cost (Rs)	Total Cost (Rs. per Ha.)
1	Maintenance of wire mesh fence @ 1% per running mt. cost of installation in 1st yr. 1142x1% = 11.42 say Rs. 11	Sept./Oct	0	0	11000	11000

**Abstract**

Sl. No	Year	No. person days	Labour cost @ Rs. 311/- per day	Material Cost	Total cost (Rs.)
1	0th year	2.42	752.6	284857.4	285610.0
2	1st year	0.0	0.0	0.0	0.0
3	2nd year	0.0	0.0	11000.0	11000.0
4	3rd year	0.0	0.0	11000.0	11000.0
5	4th year	0.0	0.0	11000.0	11000.0
6	5th year	0.0	0.0	11000.0	11000.0
7	6th year	0.0	0.0	11000.0	11000.0
8	7th year	0.0	0.0	11000.0	11000.0
9	8th year	0.0	0.0	11000.0	11000.0
10	9th year	0.0	0.0	11000.0	11000.0
11	10th year	0.0	0.0	11000.0	11000.0
<b>Total:</b>		<b>2.42</b>	<b>752.62</b>	<b>383857.4</b>	<b>3,84,610.0</b>

  
 APCDF (Forest Diversion & NO, FC Act)

**Matrix for Model-F-II Fencing (Angle Iron & Chain Link Fencing)**

Matrix for Fencing Model-F- II (Iron angle with Chainlink wire mesh)

Sl. No.	Comment Year	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	XIII	XIV	XV	XVI	XVII	XVIII	XIX	XX	XXI	Total Cost	
	Base Norm	285610	0	11000	11000	11000	11000	11000	11000	11000	11000	11000	11000	11000	11000	11000	11000	11000	11000	11000	11000	11000	11000	
1	2021-22	285610	0	11000	11000	11000	11000	11000	11000	11000	11000	11000	11000	11000	11000	11000	11000	11000	11000	11000	11000	11000	11000	419331
2	2022-23																							440289
3	2023-24																							462316
4	2024-25																							486432
5	2025-26																							509705
6	2026-27																							535191
7	2027-28																							561961
8	2028-29																							590049
9	2029-30																							619552
10	2030-31																							650561

in Rupees

APCCF (Forest Diversion & NO, FC Act)

## Watering Model – W-II

### Watering Provision to CA Plantation

Watering Model-W-II			
Watering provision to CA Plantation			
Diesel pump set with Bore well (1 pump set + Bore well for 5 Ha Plantation), Wage rate @ Rs.311/-			
Year of Installation (0th Year)			
1	Cost of borewell	1,50,000	
2	Cost of Diesel pump set 5HP	60,000	
3	Diesel pump set & accessories like commander, Pipes, etc.	30,000	
4	Water Storage Tanks/ Flexible pipes	15,000	
		2,55,000	
Cost of Water per Plant (2,55,000/ 5000) = Rs. 51/-			51,000
Cnst of Water per Ha. = Rs. 51,000/-			
1st Year Watering			
1	Recurring expenditure i.e Diesel, Mobil, Engine Oil, etc. for pumping Water -21 x 1000 =		21,000
2	Watering 1000 Plants (Nov-Mar.) @ 200 plants/MI with 7 days rotation 20 MD x 5 months = 100 MI x 311 =		31,100
<b>Total</b>			<b>52,100</b>
2nd Year Watering			
1	Recurring expenditure i.e Diesel, Mobil, Engine Oil, etc. for pumping Water -21 x 1000 =		21,000
Maintenance Diesel pump set etc. @ 15 % of the installation cost.			7,650
2	Watering 1000 Plants (April- June & Nov-Mar. - 8 months) @ 200 plants/MD with 7 days rotation 20 MD x 8 months = 160 MD x 311 =		49,760
<b>Total</b>			<b>78,410</b>
3rd Year Watering			
1	Recurring expenditure i.e Diesel, Mobil, Engine Oil, etc. for pumping Water -21 x 1000 =		21,000
Maintenance Diesel pump set etc. @ 15 % of the installation cost.			7,650
2	Watering 1000 Plants (April- June & Nov-Mar. - 8 months) @ 200 plants/MD with 7 days rotation 20 MI x 8 months = 160 MD x 311 =		49,760
<b>Total</b>			<b>78,410</b>
4th Year Watering			
1	Recurring expenditure i.e Diesel, Mobil, Engine Oil, etc. for pumping Water -21 x 1000 =		21,000
Maintenance Diesel pump set etc. @ 15 % of the installation cost.			7,650
2	Watering 1000 Plants (April- June & Nov-Mar. - 8 months) @ 200 plants/MD with 7 days rotation 20 MD x 8 months = 160 MD x 311 =		49,760
<b>Total</b>			<b>78,410</b>
5th Year Watering			
1	Recurring expenditure i.e Diesel, Mobil, Engine Oil, etc. for pumping Water -21 x 1000 =		21,000
Maintenance Diesel pump set etc. @ 15 % of the installation cost.			7,650
2	Watering 1000 Plants (April- June & Nov-Mar. - 8 months) @ 200 plants/MD with 7 days rotation 20 MD x 8 months = 160 MD x 311 =		49,760
<b>Total</b>			<b>78,410</b>

Abstract					
Sl. No.	Year	No. person days	Labour cost @ Rs. 311/- per day	Material Cost	Total cost (Rs.)
1	0th year	0	0.0	51000.0	51000.0
2	1st year	100.0	31100.0	21000.0	52100.0
3	2nd year	160	49760.0	28650.0	78410.0
4	3rd year	160	49760.0	28650.0	78410.0
5	4th year	160	49760.0	28650.0	78410.0
6	5th year	160	49760.0	28650.0	78410.0
<b>Total:</b>		<b>740</b>	<b>230140</b>	<b>106600</b>	<b>4,16,740</b>

  
 APCCF/(Forest Diversification & NO, FC Act)

**Matrix for Watering Model –W-II (Diesel Pumpset Fitted with Borewell) per Ha**

Matrix for Watering Model-W-II (Diesel Pumpset Fitted with Borewell) per Ha

Sl. NO.	Commencement Year	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	XIII	XIV	XV	XVI	Total Cost
	Base Norm	5100	52100	78410	78410	78410	78410	78410										
1	2021-22	51000	52705	86439	90771	95307	100072											478294
2	2022-23		53550	57440	90761	95310	100072	105076										502209
3	2023-24			56228	60312	65799	100076	105076	110330									527321
4	2024-25				59039	63228	100064	105050	110330	115847								553688
5	2025-26					61951	66494	105067	110334	115847	121639							581372
6	2026-27						69091	69819	110320	115851	121639	127721						610441
7	2027-28							69348	75330	115836	121644	127721	134107					640964
8	2028-29							71763	76976	121628	127726	134107	140812					673012
9	2029-30								75351	80925	127729	134112	140812	147853				706662
10	2030-31									79119	84866	134094	140818	147853	155246			741996

In Rupees

ARCCF (Forest Diversion & NO, FC Act)

## TOTAL COST OF PROJECT

### A. PLANTATION ACTIVATES:

(To be deposited in Ad-hoc CAMPA)

S. No	Item of Work	Unit Price	In Rupees
1	Base Norm for 500 plants/ ha (As per base norm of Matrix for the year 2022-23)	142904.00 x 50.00 ha	7145200.00
2	Soil Moisture Conservation (SMC) (As per base norm of Matrix for the year 2022-23)	37415.00 x 147.803 ha	5530049.24
3	Fencing for Compensatory Plantation raised outside the Forest Areas using Angle Iron & Chain Link (As per base norm of Matrix for the year 2022-23)	440299.00 x 147.803 ha	65077513.09
4	Cost of 10 nos. borewell for watering (one diesel pump set fitted with borewell for 5 ha plantation) (As per base norm of Matrix for the year 2022-23)	502209.00 x 10 nos.	5022090.00
	<b>Grand Total</b>		<b>82774852.33</b> <b>Or say</b> <b>8,27,75,000.00</b>

(Rupees eight crore twenty-seven lakh seventy-five thousand) only.

### B. INFRASTRUCTURE:

(To be provided in kind)

5	Construction of boundary wall at Banspal Central Nursery under BJP Range	15,00,000.00 (On LS)	1500000.00
6	Construction of Nursery Shed at Banspal Central Nursery under BJP Range	10,00,000.00 (On LS)	1000000.00
7	Pipeline and internal drainage at Banspal Central Nursery under BJP Range	5,00,000.00 (On LS)	500000.00
	<b>Grand Total- B</b>		<b>3000000.00</b>

(Rupees thirty lakh)

## PROVISION OF FUNDS AND FUND UTILIZATION

**Rs. 8,27,75,000/-** (Rupees eight crore twenty-seven lakh seventy-five thousand) only shall be deposited by the User Agency i.e. M/s Rungta Mines Limited on approval of the scheme in Ad-hoc CAMPA Account and the funds will be utilized for raising of Compensatory Afforestation by the Divisional Forest Officer, Keonjhar Division on allotment by the Principal Chief Conservator of Forests, Odisha, Bhubaneswar.

  
14/11/22  
**Divisional Forest Officer,**  
**Keonjhar Division**

## CHAPTER- VII

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

Compensatory Afforestation will be taken up in the identified site by the Range Officer, BJP Forest Range of Keonjhar Division. The Range Forest Officer, BJP Forest Range will undertake field checks of the works undertaken at the identified site and will be cross checked by the Asst. Conservator of Forests, (Affn.) and Divisional Forest Officer, Keonjhar Division. DGPS/GPS co-ordinates along with other required informations of Compensatory Afforestation will be uploaded in the e-Green watch Portal of NIC, MoEF, Govt. of India for the purpose of online monitoring. Annual progress of plantation involving growth of planted seedlings, survival percentage etc. will be monitored and recorded in the plantation journal by the field staffs of BJP Forest Range and reported to the Divisional Forest Officer for necessary action. The same thing will be reported to the Regional Chief Conservator of Forests, Rourkela Circle and Chief Conservator of Forests (PP&A), O/o the Pr. Chief Conservator of Forests, Odisha, Bhubaneswar and necessary corrective measures will be followed if required so.

  
14/11/22  
**Divisional Forest Officer,  
Keonjhar Division**

## CERTIFICATE ON DSS ANALYSIS FOR CA/ACA/PCA

This is to certify that DSS Analysis of land identified for CA/ ACA/ PCA and subsequent ground truthing have been done. The outcome is as mentioned below-

Sl. No.	Name of Range	Name of the Forest Block (RF/PRF/PF/DPF/Revenue Forest)	Area identified for CA/ ACA/ PCA (in ha)	Classification of identified land (in ha)						Area suitable for plantation (in ha)			Plantation model (AR/ANR)	Remarks		
				Very Dense Forest	Moderately Dense Forest	Open Forest	Non-forest	Scrub	Water	Total	Open Forest	Non-forest			Scrub	Total
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1	BJP	Village- Deri under Banspal Tahasil	CA	0	97.803	50.00	0	0	0	147.803	50.00	0	0	50.00	ANR	50.00 ha @500 seedlings per ha

1001

  
 Divisional Forest Officer,  
 Keonjhar Division.

