# SCHEME FOR COMPENSATORY AFFORESTATION OVER

1400 Ha. OF DEGRADED FOREST LAND

**UNDER** 

KORAPUT FOREST DIVISION
FOR DIVERSION OF 697.979Ha. OF FOREST LANE

#### **FOR**

POTTANGI BAUXITE MINES UNDER POTTANGI TAHASIL, DIST. KORAPUT (ODISHA)

OF

M/s. NATIONAL ALUMINIUM COMPANY LIMITED, BHUBANESWAR (ODISHA)

# LAND SUITABILITY CERTIFICATE

This is to certify that 1400 Ha. of degraded forest land in Janiguda PRF-100 Ha, Kankadabari RF- 100 Ha of Koraput Forest Range, Nandapur Ext. PRF-40 Ha, Kasandi PRF-50 Ha, Ampavali RF-90 Ha of Semiliguda Forest Range, Malibhimdol RF-200 Ha, Hatibari RF-60 Ha of Balda Forest Range, Ghodabeda PRF-100 Ha of Lamtaput Forest Range, Jamuguda PRF-100 Ha of Narayanpatna Forest Range and Raisil RF-90 Ha, Totaguda PRF-100 Ha, Hatimali DPF- 100 Ha Godmak PRF-120 Ha and Gouda Ramji DPF-150 Ha of Laxmipur Forest Range in Koraput Forest Division identified for Compensatory Afforestation in lieu of 697.979 ha. of forest land for diversion of Pottangi Bauxite mines by M/s. NALCO is suitable for plantation from management point of view and the degraded Forest land are free from encroachments and encumbrances. No plantation has been carried out in the particular area previously.

Divisional Forest Officer
Koraput Forest Division
Koraput Forest Division

# SCHEME FOR COMPENSATORY AFFORESTATION FOR DIVERSION OF FOREST LAND FOR POTTANGI BAUXITE MINES, KORAPUT

## Introduction:

This scheme is prepared for Compensatory Afforestation in Forest land in view of diversion of forest by M/s. National Aluminium company limited (NALCO) as required under section 3 of forest (Conservation) act-1980. NALCO is a Navaratna Public Sector Undertaking under Ministry of Mines, Govt of India, with its registered office at Bhubaneswar, Odisha. The Mines and Alumina Refinery is one of the largest integrated Bauxite-Alumina-Aluminium-Power Complex in the country. The Company Has a 2.275MTPA Alumina Refinery along with a 6.825 MTPA Bauxite Mine (Panchpatmali) located near Damanjodi in Koraput district of Odisha. NALCO is expanding its Alumina refinery capacity by proposing 5th stream of the alumina refinery at Damanjodi for additional production of one million tons per annum (MTPA) of alumina. To cater the raw material requirement of this project, the Pottangi bauxite deposit near Pottangi Village of Koraput district, Odisha has been identify by NALCO for mining lease which was discovered by the Geological Survey of India (GSI) in Nov-1971. The Mining Plan has been prepared for 697.979Ha and submitted under Rule 16(1) of Minerals (other than Atomic and Hydrocarbons Energy Mineral) Concession Rule 2016 along with Progressive Mine Closure Plan under Rule 23 of MCDR 2017 for approval. Govt of Odisha has granted the lease in favour of NALCO for a period of 50 years and issued a fresh letter of Terms and Conditions governing the grant of mining lease vide letter no 3794/SM dated 14.05.2018.

The mine is proposed over a total area of 697.979 Ha. Coming under forest category. However, the M/s. NALCO has agreed of provide fund for raising of Compensatory plantation over 1400 Ha. having forest land in lieu of 697.979 Ha. Forest land of Koraput Division.

# DETAILS OF LAND FOR COMPENSATORY AFFORESTATION:

The identified Degraded Forest land for Compensatory Affaorestation has been listed below. The DFO, Koraput Forest Division vide his letter No. 8433 dated 22/12/2021 allotted 1400 Ha. of Degraded Forest land for Compensatory Afforestation purpose.

Land schedule (770 Ha.) of land prepared for Compensatory Afforestation ANR with gap. @ 500/Ha.

Sl. No.	Name of the Range	Name of Forest Block	Area in Ha.	Remarks
1	Koraput	Janiguda PRF	100	
2	Koraput	Kankadabari RF	100	
3	Semiliguda	Nandapur Ext. PRF	40	Suitable for
4	Semiliguda	Kasandi PRF	50	ANR with Gap Plantation
5	Semiliguda	Ampavali RF	90	@500
6	Balda	Mali Bhimdol RF	200	Plants/Ha
7	Lamtaput	Ghodabeda PRF	100	
8	Laxmipur	Raisil RF	90	
	Total		770	

Land schedule (200 Ha.) of land prepared for Compensatory Afforestation Block @ 1000/Ha.