Countersigned

Regional Chief Conservator of Forests,  
Rourkela Circle



**JOINT VERIFICATION OF NON-FOREST GOVT. LAND FOR COMPENSATORY AFFORESTATION  
IN FAVOUR OF M/S RUNGTA MINES LIMITED.**

Range:- BJP Range		Date:- Tahasil:- Banspal									
Sl. No.	Name of Village	Khata No.	Plot No.	Kissam	Area (in Ha.)	Block	Plantation (in Ha.)	RDF	Total	Area (in Ha.) Found Unsuitable with Reason	Remarks
1	2	3	4	5	6	7	8	9	10	11	
2			17(P)	Hudi	1.482				1.482		
3			441	Hudi	8.000				8.000		
4			442	Hudi	16.000				16.000		
5			443	Hudi	16.000				16.000		
6			444(P)	Hudi	5.312				5.312		
7			445(P)	Hudi	5.302				5.302		
8			446	Hudi	16.000				16.000		
9			447(P)	Hudi	0.916				0.916		
10			458(P)	Hudi	0.574				0.574		
11		53 (AAA)	459(P)	Hudi	5.818				5.818		
12			460(P)	Hudi	5.463				5.463		
13			461(P)	Hudi	5.641				5.641		
14			488(P)	Hudi	5.629				5.629		
15			489(P)	Hudi	4.699				4.699		
16			17/533(P)	Hudi	4.443				4.443		
17			17/534(P)	Hudi	4.459				4.459		
18			17/535	Hudi	16.000				16.000		
19			17/536	Hudi	16.000				16.000		
20			17/537(P)	Hudi	10.065				10.065		
						<b>TOTAL</b>			<b>147.803. Ha.</b>		

Kissam as on  
25.10.1980

- 1- Certified that the above non-forest Government land as mentioned in column 7, 8 & 9 is a compact patches of 4.00 Ha. Or more having adequate soil depth suitable for plantation from management point of view.
- 2- Certified that the above Government land found suitable for plantation is free from encroachment and encumbrances.
- 3- Certified that the above Government land is not covered under 4(1) notification.
- 4- Certified that the above Government land is not covered under DLC.
- 5- Certified that the above Government land is not allotted previously.
- 6- Certified that the above Government land is not covered under any M.L/P.L area.
- 7- Certified that the above Government land is not settled in favour of individual/community under F.R Act, 2005.
- 8- Certified that the status of the above plots was non forest as on 25.10.1980.
- 9- Certified that the above plots are not covered under any proposed reserve forest.
- 10- Certified that the above plots are unfit not only for agriculture, but also for other developmental requirements.
- 11- Certified that the above plots have no future potential for agrarian or industrial use.
- 12- Certified that the above identified area contains sparse vegetation with density of 0.02 and scrubby forest growth fit for compensatory afforestation.

**COUNTERSIGNED**

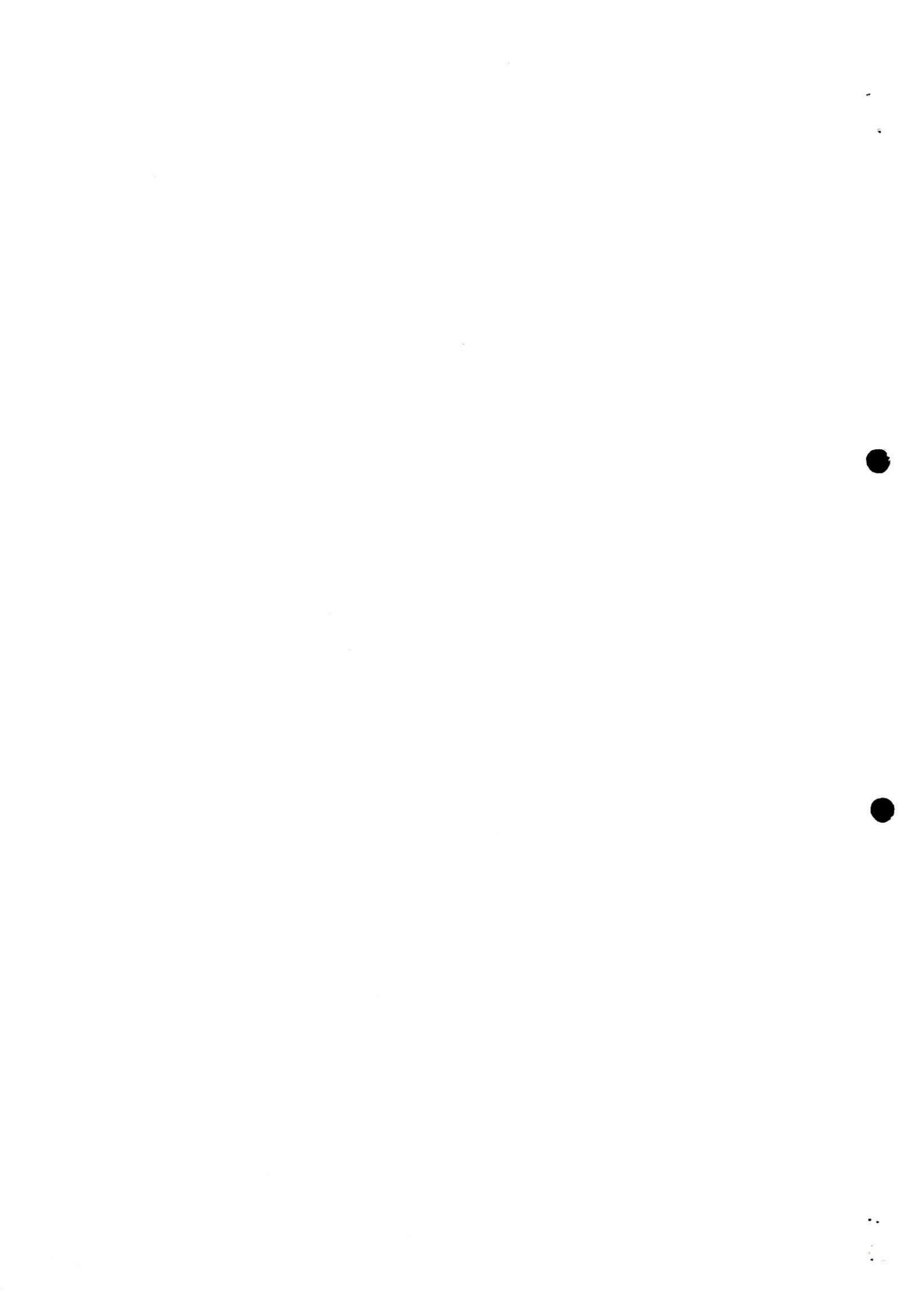
Signature & Seal of  
Forest Ranger.  
Range Office  
B.L.P Range

Signature & Seal of  
Forest Section Officer  
Suakati

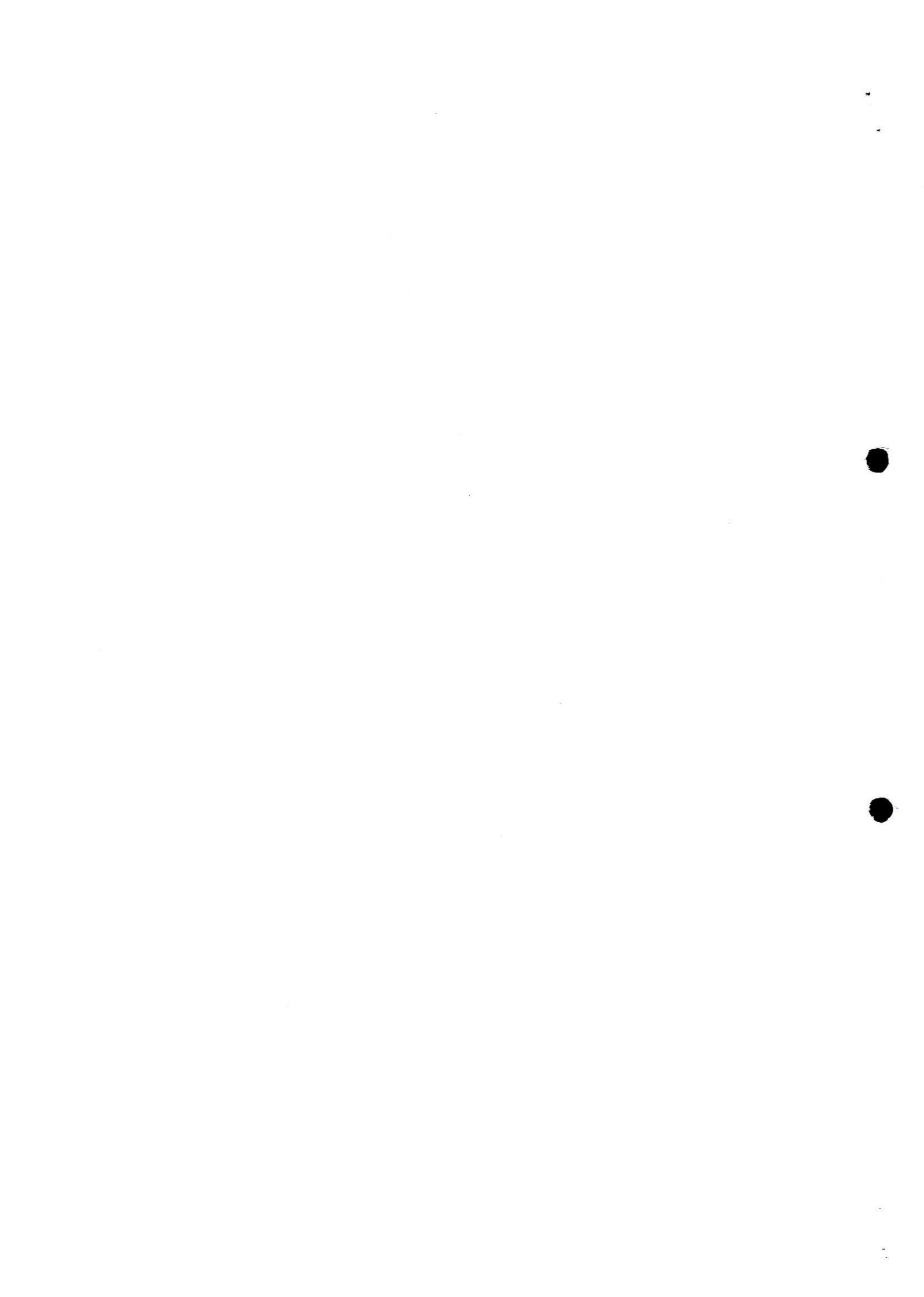
Signature & Seal of  
Tahasildar.  
**TAHASILDAR  
BANSPAL**

Signature & Seal of  
Revenue Inspector.  
**TARAMAKANTA**

Divisional Forest Officer  
Keonjhar Division







**SCHEME FOR ADDITIONAL  
COMPENSATORY AFFORESTATION  
OVER 183.722 HA OF DEGRADED FOREST  
LAND @Rs. 333/- PER MANDAYS (AS PER  
ONETIME COST NORM) IDENTIFIED IN  
VILLAGE JADIPADA RF UNDER  
KEONJHAR & PATNA RANGE OF  
KEONJHAR FOREST DIVISION**

IN RESPECT OF

**JHUMKA PATHIRIPOSİ PAHAR IRON ORE  
BLOCK COMING UNDER BONAI FOREST  
DIVISION OF SUNDARGARH DISTRICT**

**OF**

**M/s RUNGTA MINES LTD**



**ELEMENTS OF THE SCHEME FOR ADDL. COMPENSATORY  
AFFORESTATION**

<b>CHAPTER</b>	<b>PARTICULARS</b>	<b>PAGE NUMBER</b>
<b>I</b>	<b>BRIEF NOTE ON THE PROPOSED FOREST DIVERSION PROPOSAL</b>	<b>01 to 01</b>
<b>II</b>	<b>DETAILS OF LAND IDENTIFIED FOR ADDL.COMPENSATORY AFFORESTATION</b>	<b>02 to 03</b>
<b>III</b>	<b>DELINEATION OF PROPOSED AREA ON SUITABLE MAP</b>	<b>03 to 03</b>
<b>IV</b>	<b>AGENCY RESPONSIBLE FOR ADDL. COMPENSATORY AFFORESTATION</b>	<b>03 to 03</b>
<b>V</b>	<b>DETAILS OF WORK SCHEDULED PROPOSED FOR ADDL. COMPENSATORY AFFORESTATION</b>	<b>04 to 05</b>
<b>VI</b>	<b>COST STRUCTURE OF PLANTATION, PROVISION OF FUNDS AND UTILIZATION</b>	<b>06 to 25</b>
<b>VII</b>	<b>DETAILS OF PROPOSED MONITORING MECHANISM</b>	<b>26 to 26</b>



## CHAPTER- I

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

Government of Odisha, pursuant to the Mines and Minerals (Development and Regulation) Act, 1957 and the Mineral (Auction) Rules, 2015 as amended from time to time, issued the notice inviting tender dated 07.07.2021 to commence the auction process for grant of mining lease for Jumka Pathiriposhi Pahar Iron ore block over an area of 158.509 Hectare for Iron Ore located in Koira Mining circle, district Sundergarh, Odisha. The e-auction process was conducted in accordance with the tender document for the said mineral block on 24.09.2021 and Rungta Mines Ltd. was declared as the 'Preferred Bidder' under Rule 9(9)(iii) or Rule 10 (1A) of Auction Rules, having quoted highest Final Price Offer vide letter No.MXIII(b) 46/2021/7738/DM Dated 05.10.2021 issued by Director of Mines Government of Odisha.

As required under Rule 10(1) of the Auction Rules and the tender document for the said mineral block, Rungta Mines Ltd. has made payment of the first instalment, being 20% (twenty percent) of the upfront payment of Rs.49,21,44,251/-(Forty Nine Crore Twenty One Lakh Forty Four Thousand Two Hundred Fifty One) only through Treasury Challan vide e- Challan no. 0853/1886 dated 08.10.2021 at Cyber Treasury, Dist- Sundargarh

Accordingly, pursuant to Rule 10(2) of the Auction Rules and the terms of the Tender Document, the Government of Odisha is pleased to issue Letter of Intent (LOI) bearing no. IV(B)SM-49/2021/8716/SM, Bhubaneswar dated 28.10.2021 for grant of Mining Lease for Jumka Pathiriposhi Pahar Iron ore block for Iron ore located in 20 km south of Koira town in Kedeshala village Koidātahasil, Sundergarh district on 158.509 Hectare Area to Rungta Mines Ltd. for a period of 50 (fifty) years. Out of 158.509 Ha DGPS surveyed lease area, 147.803 Ha is in Sundargarh district and 10.706 Ha is in Keonjhar district. The total forest land included is 156.978 Ha. out of which 147.803 Ha is PRF in Sundargarh district and 9.175 Ha is Revenue forest in Keonjhar district. Remaining 1.531 Ha is Non-forest Govt land in Keonjhar district.

M/s Rungta Mines Ltd has provided the non-forest land over 147.803 ha in village Deri under Banspal Tahasil for raising compensatory afforestation. The user agency has also provided the degraded forest land over 183.722 ha to accommodate the balance 1,27,494 number of seedlings for Additional Compensatory Afforestation.

The present scheme aims at preparation of a site-specific Compensatory Afforestation scheme over 183.722 ha of degraded forest land identified in Jadipada RF under Keonjhar & Patna Range of Keonjhar Division prepared at the prevailing wage rate @Rs. 333.00 per MD (as per onetime norm) with a maintenance period of ten years regarding Jhumka Pathiriposi Pahar Iron Ore Block of M/s Rungta Mines Ltd.

## CHAPTER- II

### **DETAILS OF LAND IDENTIFIED FOR ADDL. COMPENSATORY AFFORESTATION**

#### **IDENTIFICATION OF DEGRADED FOREST LAND**

##### **II(1)- Details of identified Forest land-**

The identified Forest land for Addl. Compensatory Afforestation is situated in Jadipada RF- 183.722 ha (Keonjhar Range- 93.183 ha & Patna Range- 90.539 ha) in Keonjhar Forest Division.

##### **II(2)- Character of existing vegetation of the identified site for Addl. Compensatory Afforestation-**

The prevailing forest growth has been categorized under forest type- open jungle mainly sal in Sol Topo Sheet No. F45N10. The vegetation consists of Sal and its scattered associates like Jamu, Piasal, Asana, Sisoo, Kuruma, Karada, Dhaura, Khair, Sidha, Harida, Bahada and Ainla.

##### **II(3)- Working Plan prescription for the identified site for Addl. Compensatory Afforestation-**

The prescribed objectives of management for the identified forest block is depicted hereunder-

1. Regenerate of the degraded forest blocks including the areas once affected by shifting cultivation, by appropriate silvicultural inputs and protection measures with people's participation.
2. Improvement of the micro-climate and micro-edaphic conditions through soil and moisture conservation measures.
3. Encouragement of natural regeneration for increasing the biodiversity in forest crop.
4. Fulfillment of the bonafide needs of the local inhabitants for fuel wood, small timber, fodder and N.T.F.P. to the extent possible depending upon the productivity of the forests to ensure their participation.

##### **II(4)- Suitability of the identified site for Addl. Compensatory Afforestation-**

The identified site in Jadipada RF is a degraded patch with existing vegetation of Sal and Sal associates. Gaps are sporadically spread over the forest block. The topography of the area is mainly undulating hilly having good depth of red boulder mixed soil conducive for plantation under 200 seedlings/ ha, 500 seedlings/ ha & AR model 1000 seedlings/ ha as per field situation for 183.722 ha. The average maximum temperature is 40<sup>o</sup> to 45<sup>o</sup>C and minimum 5<sup>o</sup> to 10<sup>o</sup> C and annual rainfall varies from 1100 mm to 1800 mm. The maximum rainfall is received during the rainy season from July to September. The site has been demarcated with 4 feet RCC pillars with erection of durable signboard depicting Scheme, Year, User Agency, Area etc. on it.

### CHAPTER-III

#### **DELINEATION OF PROPOSED AREA ON SUITABLE MAP**

##### **III(1)- GPS COORDINATES AND GPS MAP OF THE ADDL. COMPENSATORY AFFORESTATION SITE**

The area has been demarcated through GPS survey and GPS survey data showing latitude and longitude of each point and their chainage with bearing is also enclosed in the map prepared thereon (Maps enclosed).

##### **III(2) DECISION SUPPORT SYSTEM- ANALYSIS OF FOREST COVER MAP**

The map of the proposed ACA land was processed using DSS for analysis of Forest cover over the area. The result obtained are depicted in the **Annexure- I series**.

##### **Decision Support System of degraded Forest land identified in Jadipada RF under Keonjhar Range**

Name of the site	Area identified for plantation (in ha)	Non-Forest (in Sq. Miles)	Open Forest (in Sq. Miles)
Jadipada RF under Keonjhar Range	93.183	0.74	0.20

##### **Decision Support System of degraded Forest land identified in Jadipada RF under Patna Range**

Name of the site	Area identified for plantation (in ha)	MDF (in Sq. Miles)	Non-Forest (in Sq. Miles)	Open Forest (in Sq. Miles)
Jadipada RF under Patna Range	90.539	0.02	0.64	0.26

### CHAPTER- IV

#### **AGENCY RESPONSIBLE FOR ADDL. COMPENSATORY AFFORESTATION**

##### **IV(1)- AGENCY RESPONSIBLE FOR PLACEMENT OF FUNDS**

The user agency shall provide funds for raising Addl. Compensatory Afforestation as per approved scheme.

##### **IV(2)- AGENCY RESPONSIBLE FOR EXECUTION OF ADDL. COMPENSATORY AFFORESTATION**

The Territorial Wing of the Forest Department i.e. Divisional Forest Officer, Keonjhar Division will be assigned with the task for execution of the Addl. Compensatory Afforestation.

## CHAPTER- V

### **DETAILS OF WORK SCHEDULE PROPOSED FOR ADDL. COMPENSATORY AFFORESTATION**

#### **A. PLANTING PLAN**

Planting Plan reflects the species-specific treatment of the identified site. Choice of species is based on the geo-morphology of the site, soil-texture, structure, fertility and depth, proneness of the site to water logging etc. Specific treatment of the site in terms of soil and moisture conservation intervention will be depicted in the treatment map. A treatment map will invariably be prepared for Species to be planted and treatments to be applied to the different patches shown in the treatment map and planting plan. This plan will be followed when actual planting is carried out.

#### **Species to be planted: -**

1. *Syzgium cumini* (Jamu)
2. *Adina cardifolia* (Kuruma)
3. *Anogeissus latifolia* (Dhaura)
4. *Accacia catechu* (Khair)
5. *Dalbergia sissoo* (Sissoo)
6. *Azadirachta indica* (Neem)
7. *Gmelina arborea* (Gambar)
8. *Terminalia belerica* (Bahada)
9. *Terminalia chebula* (Harida)
10. *Pongamia pinnata* (Karanja)
11. *Emblica officinalis* (Ainla)
12. *Shorea robusta* (Sal)

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

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

Nursery will be raised @1100 seedlings for 92.946 ha, @550 seedlings for 74.237 ha & @220 ha for 2.00 ha including seedlings for 10% causality replacement.

##### **B(II)- SURVEY, DEMARCATION & PILLAR POSTING, GPS READING WITH MAPPING-**

The planting area has been surveyed and demarcated with four feet height RCC pillars at inter visible distance (as per the direction of the Forest Range Officer, Keonjhar Range) with GPS coordinates, forward and backward bearing, pillar No. and distance between pillars inscribed in it. A GPS map in the scale of 1:4000 has been prepared along with GPS co-ordinates, forward & backward bearing, pillar to pillar distance and pillar numbers reflected in the map. A sign board has been erected at a conspicuous location with name of the site, scheme, area etc. depicted on it.

##### **B(III)- SITE PREPARATION AND SILVICULTURAL OPERATION INCLUDING CLEARANCE OF WEED, CLIMBER CUTTING, HIGH STUMP CUTTING, SINGLING OF SHOOTS-**

The clearing of the site involving removal of invasive weeds, bushes, climbers, high stumps and singling of shoots will be taken up preferably by the end of February and latest by the end of March. Pits of the dimension 45 cm x 45 cm x 45 cm. will be dug @1000 seedlings for 92.946 ha, @500 seedlings for 74.237 ha & @200 ha for 2.00 ha in the preferably 2 months before or at least a month before planting of seedlings.

### **C. PLANTING OPERATION**

Planting of seedlings will be taken up in the month of July. The polythene {(size 12 x 10) (300 gauge)} covering of the balls of earth will be carefully removed before planting. Care will be taken to see that the ball of earth is not broken while doing so. The seedling with the ball of earth will then be placed firmly in the pit and buried at such a depth that the root collar is well below the surface of the soil. The soil around the plant will be well compacted with the heel as a final step so that there is a proper bond between the ball and the surrounding soil. The earth close to the collar will be slightly elevated so that rain water does not accumulate very close to the plant.

### **D. POST PLANTING OPERATION**

#### **D(1)-CASUALTY REPLACEMENT**

The entire area will be gone over in the same order as plantation was carried out and casualties, if any, will be replaced as soon as the main plantation operation is over.

#### **D(2)-WEEDING AND SOIL WORKING**

Regular and efficient weeding will start immediately after sprouting of the stumps is complete or after the seedlings have started throwing up new buds.

#### **D(3)-MANURING AND INSECTICIDE APPLICATION**

On degraded sites urban compost or farmyard manure, wherever available, will be added to the soil while refilling the pits. As regards artificial fertilizers, the minerals required and dosage @ 50 grammes of patent mixtures like 'Gromor' or N.P.K. (2:2:1) will be applied in two split doses one in August and the other in September.

#### **D(4)-SOIL MOISTURE CONSERVATION MEASURES**

Special Soil Moisture Conservation Measures will be taken up through construction of LBCD structures of dimension 10' x 10' x 5' to the tune of 184 nos.

#### **D(5)-WATERING PROVISION**

18 nos. borewell will be dug for watering over the plantation site (one diesel pump set fitted with borewell for 5 ha plantation) with maintenance and recurring expenditure for 5 years.

#### **D(6)-PROTECTION AGAINST FIRE AND BIOTIC INTERFERENCE**

It is proposed to protect the plantation from grazing by domestic animals using Fencing Angle Iron & Chain Link wire mesh. The total length of such Fencing Angle Iron & Chain Link wire mesh for the patch which comes to 10.33 Km. Fire line tracing will be ensured to protect the plantation from fire and watch & ward will be provided as per the approved norm for protecting the plantation from grazing with involvement of Jadipada & Kanaposi & Handibhanga VSS.

**CHAPTER- VI**

**COST STRUCTURE OF PLANTATION, PROVISION OF FUNDS AND UTILIZATION**

**Base Cost Norm for AR Plantation @1000 seedlings per ha (18 months old seedlings) @ 333.00/- Mandays as per revised wage rate by Labour Commissioner, Odisha, Bhubaneswar vide Notification No. 6078/LC dated 19.10.2022 and onetime cost norm provided by the PCCF, Odisha, Bhubaneswar vide their O.O. No. 1109 dated 08.11.2021 (As per base norm of Matrix for the year 2022-23)**

ANNEXURE-4						
BASE COST NORM FOR COMPENSATORY AFFORESTATION (BLOCK PLANTATION) @ 1000 PLANTS PER HECTARE (18 months old seedling)						
WAGE RATE Rs-311/- PER MANDAY						
Sl. No	Items of work	Preferable Period of Execution	No of Mandays	Labour Cost (In Rs.)	Material Cost (In Rs.)	Total cost (In Rs.)
1	2	3	4	5	6	7
<b>0th Year (Advance work) Pre-Planting Operation</b>						
1	Survey, Demarcation and Pillar posting	Nov/Dec	2	622	0	622
2	Preparation of Treatment Map (Digital Map)	Nov/Dec	1	311	100	411
3	Site preparation (Cleaning & removal of debris)	Nov/Dec	12	3732	0	3732
4	Creation of 1.00 mt wide Inspection Path	Feb/Mar	1	311	0	311
5	Alignment and stacking of pits	Feb/Mar	1	311	0	311
6	Digging of pits (45 cm x 45 cm X 45 cm) in hard and gravelly soil	Feb/Mar	40	12440	0	12440
7	Construction of Temporary Labour Shed, Drinking water facility and First-Aid etc.	Jan/Mar	0	0	3500	3500
<b>Total</b>			<b>57</b>	<b>17727</b>	<b>3600</b>	<b>21327</b>
<b>1st Year/Planting Year</b>						
1	Refilling of pits by altering the dugout soil of the pits, application of organic compounds/ CIM/ FYM & mixing the same properly.	Jun/Jul	7.5	2332.50	5000	7332.50
2	Transportation of 10 months old polythene bag seedlings in hired truck /tractor from the Permanent/Mega nursery to planting site including loading & unloading. (Average load of 10 Rtn) & stacking the seedling @ Rs.6/- per Seedling. (1100 nos.)	Jul/Aug	0	0	6600	6600
3	Watering polyplot seedlings at planting site	Jul/Aug	2	622	0	622
4	Conveyance of polyplot seedlings on head load from the stacking site to individual dugout pits within the planting site, applying insecticide, fertilizers & planting after scoping the soil with other applied materials & pressing the soil perfectly around the planted seedlings.	Jul/Aug	22.5	6997.50	0	6997.50
5	<b>Cost of Fertilizer &amp; Insecticide</b> (a) NPK/Bio-fertilizer @ 50 gms/plant as basal dose = 50kg @ Rs 30/- per kg = Rs. 1500.00 (b) Urea/Vermicompost/Mo Khata/any other fertilizer in two subsequent doses @ Rs. 750.00 (c) Insecticide/ Bio-pesticide @ 5 gms/plant=5 kg @ Rs.150/- per kg = Rs. 750.00	Jul/Aug	0	0	3000	3000
6	Casualty Replacement @ 10% (100 nos.)	Jul/Aug	2.5	777.5	0	777.5
7	1st weeding & Manuring	Aug/Sept	12	3732	0	3732
8	2nd Weeding, Soil working (1mt. diametre around the plants) & Manuring	Oct/Nov	15	4665	0	4665
9	Fire line tracing (2 m. wide fire line over 400 m long) including maintenance of inspection path	Feb/Mar	3	933	0	933
10	Watch & Ward including watering as per requirement	Aug-Mar	12	3732	0	3732
<b>Total</b>			<b>76.50</b>	<b>23791.50</b>	<b>14600.00</b>	<b>38391.50</b>
<b>2nd Year Maintenance</b>						
1	Transportation of 100 seedlings from Nursery to plantation site including loading, unloading & conveyance by Tractor @ Rs.6/- per seedling.	Jul	0	0	600	600
2	Casualty replacement- 10%	Jul	2.5	777.5	0	777.5
3	<b>Cost of Fertilizer &amp; Insecticide.</b> A) Cost of Insecticide/ Bio-pesticide @ 5 gms/plant = 0.5 Kg @ Rs.150/- per kg = Rs.75/- B) Urea/NPK/Bio-fertilizer/Vermicompost/Mo Khata/any other fertilizer @Rs. 2000/-	July/Aug	0	0	2075	2075
4	Weeding (Complete weeding), Manuring & Soil working (1mt. diametre around the plants)	Sep/Oct	15	4665	0	4665
5	Fire line tracing (2 m. wide fire line over 400 m long) including maintenance of inspection path	Feb/Mar	3	933	0	933
6	Watch & Ward including watering as per requirement	Apr-Mar	10	5500	0	5500
7	Maintenance of Temporary Labour Shed, Drinking water facility and First Aid etc.	Apr-Mar	0	0	1000	1000
<b>Total</b>			<b>38.5</b>	<b>11973.5</b>	<b>4475</b>	<b>16448.5</b>

Sl. No	Items of work	Preferable Period of Execution	No of Mandays	Labour Cost (In Rs.)	Material Cost (In Rs.)	Total cost (In Rs.)
1	2	3	4	5	6	7
<b>3rd Year Maintenance</b>						
1	Cost of Fertilizer(Urea/NPK/Bio-fertilizer/Vermicompost/Mo Khata/any other fertilizer)	July/Aug	0	0	2800	2800
2	Weeding (Complete weeding). Manuring & Soil working (1 mt. diameter around the plants)	Sep/Oct	15	4665	0	4665
3	Fire line tracing (2 m. wide fire line over 400 m long) including maintenance of inspection path	Feb/Mar	3	933	0	933
4	Watch & Ward including watering as per requirement	Apr/Mar	10	5590	0	5590
5	Maintenance of Temporary Labour Shed, Drinking water facility and First Aid etc.	Apr/Mar	0	0	1000	1000
<b>Total</b>			<b>36.0</b>	<b>11196</b>	<b>3800</b>	<b>14996</b>
<b>4th Year Maintenance</b>						
1	Fire line tracing (2 m. wide fire line over 400 m long) including maintenance of inspection path	Feb/Mar	3	933	0	933
2	Watch & Ward including maintenance of vegetative fencing	Apr-Mar	18	5590	0	5590
<b>Total</b>			<b>21</b>	<b>6531</b>	<b>0</b>	<b>6531</b>
<b>5th Year Maintenance</b>						
1	Fire line tracing (2 m. wide fire line over 400 m length)	Feb/Mar	3	933.00	0	933
2	Watch & Ward	Apr/Mar	18	5590.00	0	5590
<b>Total</b>			<b>21</b>	<b>6531</b>	<b>0</b>	<b>6531</b>
<b>6th Year Maintenance</b>						
1	Fire line tracing (2 m. wide fire line over 400 m length)	Feb/Mar	3	933.00	0	933.0
2	Pruning of branches, Singing out of multiple shoots	Jan/Mar	3	933.00	0	933.0
3	Watch & Ward	Apr/Mar	10	5590.00	0	5590.0
<b>Total</b>			<b>24</b>	<b>7464</b>	<b>0</b>	<b>7464.0</b>
<b>7th Year Maintenance</b>						
1	Fire line tracing (2 m. wide fire line over 400 m length)	Feb/Mar	3	933.00	0	933
2	Watch & Ward	Apr/Mar	18	5590.00	0	5590
<b>Total</b>			<b>21</b>	<b>6531</b>	<b>0</b>	<b>6531</b>
<b>8th Year Maintenance</b>						
1	Fire line tracing (2 m. wide fire line over 400 m length)	Feb/Mar	3	933.00	0	933
2	Watch & Ward	Apr/Mar	18	5590.00	0	5590
<b>Total</b>			<b>21</b>	<b>6531</b>	<b>0</b>	<b>6531</b>
<b>9th Year Maintenance</b>						
1	Fire line tracing (2 m. wide fire line over 400 m length)	Feb/Mar	3	933.00	0	933
2	Watch & Ward	Apr/Mar	18	5590.00	0	5590
<b>Total</b>			<b>21</b>	<b>6531</b>	<b>0</b>	<b>6531</b>
<b>10th Year Maintenance</b>						
1	Fire line tracing (2 m. wide fire line over 400 m length)	Feb/Mar	3	933	0	933
3	Watch & Ward	Apr/Mar	18	5590.00	0	5590
<b>Total</b>			<b>21</b>	<b>6531</b>	<b>0</b>	<b>6531</b>
<b>Year wise Abstract of Cost Norm (showing seedling cost separately)</b>						

Sl. No	Items of work	Preferable Period of Execution	No of Mandays	Labour Cost (In Rs.)	Material Cost (In Rs.)	Total cost (In Rs.)	
1	2	3	4	5	6	7	
Sl. No	Year	No. of Mandays	Labour cost (In Rs)	Material Cost(In Rs.)	Monitoring, Evaluation, Learning, Documentation and Other Contingency (5%) of (4+5)	Cost of Seedlings @Rs.50.31 per seedlings	TOTAL COST(In Rs)
1	2	3	4	5	6	7	8
1	0th year	57.0	17727.0	3600.0	973.00	0.00	22300.00
2	1st year	76.5	23791.5	14600.0	1918.50	5534.100	95651.00
3	2nd year	38.5	11973.5	4475.0	821.50	5031.00	22301.00
4	3rd year	36.0	11196.0	3800.0	749.00	0.00	15745.00
5	4th year	21.0	6531.0	0.0	326.00	0.00	6857.00
6	5th year	21.0	6531.0	0.0	326.00	0.00	6857.00
7	6th year	24.0	7464.0	0.0	373.00	0.00	7037.00
8	7th year	21.0	6531.0	0.0	326.00	0.00	6857.00
9	8th year	21.0	6531.0	0.0	326.00	0.00	6857.00
10	9th year	21.0	6531.0	0.0	326.00	0.00	6857.00
11	10th year	21.0	6531.0	0.0	326.00	0.00	6857.00
	<b>Total</b>	<b>358.0</b>	<b>111330.0</b>	<b>26475.0</b>	<b>6791.0</b>	<b>60372.0</b>	<b>204976.0</b>

**Note:**

- 1 Priority must be given to the indigenous local species available nearby to the site of plantation.
- 2 10% indigenous fruit bearing trees must be preferred to Plantation.
- 3 Site specific Soil conservation work like L.BCD, Gully Plugging, Staggered Trench, Contour Trench, Graded Bund, etc. may be taken up
- 4 Chain link fencing can be adopted in the CA plantation taken up outside the forest area and Bamboo twigs fencing may be preferred
- 5 Watering facilities for procurement of water & watering may be adopted as per the availability of water
- 6 The Cost Norms of various items can be changed with the approval of the concerned RCCPs keeping the overall cost norm fixed for each Financial Year

  
 APCCF (Forest Diversion & NO, FC Act)

**Matrix for AR-1000 Plants / Ha**

Sl. NO.	Commencement Year	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	XIII	XIV	XV	XVI	XVII	XVIII	XIX	XX	XI	Total Cost (10 Years)	
	Base Norm	22300	95651	22301	15745	6857	6857	7837	6857	6857	6857	5857												
1	2021-22	22300	100434	24585	18226	8335	8751	10502	9648	10131	10637	11169												234718
2	2022-23		23415	105456	25814	19137	8752	9189	11037	10130	10538	11169	11727											246454
3	2023-24			24586	110729	17105	20094	9190	9648	11578	10537	11170	11727	12313										258777
4	2024-25				25815	116765	28460	21099	9650	10130	10157	11169	11729	12313	12929									271716
5	2025-26					27106	123078	29883	77354	10133	10637	12766	11727	12313	12929	13575								285302
6	2026-27						28461	328182	31377	23067	10640	11169	13403	12313	12929	13575	14254							299567
7	2027-28							25884	334591	32946	10425	11172	13227	14073	12929	13578	14254	14967						314546
8	2028-29								31378	34301	10593	25646	11231	12413	12777	13575	14257	14967	15715					330273
9	2029-30									32847	105387	36373	26928	12313	12929	13516	14254	14973	15715	16501				346788
10	2030-31										14394	15806	36139	28272	12934	13575	16292	14967	15719	16501	17376			364127

Matrix for Model-A Conventional CA Plantation (AR) 1000 plants per Ha

In Rupees

APCCF (Forest Division & NO. FC Act)

**Base Cost Norm for ANR Plantation @500 seedlings per ha (18 months old seedlings)  
@333.00/- Mandays as per revised wage rate by Labour Commissioner, Odisha, Bhubaneswar  
vide Notification No. 6078/LC dated 19.10.2022 and onetime cost norm provided by the PCCF,  
Odisha, Bhubaneswar vide their O.O. No. 1109 dated 08.11.2021 (As per base norm of Matrix  
for the year 2022-23)**

ANNEXURE-7

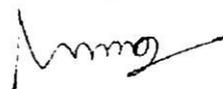
Base Cost Norms for Compensatory Afforestation through Aided Natural Regeneration (ANR) @ 500 Seedlings/Ha.						
WAGE RATE Rs- 311/- PER MANDAY						
Sl. No	Items of work	Preferable Period of Execution	No of Mandays	Labour Cost (In Rs.)	Material Cost (In Rs.)	Total cost (In Rs.)
<b>0th Year (Advance work) Pre-Planting Operation</b>						
1	Survey, Densaration and Pillar posting	Nov/Dec	2	622	0	622
2	Preparation of Treatment Map (Digital Map)	Nov/Dec	1	311	100	411
3	Site preparation	Nov/Dec	2	622	0	622
4	Agricultural operations including clearance of weed, cutting of timber, High stump cutting, stumping of shoots & removal of cut out after drying from the field to blank space.	Jan/Feb	15	4665	0	4665
5	Alignment and stacking for digging of pits	Feb/Mar	1	311	0	311
6	Digging of pits (45 cm x 45 cm X 45 cm) in hard and gravelly soil	Feb/Mar	20	6220	0	6220
Total			41	12751	100	12851
<b>1st Year/Planting Year</b>						
1	Refilling of pits by altering the deposit soil of the pits, application of organic compounds/ CDM/ FYM & mixing the same perfectly.	June/Jul	4	1244	2500	3744
2	Transportation of 18 months old polythene bag seedlings in hired track /tractor from the permanent/ Mega nursery to planting site including loading & unloading. (Average load of 10 Rha) & Stacking the seedling @ Rs.6/ seedling. (550 nos)	Jul/Aug	0	0	3300	3300
3	Watering polythene bag seedlings at stacking site of plantation	Jul/Aug	1	311	0	311
4	Conveyance of polythene bag seedlings on local load from the stacking site to individual dugout pits within the planting site, applying insecticide, fertilizer & planting after scaping the soil with other applied materials and pressing the soil perfectly around the planted seedling	Jul/Aug	11	3421	0	3421
5	Cost of Fertilizer & insecticide (a)NPK/ Bio fertilizer @ 50 gms/plant as basal dose 25kg @ Rs.30/- per kg Rs. 750.0 (b) Urea/Vermicompost/Mo Khata/any other fertilizer @ Rs. 375.00 (c) Insecticide/ Bio pesticide @ 5 gms/plant = 2.5 kg @ Rs. 250/- per kg = Rs. 325/-	Jul/Aug	0	0	1500	1500
6	Casualty Replacement @ 10% (50 nos.)	Jul/Aug	1.5	466.5	0	466.5
7	1st weeding & Manuring	Aug/Sept	5	1555	0	1555

Sl. No	Items of work	Preferable Period of Execution	No of Mandays	Labour Cost (In Rs.)	Material Cost (In Rs.)	Total cost (In Rs.)
8	2nd Weeding, Soil working (1mt. diametre around the plants) & Manuring	Oct/Nov	8	2488	0	2488
9	Fire line tracing & Inspection path	Feb/Mar	3	933	0	933
10	Watch & Ward including watering as per requirement	Apr/Mar	8	2488	0	2488
Total			41.5	12906.5	7300.0	20206.5
<b>2nd Year Maintenance</b>						
1	Transportation of 50 seedlings from Nursery to plantation site including loading, unloading & conveyance by Tractor @ Rs.6/- per seedlings	Jul	0.0	0.0	300.0	300.0
2	Casualty replacement	Jul	1.5	466.5	0.0	466.5
3	Cost of Fertilizer & Insecticide: A) Cost of Insecticide / Bio-pesticide (Thenet/ Forate) @ 5 gms/plant = .25 kg @ Rs.150/- per kg = Rs.37.50 B) Urea/NPK/Bio-fertilizer/Vermicompost/Mo Khata/any other fertilizer = Rs. 1400/-	July/Aug	0	0	1437.5	1437.5
4	Weeding (Complete weeding), Manuring & Soil working, (1mt. diametre around the plants)	Sep/Oct	8	2488	0	2488
5	Fire line tracing (2 m. wide fire line) & Inspection path	Feb/Mar	3	933	0	933
6	Watch & Ward including watering as per requirement	Apr/Mar	12	3732	0	3732
Total			24.5	7619.5	1737.5	9357
<b>3rd Year Maintenance</b>						
3	Cost of Fertilizer Urea/NPK/Bio-fertilizer/Vermicompost/Mo Khata/any other fertilizer = Rs. 1400/-	July/Aug	0	0	1400.0	1400.0
4	Weeding (Complete weeding), Manuring & Soil working, (1mt. diametre around the plants)	Sep/Oct	8	2488	0	2488
5	Fire line tracing (2 m. wide fire line) & Inspection path	Feb/Mar	3	933	0	933
6	Watch & Ward including watering as per requirement	Apr/Mar	12	3732	0	3732
Total			23.0	7153.0	1400.0	8553.0
<b>4th Year Maintenance</b>						
1	Fire line tracing (2 m. wide fire line) & Inspection path	Feb/Mar	3	933	0	933
2	Watch & Ward including watering as per requirement	Apr/Mar	12	3732	0	3732
Total			15	4665	0	4665
<b>5th Year Maintenance</b>						
1	Fire line tracing (2 m. wide fire line over 400 m length)	Feb/Mar	3.0	933.00	0	933
2	Watch & Ward including watering as per requirement	Apr/Mar	12	3732.00	0	3732
Total			15.0	4665.0	0	4665
<b>6th Year Maintenance</b>						
1	Fire line tracing (2 m. wide fire line over 400 m length)	Feb/Mar	3	933.00	0	933
2	Watch & Ward including watering as per requirement	Apr/Mar	12	3732.00	0	3732
Total			15.0	4665.0	0.0	4665.0
<b>7th Year Maintenance</b>						
1	Fire line tracing (2 m. wide fire line over 400 m length)	Feb/Mar	3	933.00	0	933
2	Watch & Ward including watering as per requirement	Apr/Mar	12	3732.00	0	3732
Total			15.0	4665.0	0.0	4665.0
<b>8th Year Maintenance</b>						
1	Fire line tracing (2 m. wide fire line over 400 m length) & cultural operation	Feb/Mar	3	933.00	0	933
2	Watch & Ward including watering as per requirement	Apr/Mar	12	3732.00	0	3732
Total			15.0	4665.0	0.0	4665.0
<b>9th Year Maintenance</b>						
1	Fire line tracing (2 m. wide fire line over 400 m length)	Feb/Mar	3	933.00	0	933
2	Watch & Ward including watering as per requirement	Apr/Mar	12	3732.00	0	3732
Total			15.0	4665.0	0.0	4665.0
<b>10th Year Maintenance</b>						
1	Fire line tracing (2 m. wide fire line over 400 m length)	Feb/Mar	3	933.00	0	933
2	Watch & Ward including watering as per requirement	Apr/Mar	12	3732.00	0	3732
Total			15.0	4665.0	0.0	4665.0
<b>Year wise Abstract of Cost Norm (showing seedling cost separately)</b>						

Sl. No	Items of work	Preferable Period of Execution	No of Mandays	Labour Cost (In Rs.)	Material Cost (In Rs.)	Total cost (In Rs.)	
Sl. No	Year	No. person days	Labour cost @ Rs. 311/-per day (Rs)	Material Cost	Monitoring Evaluation, Learning, Documentation and Other Contingency (5%) of (4+5)	Cost of Seedlings @Rs.50.31 per seedlings	TOTAL COST
1	2	3	4	5	6	7	8
1	0th year	11	12751.0	100.0	549.00	0.00	13400.00
2	1st year	41.5	12966.5	7300.0	993.50	27671.00	48871.00
3	2nd year	24.5	7619.5	1737.5	443.00	2516.00	12316.00
4	3rd year	23.0	7153.0	1400.0	347.00	0.00	8900.00
5	4th year	15	4665.0	0.0	135.00	0.00	4800.00
6	5th year	15	4665.0	0.0	135.00	0.00	4800.00
7	6th year	15	4665.0	0.0	135.00	0.00	4800.00
8	7th year	15	4665.0	0.0	135.00	0.00	4800.00
9	8th year	15	4665.0	0.0	135.00	0.00	4800.00
10	9th year	15	4665.0	0.0	135.00	0.00	4800.00
11	10th year	15	4665.0	0.0	135.00	0.00	4800.00
	<b>Total:</b>	<b>235.0</b>	<b>73085.0</b>	<b>10537.5</b>	<b>3277.5</b>	<b>30187</b>	<b>117687.00</b>

Note:

- 1 Priority must be given to the indigenous local species available nearby to the site of plantation
- 2 10% indigenous fruit bearing trees must be preferred to Plantation.
- 3 Site specific soil conservation work like L.J.C.I, Gully Plugging, Staggered Trench, Contour Trench, Graded Road, etc. may be taken up
- 4 Chain link fencing can be adopted in the CA plantation taken up outside the forest area and Bamboo logs fencing may be preferred to CA plantations
- 5 Watering facilities for procurement of water & watering may be adopted as per the availability of water.
- 6 The Cost Norm of various items can be changed with the approval of the concerned B.C.C's keeping the overall cost norm fixed for each Financial Year

  
APCCF (Forest Diversion & NO, FC Act)

**Matrix for ANR-500 Plants / Ha**

Matrix for Model-II A (ANR-500 Plants/ Ha)

Sl. NO.	Commencement Year	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	XIII	XIV	XV	XVI	XVII	XVIII	XIX	XX	XII	Total Cost	
	Base Norm	13400	48871	12316	8900	4800	4800	4800	4800	4800	4800	4800												
1	2021-22	13400	51315	13577	10303	5834	6126	6432	6754	7092	7446	7819												136098
2	2022-23		14070	53881	14256	10818	6126	6432	6754	7092	7447	7818	8210											142904
3	2023-24				14774	56575	11359	6432	6754	7092	7447	7819	8239	8621										150051
4	2024-25					15513	59404	15717	11957	7392	7447	7819	8210	8619	9057									157554
5	2025-26						15289	62374	16503	7080	7447	7819	8210	8621	9050	9505								165433
6	2026-27							17103	65493	17318	13159	7447	7819	8210	8621	9052	9503	9980						173705
7	2027-28								17958	68765	18194	13806	7819	8210	8621	9052	9505	9978	10479					182390
8	2028-29									18856	71126	19104	14496	8210	8621	9052	9505	9980	10477	11003				191510
9	2029-30										19799	75816	70055	15121	8621	9052	9505	9980	10479	11001	11553			201086
10	2030-31											20799	79607	21562	13562	9052	9505	9980	10479	11003	11551	12131		211141

In Rupees

APCCF (Forest Diversion & NO. FC Act)

**Base Cost Norm for ANR Plantation @200 seedlings per ha (18 months old seedlings)  
@333.00/- Mandays as per revised wage rate by Labour Commissioner, Odisha, Bhubaneswar  
vide Notification No. 6078/LC dated 19.10.2022 and onetime cost norm provided by the PCCF,  
Odisha, Bhubaneswar vide their O.O. No. 1109 dated 08.11.2021 (As per base norm of Matrix  
for the year 2022-23)**

ANNEXURE-6						
Base Cost Norms for Compensatory Afforestation through Aided Natural Regeneration (ANR) @ 200 Seedlings/Ha. (18 months old seedling)						
WAGE RATE Rs- 311/- PER MANDAY						
Sl. No	Items of work	Preferable Period of Execution	No of Mandays	Labour Cost (In Rs.)	Material Cost (In Rs.)	Total cost (In Rs.)
<b>0th Year (Advance work) Pre-Planting Operation</b>						
1	Survey, Demarcation and Pillar posting	Nov/Dec	2	622	0	622
2	Preparation of Treatment Map (Digital Map)	Nov/Dec	1	311	100	411
3	Site preparation	Nov/Dec	2	622	0	622
4	Silvicultural operations including clearance of weed, cutting of climber, High stump cutting, singling of shoots & removal of cut out after drying from the field to blank space.	Jan/Feb	15	4665	0	4665
5	Alignment and stacking for digging of pits	Feb/Mar	1.5	156	0	156
6	Digging of pits (45 cm x 45 cm X 45 cm) in hard and gravelly soil	Feb/Mar	8	2488	0	2488
<b>Total</b>			<b>28.5</b>	<b>8863.5</b>	<b>100.0</b>	<b>8963.5</b>
<b>1st Year/Planting Year</b>						
1	Refilling of pits by altering the dugout soil of the pits, application of organic compounds/ CDM/ FYM & mixing the same perfectly.	June/Jul	1.5	466.5	1000	1467
2	Transportation of 18 months old polythene bag seedlings in hired truck /tractor from the permanent/Mega nursery to planting site including Loading & unloading (Average lead of 10 Rkm) & Stacking the seedling @ Rs.6/-/ Seedling. (220 nos.)	Jul/Aug	0	0	1320	1320
3	Watering polythene bag seedlings at stacking site of plantation	Jul/Aug	0.5	155.5	0	156
4	Conveyance of polythene bag seedlings on head load from the stacking site to individual dugout pits within the planting site, applying insecticide, fertilizer & planting after scooping the soil with other applied materials and pressing the soil perfectly around the planted seedling.	Jul/Aug	4.5	1399.5	0	1400
5	Cost of Fertilizer & Insecticide (a) NPK/ Bio-fertilizer @ 50 gms/plant as basal dose = 10kg @ Rs.30/- per kg = Rs. 300.0 (b) Urea/Vermicompost/Mo Khata/any other fertilizer @ Rs. 150.00 (c) Insecticide/ Bio-pesticide @ 5 gms/plant= 1 kg @ Rs.150/- per kg = Rs. 150/-	Jul/Aug	0	0	600	600
6	Casualty Replacement @ 10% (20 nos.)	Jul/Aug	0.5	156	0	156
7	1st weeding & Manuring	Aug/Sept	2	622	0	622
8	2nd Weeding, Soil working (1mt. diameter around the plants) & Manuring	Oct/Nov	3	933	0	933
9	Fire line vearing & Inspection path	Feb/Mar	3	933	0	933
10	Watch & Ward including watering as per requirement	Aug-Mar	8	2488	0	2488
<b>Total</b>			<b>23</b>	<b>7153</b>	<b>2920</b>	<b>10073</b>
<b>2nd Year Maintenance</b>						

Sl. No	Items of work	Preferable Period of Execution	No of Mandays	Labour Cost (In Rs.)	Material Cost (In Rs.)	Total cost (In Rs.)
1	Transportation of 20 seedlings from Nursery to plantation site including loading, unloading & conveyance by Tractor @ Rs.6/- per seedling	Jul	0	0	120	120
2	Planting for casualty replacement	Jul	0.5	155.5	0.0	155.5
3	Cost of Fertilizer & Insecticide: A) Cost of Insecticide/ Bio- pesticide (Themet/ Forate) @ 5 gms/plant = 0.1 Kg @ Rs.150/- per kg = Rs.15/- B) Urea/NPK/Bio-fertilizer/Vermicompost/Mo Khata/any other fertilizer= Rs. 560/-	Jul	0	0	575	575
4	Weeding (Complete weeding), Manuring & Soil working, (1mt. diametre around the plants)	Sep/Oct	4	1244	0.0	1244
5	Fire line tracing (2 m. wide fire line over 400 m long) & Inspection path	Feb/Mar	3	933	0.0	933
6	Watch & Ward including watering as per requirement	Apr/Mar	12	3732	0.0	3732
<b>Total</b>			<b>19.5</b>	<b>6064.5</b>	<b>695.0</b>	<b>6759.5</b>
<b>3rd Year Maintenance</b>						
3	Cost of Fertilizer:- Urea/NPK/Bio-fertilizer/Vermicompost/Mo Khata/any other fertilizer= Rs. 560/-	Sep/Oct	0	0	560	560
4	Weeding (Complete weeding), Manuring & Soil working, (1mt. Diametre around the plants)	Aug/Sep	4	1244	0	1244
5	Fire line tracing (2 m. wide fire line over 400 m long) & Inspection path	Feb/Mar	3	933	0	933
6	Watch & Ward including watering as per requirement	Apr/Mar	12	3732		3732
<b>Total</b>			<b>19.0</b>	<b>5909.0</b>	<b>560.0</b>	<b>6469.0</b>
<b>4th Year Maintenance</b>						
1	Fire line tracing (2 m. wide fire line over 400 m long) & Inspection path	Feb/Mar	3	933	0	933
2	Watch & Ward including watering as per requirement	Apr/Mar	12	3732	0	3732
<b>Total</b>			<b>15</b>	<b>4665</b>	<b>0</b>	<b>4,665</b>
<b>5th Year Maintenance</b>						
1	Fire line tracing (2 m. wide fire line over 400 m length) & inspection path	Feb/Mar	3	933.00	0	933
2	Watch & Ward including watering as per requirement	Apr/Mar	12	3732.00	0	3732
<b>Total</b>			<b>15.0</b>	<b>4665.0</b>	<b>0</b>	<b>4665</b>
<b>6th Year Maintenance</b>						
1	Fire line tracing (2 m. wide fire line over 400 m length) & inspection path	Feb/Mar	3	933.00	0	933
2	Watch & Ward including watering as per requirement	Apr/Mar	12	3732.00	0	3732
<b>Total</b>			<b>15.0</b>	<b>4665.0</b>	<b>0.0</b>	<b>4665.0</b>
<b>7th Year Maintenance</b>						
1	Fire line tracing (2 m. wide fire line over 400 m length) & inspection path	Feb/Mar	3	933.00	0	933
2	Watch & Ward including watering as per requirement	Apr/Mar	12	3732.00	0	3732
<b>Total</b>			<b>15.0</b>	<b>4665.0</b>	<b>0.0</b>	<b>4665.0</b>
<b>8th Year Maintenance</b>						

Sl. No	Items of work	Preferable Period of Execution	No of Mandays	Labour Cost (In Rs.)	Material Cost (In Rs.)	Total cost (In Rs.)
1	Fire line tracing (2 m. wide fire line over 400 m length) & inspection path	Feb/Mar	3	933.00	0	933
2	Watch & Ward including watering as per requirement	Apr/Mar	12	3732.00	0	3732
Total			15.0	4665.0	0.0	4665.0

**9th Year Maintenance**

1	Fire line tracing (2 m. wide fire line over 400 m length) & inspection path	Feb/Mar	3	933.00	0	933
2	Watch & Ward including watering as per requirement	Apr/Mar	12	3732.00	0	3732
Total			15.0	4665.0	0.0	4665.0

**10th Year Maintenance**

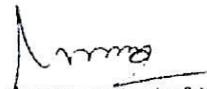
1	Fire line tracing (2 m. wide fire line over 400 m length) & inspection path	Feb/Mar	3	933.00	0	933
2	Watch & Ward including watering as per requirement	Apr/Mar	12	3732.00	0	3732
Total			15.0	4665.0	0.0	4665.0

**Year wise Abstract of Cost Norm (showing seedling cost separately)**

Sl. No	Year	No. person days	Labour cost @ Rs. 311/-per day (Rs)	Material Cost (In Rs.)	Monitoring Evaluation, Learning, Documentation and Other Contingency (5%) of (4+5+6)	Cost of Seedlings @Rs.50.31 per seedlings	TOTAL COST
1	2	3	4	5	7	6	8
1	0th year	28.5	8863.5	100	436.50	0.00	9400.0
2	1st year	23.0	7153.0	2920	427.00	11068.00	21568.0
3	2nd year	19.5	6064.5	695	240.50	1006.00	8006.0
4	3rd year	19.0	5909.0	560	231.00	0.00	6700.0
5	4th year	15.0	4665.0	0	135.00	0.00	4800.0
6	5th year	15.0	4665.0	0	135.00	0.00	4800.0
7	6th year	15.0	4665.0	0	135.00	0.00	4800.0
8	7th year	15.0	4665.0	0	135.00	0.00	4800.0
9	8th year	15.0	4665.0	0	135.00	0.00	4800.0
10	9th year	15.0	4665.0	0	135.00	0.00	4800.0
11	10th year	15.0	4665.0	0	135.00	0.00	4800.0
Total:		195.0	60645.0	4275.0	2280.0	12074	79274.0

Note:

- 1 Priority must be given to the indigenous local species available nearby to the site of plantation.
- 2 10% indigenous fruit bearing trees must be preferred in Plantation.
- 3 Site specific Soil conservation work like LBCC, Gully Plugging, Staggered Trench, Contour Trench, Graded Bund, etc. may be taken up
- 4 Chain link fencing can be adopted in the CA plantation taken up outside the forest area and Bamboo twigs fencing may be preferred to CA plantations taken up in degraded forest area.
- 5 Watering facilities for procurement of water & watering may be adapted as per the availability of water.
- 6 The Cost Norm of various items can be changed with the approval of the concerned RCEF's keeping the overall cost norm fixed for each Financial Year

  
 APCCF (Forest Division & NO, FC Act)

**Matrix for ANR-200 Plants / Ha**

Sl. NO.	Commencement Year	In Rupees																				Total Cost		
		I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	XIII	XIV	XV	XVI	XVII	XVIII	XIX	XX		XXI	
	Base Norm	9400	21568	8006	6700	4800	4800	4800	4800	4800	4800	4800	4800	4800	4800	4800	4800	4800	4800	4800	4800	4800		
1	2021-22	9400	22646	8826	7756	5834	6126	6432	6754	7092	7446	7819											96131	
2	2022-23		9810	23778	9267	8144	6126	6432	6754	7092	7447	7818	3210											100938
3	2023-24			10364	24967	9730	8551	6432	6754	7092	7447	7819	3208	9621										105985
4	2024-25				10882	26215	10277	8979	6754	7092	7447	7819	3210	9621	9052									112286
5	2025-26					11426	27526	10728	9428	7092	7447	7819	3210	9621	9050	9305								116852
6	2026-27						11967	28902	11264	9899	7447	7819	3210	9621	9052	9303	9880							122694
7	2027-28							12597	30347	11827	10336	7819	3210	9621	9052	9305	9978							128829
8	2028-29								13227	31864	10848	10814	3210	9621	9052	9305	9980							135271
9	2029-30									13898	33457	13339	12463	9621	9052	9305	9980							142035
10	2030-31										14582	35130	13691	10033	9052	9305	9980	10479	11003	11553	12131			149137

Matrix for ANR-200 Plants/ Ha

APCC (Forest Division & NO, FC Act)

**Cost Norms for Creation of Compensatory Afforestation with Stabilization of Soil  
Moisture Conservation (SMC)**

Annexure-11			
Cost Norms for creation of Compensatory Afforestation with Stabilization of Soil & Conservation of Moisture (1000)			
WAGE RATE Rs- 311/- PER DAY			
Sl.No	Item of Works	Preferable Period of Execution	Total Cost
0th Year (Pre-Planting Operation)			
1	Nil		0
1st Year			
2	Soil Conservation measure structures like Staggered Trench, Percolation pit, Contour trench, Graded earthen bund, LBCD, Wire mesh LBCD, Sub surface Dyke & WIS as per the slope & site requirement on LS	Apr/Sept.	20,215
2nd Year			
3	Maintenance of SMC structures @ 15 % of initial year cost	Apr/Jul	3,032
3rd Year			
4	Maintenance of SMC structures @ 15 % of initial year cost	Apr/Jul	3,032
4th Year			
5	Maintenance of SMC structures @ 15 % of initial year cost	Apr/Jul	3,032
4th Year			
5	Maintenance of SMC structures @ 15 % of initial year cost	Apr/Jul	3,032
<b>Total</b>			<b>32,343.0</b>

Abstract					
Sl. No	Year	No. person days	Labour cost @ Rs. 311/-per day	Material Cost	Total cost (Rs.)
1	0th year	0.0	0.0	0.0	0.0
2	1st year	0.0	0.0	20,215.0	20,215.00
3	2nd year	0.0	0.0	3,032.00	3,032.00
4	3rd year	0.0	0.0	3,032.00	3,032.00
5	4th year	0.0	0.0	3,032.00	3,032.00
6	5th year	0.0	0.0	3,032.00	3,032.00
<b>Total</b>		<b>0.00</b>	<b>0.00</b>	<b>32,343.0</b>	<b>32,343.0</b>

Different types of SMC structures may be taken up as per the scope & requirements of the plantation site out of the design & specification of different structures annexed along this document.

  
 M. V. M. G.  
 APCCF (Forest Division & NO, FC Act)

**Matrix for (SMC)**

Sl. NO.	Commencement Year	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	XIII	XIV	XV	XVI	Total Cost
	Base Norm	0	20215	3032	3032	3032	3032											
1	2021-22	0	22276	3342	3510	3565	3870											35633
2	2022-23		0	22287	3509	3686	3859	4054										37415
3	2023-24			0	23401	2692	3870	4062	4257									39284
4	2024-25				0	24572	3868	4054	4255	4450								41248
5	2025-26					0	25800	4051	4257	4478	4702							43310
6	2026-27						0	27030	4262	4480	4702	4930						45475
7	2027-28							0	28445	4477	4702	4937	5156					47749
8	2028-29								0	29867	4702	4939	5184	5445				50136
9	2029-30									0	31380	4935	5186	5442	5717			52642
10	2030-31										0	31918	5183	5445	5715	5993		55274

Matrix for (SMC)

In Rupees

APCCF (Forest Diversion & NO. FC Act)

### Fencing Model F-II

## Fencing for Compensatory Plantation raised outside the Forest Areas using Angle Iron & Chain Link wire mesh

Fencing Model-F-II						
Fencing for Compensatory Plantation raised outside the Forest Areas using Angle Iron & Chain Link wire mesh (250 Rmt/Ha.)						
WAGE RATE Rs- 311/- PER DAY						
Sl. No	Items of work	Preferable Period of Execution	Man days	Wages	Material cost (Rs)	Total Cost (Rs. per Ha.)
<b>0th Year (PPD)</b>						
1	Earth work (excavation of line) in Ha/2 sec. at a distance 3 mt. 0.40m x 0.40m x 0.40m - 0.064 x 84 = 5.376 cum @ Rs. 140/ cum Rs. 754		2.42	757.62	0.00	752.6
2	Cement concrete (1:4:10) using 40 mm BHC metal. 84 X 0.40m X 0.40m X 0.10m - 1.344 @ 3755.94/cum		0	0	5,047.4	5,047.4
3	Angle iron pole of size 50 mm X 50 mm X 6 mm of height 2.40 mt. 84 x 2.40 = 201.60 Sqmt. @ 4.50/kg/ Sqmt. = 907.20 kg @ 69.50 per kg.				63,050.0	63,050.0
4	Cement concrete (1:2:4) for fixing the iron angle pole using 12mm BHC Chips. 84 X 0.40m X 0.40m X 0.30m - 4.032 cum @ 5486.77/cum				22,123.0	22,123.0
5	Cost of Chain link mesh using 4 mm Dia GI wire having gap size 50 mm X 50 mm. 250 Rmt X 2.10 mt. = 525 Sq mt @ 331/Sqmt = Rs. 1,73,775				1,73,775.0	1,73,775.0
6	Double coat painting of iron angle pole over a coat of primer using good quality emulsion paint. 84 x 2.10 x 0.20 = 35.28 sqmt. @ Rs. 108.00/Sqmt				3,830.0	3,830.0
7	Painting of chain link mesh. 250 x 2.10 x 2 = 1050/10 = 105 Sqmt. @ Rs. 108.00 Sqmt.				11,424.0	11,424.0
8	Transportation of Chain link mesh, Iron angle, Straightening & fixing of chain link mesh etc. @ 2% of the total cost.				5,600.0	5,600.0
<b>TOTAL</b>			<b>2.42</b>	<b>752.62</b>	<b>2,84,857.4</b>	<b>2,85,610.0</b>
Rate per running mt. 2,85,610/ 250 = Rs. 1142/Rmt						
<b>1st Year Maintenance</b>						
1	No Maintenance is required.	Sept./Oct	0	0	0	0
<b>2nd Year Maintenance</b>						
1	Maintenance of wire mesh fence @ 1% per running mt. cost of installation in 1st yr. 1142x 1% = 11.42 say Rs. 11	Sept./Oct	0	0	11000	11000
<b>3rd Year Maintenance</b>						
1	Maintenance of wire mesh fence @ 1% per running mt. cost of installation in 1st yr. 1142x 1% = 11.42 say Rs. 11	Sept./Oct	0	0	11000	11000
<b>4th Year Maintenance</b>						
1	Maintenance of wire mesh fence @ 1% per running mt. cost of installation in 1st yr. 1142x 1% = 11.42 say Rs. 11	Sept./Oct	0	0	11000	11000
<b>5th Year Maintenance</b>						
1	Maintenance of wire mesh fence @ 1% per running mt. cost of installation in 1st yr. 1142x 1% = 11.42 say Rs. 11	Sept./Oct	0	0	11000	11000
<b>6th Year Maintenance</b>						
1	Maintenance of wire mesh fence @ 1% per running mt. cost of installation in 1st yr. 1142x 1% = 11.42 say Rs. 11	Sept./Oct	0	0	11000	11000
<b>7th Year Maintenance</b>						
1	Maintenance of wire mesh fence @ 1% per running mt. cost of installation in 1st yr. 1142x 1% = 11.42 say Rs. 11	Sept./Oct	0	0	11000	11000
<b>8th Year Maintenance</b>						
1	Maintenance of wire mesh fence @ 1% per running mt. cost of installation in 1st yr. 1142x 1% = 11.42 say Rs. 11	Sept./Oct	0	0	11000	11000
<b>9th Year Maintenance</b>						
1	Maintenance of wire mesh fence @ 1% per running mt. cost of installation in 1st yr. 1142x 1% = 11.42 say Rs. 11	Sept./Oct	0	0	11000	11000
<b>10th Year Maintenance</b>						

Sl. No	Items of work	Preferable Period of Execution	Man days	Wages	Material cost (Rs)	Total Cost (Rs. per Ha.)
1	Maintenance of wire mesh fence @ 1% per running mt. cost of installation in 1st yr. 1142x 1% = 1142 say Rs. 11	Sept./Oct	0	0	11000	11000

**Abstract**

Sl. No	Year	No. person days	Labour cost @ Rs. 311/- per day	Material Cost	Total cost (Rs.)
1	0th year	2.42	752.6	204057.4	205610.0
2	1st year	0.0	0.0	0.0	0.0
3	2nd year	0.0	0.0	11000.0	11000.0
4	3rd year	0.0	0.0	11000.0	11000.0
5	4th year	0.0	0.0	11000.0	11000.0
6	5th year	0.0	0.0	11000.0	11000.0
7	6th year	0.0	0.0	11000.0	11000.0
8	7th year	0.0	0.0	11000.0	11000.0
9	8th year	0.0	0.0	11000.0	11000.0
10	9th year	0.0	0.0	11000.0	11000.0
11	10th year	0.0	0.0	11000.0	11000.0
<b>Total:</b>		<b>2.42</b>	<b>752.62</b>	<b>383857.4</b>	<b>3,84,610.0</b>

  
 APCZF (Forest Diversion & NO, FC Act)

**Matrix for Model-F-II Fencing (Angle Iron & Chain Link wire mesh)**

Matrix for Fencing Model-F-II (Iron angle with Chainlink wire mesh)

Sl. No.	Year	Category	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	XIII	XIV	XV	XVI	XVII	XVIII	XIX	XX	XXI	Total Cost
		Base Norm	285510	0	11000	11000	11000	11000	11000	11000	11000	11000	11000	11000	11000	11000	11000	11000	11000	11000	11000	11000	11000	419331
1	2021-22	185610			11000	11000	11000	11000	11000	11000	11000	11000	11000	11000	11000	11000	11000	11000	11000	11000	11000	11000	11000	419331
2	2022-23																							420299
3	2023-24																							462316
4	2024-25																							485432
5	2025-26																							509705
6	2026-27																							535191
7	2027-28																							561951
8	2028-29																							589049
9	2029-30																							619553
10	2030-31																							650531

In Rupees

AFCCE (Forest Division & NO, FC Act)

## Watering Model – W-II

### Watering Provision to CA Plantation

Watering Model W-II			
Watering provision to CA Plantation			
Diesel pump set with Bore well (1 pump set + Bore well for 5 Ha Plantation), Wage rate @ Rs.311/-			
Year of Installation (0th Year)			
1	Cost of Borewell	1,50,000	
2	Cost of Diesel pump set SHP	60,000	
3	Diesel pump set & accessories like commander, Pipes, etc.	30,000	
4	Water Storage Tanks/ Flexible pipes	15,000	
		2,55,000	
Cost of Water per Plant (2,55,000/ 5000) = Rs. 51/-			51,000
Cost of Water per Ha. = Rs. 51,000/-			
1st Year Watering			
1	Recurring expenditure i.e Diesel, Mobil, Engine Oil, etc. for pumping Water -21 x 1000-		21,000
2	Watering 1000 Plants (Nov-Mar.) @ 200 plants/MI with 7 days rotation 20 MI x 5 months = 100 MI x 311 =		31,100
			<b>Total</b>
			<b>52,100</b>
2nd Year Watering			
1	Recurring expenditure i.e Diesel, Mobil, Engine Oil, etc. for pumping Water -21 x 1000-		21,000
Maintenance Diesel pump set etc. @ 15 % of the installation cost.			7,650
2	Watering 1000 Plants (April- June & Nov-Mar. - 8 months) @ 200 plants/MD with 7 days rotation 20 MD x 8 months = 160 MD x 311 =		49,760
			<b>Total</b>
			<b>78,410</b>
3rd Year Watering			
1	Recurring expenditure i.e Diesel, Mobil, Engine Oil, etc. for pumping Water -21 x 1000-		21,000
Maintenance Diesel pump set etc. @ 15 % of the installation cost.			7,650
2	Watering 1000 Plants (April- June & Nov-Mar. - 8 months) @ 200 plants/MD with 7 days rotation 20 MI x 8 months = 160 MD x 311 =		49,760
			<b>Total</b>
			<b>78,410</b>
4th Year Watering			
1	Recurring expenditure i.e Diesel, Mobil, Engine Oil, etc. for pumping Water -21 x 1000-		21,000
Maintenance Diesel pump set etc. @ 15 % of the installation cost.			7,650
2	Watering 1000 Plants (April- June & Nov-Mar. - 8 months) @ 200 plants/MD with 7 days rotation 20 MI x 8 months = 160 MD x 311 =		49,760
			<b>Total</b>
			<b>78,410</b>
5th Year Watering			
1	Recurring expenditure i.e Diesel, Mobil, Engine Oil, etc. for pumping Water -21 x 1000-		21,000
Maintenance Diesel pump set etc. @ 15 % of the installation cost.			7,650
2	Watering 1000 Plants (April- June & Nov-Mar. - 8 months) @ 200 plants/MD with 7 days rotation 20 MI x 8 months = 160 MD x 311 =		49,760
			<b>Total</b>
			<b>78,410</b>

Abstract					
Sl. No	Year	No. person days	Labour cost @ Rs. 311/- per day	Material Cost	Total cost (Rs.)
1	0th year	0	0.0	51000.0	51000.0
2	1st year	100.0	31100.0	21000.0	52100.0
3	2nd year	160	49760.0	28650.0	78410.0
4	3rd year	160	49760.0	28650.0	78410.0
5	4th year	160	49760.0	28650.0	78410.0
6	5th year	160	49760.0	28650.0	78410.0
<b>Total:</b>		<b>740</b>	<b>230140</b>	<b>186600</b>	<b>4,16,740</b>

  
 APCCF (Forest Diversification & NO, FC Act)

**Matrix for Watering Model -W-II (Diesel Pumpset Fitted with Borewell) per Ha**

Matrix for Watering Model-W-II (Diesel Pumpset Fitted with Borewell) per Ha

Sl. NO.	Commencement Year	In Rupees																Total Cost	
		I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	XIII	XIV	XV	XVI		
	Base Norm	5100	52100	78410	78410	78410	78410												
1	2021-22	51000	54705	86439	90771	95307	100072												478294
2	2022-23		53550	57420	90761	95310	100072	105076											502209
3	2023-24			56228	90312	95399	100076	105076	110330										527321
4	2024-25				59039	63328	100064	105080	110330	115847									553668
5	2025-26					61991	66494	105067	110334	115847	121639								581372
6	2026-27					64792	69419	110330	115851	121639	127722								610441
7	2027-28						68346	73310	110336	115836	121644	127722	133107						640964
8	2028-29							71763	75976	121628	127726	133107	140817						673012
9	2029-30								75351	80925	117729	133113	140817	147853					706662
10	2030-31									79119	84866	134094	140818	147853	155245				741996

ARCCF (Forest Diversion & NO, FC Act)

## TOTAL COST OF PROJECT

### A. PLANTATION ACTIVATES: (To be deposited in Ad-hoc CAMPA)

S. No	Item of Work	Unit price	In Rupees
1	Cost of Base Norm for AR plantation @1000 plants/ ha (Year 2022-2023)	246454.00 x 92.946 ha	22906913.48
2	Cost of Base Norm for ANR plantation @500 plants/ ha (Year 2022-2023)	142904 x 74.237 ha	10608764.24
3	Cost of Base Norm for ANR plantation @200 plants/ ha (Year 2022-2023)	100938 x 2.00 ha	201876.00
4	Cost of Soil Moisture Conservation (SMC) (2022-2023)	37415.00 x 183.722 ha	6873958.63
5	Cost of Fencing Angle Iron & Chain Link wire mesh (2022-2023)	440289.00 x 183.722 ha	80890775.65
6	Cost of 18 nos. borewell for watering (one diesel pump set fitted with borewell for 5 ha plantation) (2022-2023)	502209.00 x 18 Nos.	9039762.00
	<b>Grand Total- (A)</b>		<b>130522050.00</b> <b>Or say</b> <b>13,05,22,100.00</b>

**(Rupees thirteen crore five lakh twenty-two thousand one hundred)**

*Note: There are small streams and existing water bodies nearby the ACA sites. Hence, 01 borewell per 10 ha would be sufficient for watering.*

### B. INFRASTRUCTURE: (To be provided in kind)

7	Construction of boundary wall of Denua Central Nursery under Patna Range	10,00,000.00 (On LS)	1000000.00
8	Cost of 1 nos. borewell for watering (one diesel pump set fitted) at Denua Central Nursery under Patna Range	5,00,000.00 (On LS)	500000.00
	<b>Grand Total- B</b>		<b>1500000.00</b>

**(Rupees fifteen lakh)**

## PROVISION OF FUNDS AND FUND UTILIZATION

**Rs. 13,05,22,100/-** (Rupees thirteen crore five lakh twenty-two thousand one hundred) only shall be deposited by the User Agency i.e. M/s Rungta Mines Ltd on approval of the scheme to the Ad-hoc CAMPA Account and the funds will be utilized for raising of Compensatory Afforestation by the Divisional Forest Officer, Keonjhar Division on allotment by the Principal Chief Conservator of Forests, Odisha, Bhubaneswar.

  
Divisional Forest Officer,  
Keonjhar Division

## CHAPTER- VII

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

Addl. Compensatory Afforestation will be taken up in the identified site by the Range Officer, Keonjhar & Patna Range of Keonjhar Division. The Range Forest Officer, Keonjhar & Patna Range will undertake field checks of the works undertaken at the identified site and will be cross checked by the Asst. Conservator of Forests, (Affn.) and Divisional Forest Officer, Keonjhar Division. GPS co-ordinates along with other required informations of Addl. Compensatory Afforestation will be uploaded in the e-Green watch Portal of NIC, MoEF, Govt. of India for the purpose of online monitoring. Annual progress of plantation involving growth of planted seedlings, survival percentage etc. will be monitored and recorded in the plantation journal by the field staffs of Keonjhar & Patna Range and reported to the Divisional Forest Officer for necessary action. The same thing will be reported to the Regional Chief Conservator of Forests, Rourkela Circle and Chief Conservator of Forests (PP&A), O/o the Pr. Chief Conservator of Forests, Odisha, Bhubaneswar and necessary corrective measures will be followed if required so.

  
**Divisional Forest Officer,  
Keonjhar Division**

## CERTIFICATE ON DSS ANALYSIS FOR CA/ACA/PCA

This is to certify that DSS Analysis of land identified for CA/ ACA/ PCA and subsequent ground truthing have been done. The outcome is as mentioned below-

Sl. No.	Name of Range	Name of the Forest Block (RF/PRF/PF/DPF/Revenue Forest)	Area identified for CA/ ACA/ PCA (in ha)	Classification of identified land (in ha)					Area suitable for plantation (in ha)			Plantation model (AR/ANR)	Remarks			
				Very Dense Forest	Moderately Dense Forest	Open Forest	Non-forest	Scrub	Water	Total	Open Forest			Non-forest	Scrub	Total
1	Keonjhar	Jadipada RF	ACA	0	0	20	74	0	0	0	94	20	74	0	94	Total plantation area is <b>183.722</b> ha in both Range
2	Patna	Jadipada RF	ACA	0	2	26	64	0	0	0	92	26	64	0	90	
		<b>Total</b>			<b>2</b>	<b>46</b>	<b>138</b>	<b>0</b>	<b>0</b>	<b>186</b>	<b>46</b>	<b>138</b>	<b>0</b>	<b>184</b>		

  
 Divisional Forest Officer,  
 Keonjhar Division.

Countersigned

Regional Chief Conservator of Forests,  
Rourkela Circle

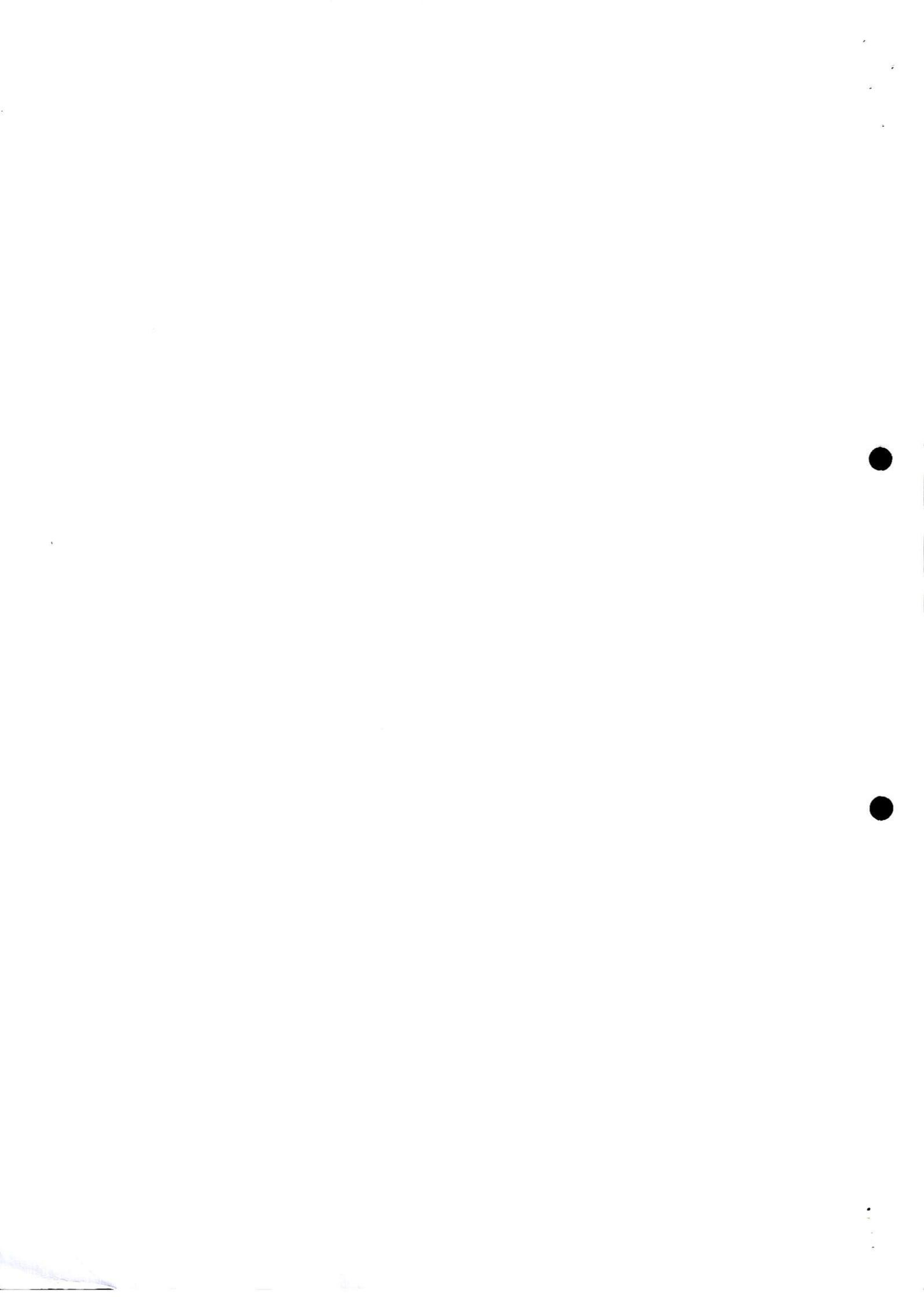
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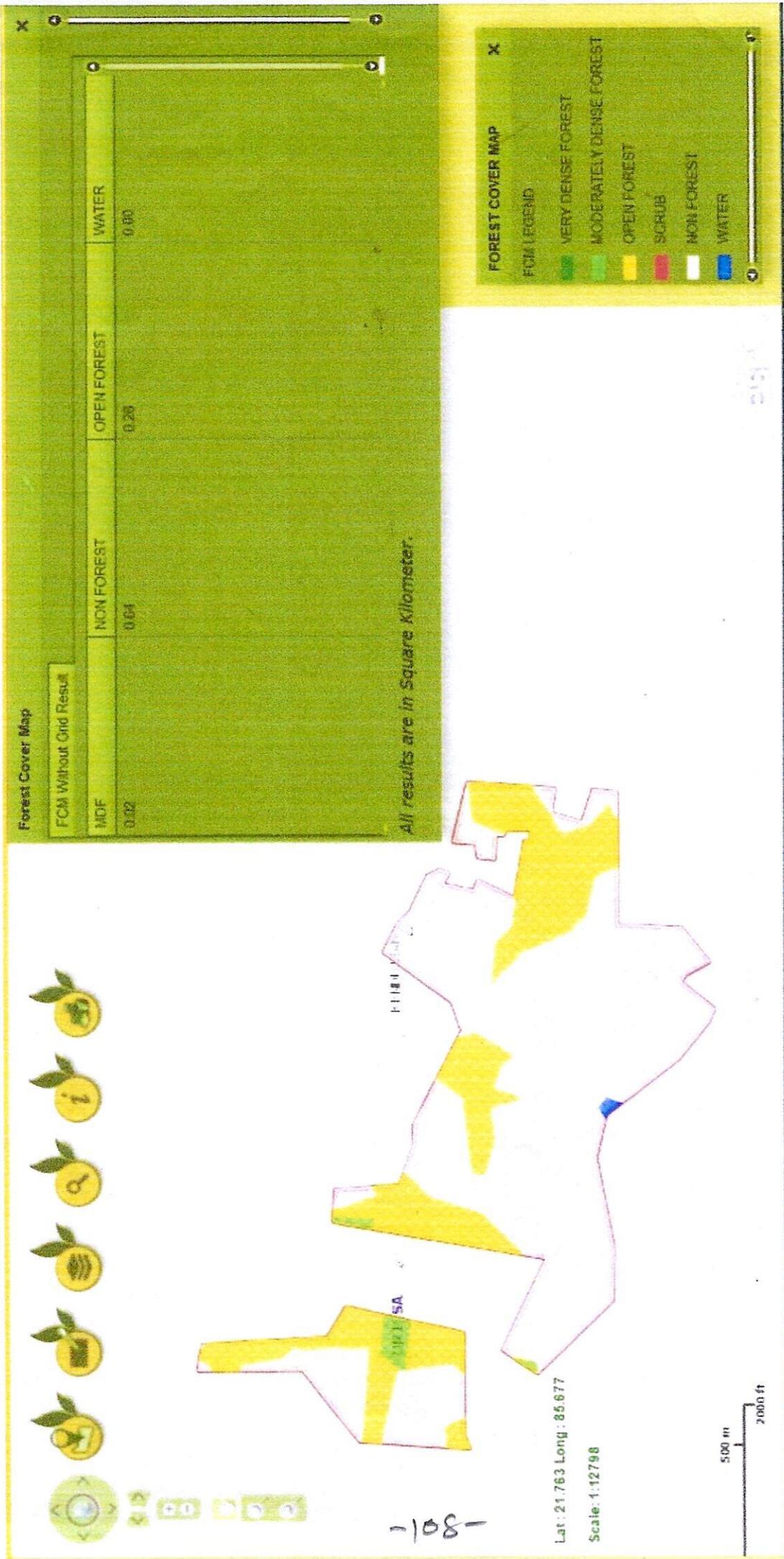
Jadipad - RF. (Kampan Rane) - 93.183 ha.





Jadli Palka  
Padma Rane - RF. (Rangsta man)

Padma Rane - 90-00 ha.



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