Name of the Range	Name of Forest Block	Area in Ha.	Remarks
		100	Suitable for AR Plantation @1000
		100	Plants/Ha
	100080000	200	
	Name of the Range Narayanpatna Laxmipur Total	Narayanpatna Jamuguda PRF Laxmipur Totaguda PRF	Narayanpatna Jamuguda PRF 100  Laxmipur Totaguda PRF 100

Land schedule (430 Ha.) of land prepared for Compensatory Afforestation Block Plantation @ 1600/Ha.

~ 37	Name of the Dange	Name of Forest Block	Area in Ha.	Remarks
Sl. No.	Name of the Range	Hatibari RF	60	Suitable for
1	Balda		100	AR Plantation
2	Laxmipur	Hatimali DPF	120	@1600
3	Laxmipur	Godmak PRF	Part 1997 1997 1	Plants/Ha
1	Laxmipur	Gouda Ramji DPF	150	
4	Total	(9)	430	

# VEGETATION DENSITY:

The density of the crop of the above selected compensatory afforestation area of Block Plantation site is 0.05 where it is 0.1 to 0.3 in ANR Plantation sites.

## **DESCRIPTION OF EXISTING VEGETATION**

This area is covered with unwanted obnoxious weeds like Eupatorium and Lantana along with some pole crops in scattered manner. No prominent economic species are available within the proposed site. However, saplings and bushy growth of Mersunga leaf plant (Murraya coinghii), Mango (Mangifera indica), Jackfruit (Artocarpus heterophyllus), Poksungha (Chromelana Sp.), Khakada (Gelonium multiflorum), Asan (Terminalia alata), Naguari (Lantana camara), Begunia (Vitex negundo), Palas (Butea monosperma) etc are existing now Besides, some shrubs/ herbs of Bhuin-neem (Andrographics paniculata), Kurei (Hollarhena anti-dysenterica), Kendu (Dyospyrus melanoxylon) etc are also noticed in some patches. The growth of the weeds and bushes are too much congested.

#### Description of the Area:

- (i) Topography: The terrain of the above degraded Forest area are gently slope to hilly with some where good soil and drainage.
- (ii) Climatic Condition: The climatic condition of the area favouring growth of dry deciduous forest having average annual rain fall of 75 – 100 cm. and maximum temperature 45°C. The summer season is from March to June, rainy season is from July to September and winter from November to February.
- (iii) Slope: The slopes are gentle to moderate, rarely steep. When the slopes are gentle to moderate, they are congenial for formation of thick bauxite profile. The slope gradient varies from 1:6 to 1:12. The peak portions of the deposit are occupied by khondalites forming the ridges.
- (iv) Drainage Pattern: The drainage pattern is of dendritic type.
- (v) Temperature: The area enjoys a tropical climate. Lying at an altitude of over 1000m. Above M.S.L., Pottangi area has a pleasant climate during summer. The temperature in May rarely exceeds 40°C. The winter months are pretty cold and in December-January, the temperature often drops down to 5°C.

#### SURVEY & DEMARCATION

The area is to be surveyed in field with reference to the Forest map using G.P.S. system and the survey as well as posting of RCC Pillar will be done by the user agency.

The plantation area to be indicated by sign boards at corners or at point of intersection with roads, inspection paths and boundary lines. The sign boards would contain the name of the plantation site, area, year of planting, planting module, no. of seedlings planted, funding agency & other details, if necessary.

# Technical Details:-

# OBJECTIVE OF THE SCHEME -

It is mandatory requirement under the provision of Forest (Conservation) Act, 1980.

- (i) To replenish the loss of forest land to be diverted for non-forestry purpose i.e. mining of Bauxite.
- (ii) To generate employment to the villagers living around the identified area.
- (iii) To increase the ground water table through Soil & Moisture Conservation.
- (iv) To increase the bio-diversity for improvement of the local ecology.
- (v) To fulfil the requirement of fuel wood & small timber of the local inhabitants.
- (vi) To provide a green clothing to the area by means of artificial regeneration or plantation inorder to reduce soil erosion.
- (vii) The pattern of plantation will be "ANR with 500 plants per Ha" & AR with 1000 & 1600 plants per Ha. is to be carried out on the selected CA area.

### PLANTATION TECHNIQUE

The area should be well demarcated before raising plantation by G.P.S. survey and fixing of Boundary pillar (where missing) by engraving thereon the co-ordinates and distance to next pillar. As far as possible weeds will be removed especially prior to flowering time in-order-to prevent fruiting and dispersal of seeds. Preferably indigenous species are to be planted in the area coupled with soil and moisture conservation measures.

# PLANTING & POST-PLANTING:

## RAISING OF NURSERY

18 Month old Seedlings will be planted on the selected CA site where the seedlings for the plantation shall be raised in the different Permanent Central nursery's of concerned CA Plantation Range of Koraput Forest Division and transportation of seedlings shall be done from each CN to Plantation site during planting period. Further 10% extra seedlings shall be raised to compensate and mitigate the eventuality of seedling casualty in the nursery. Standard nursery practices shall be followed for raising of seedlings in polythene bags. Permanent gaps need to be assessed well in advance where plantation can be done. Species like Gmelina arborea (Gambhar), Terminalia alata (Asan), Pongamia glabra (Karanj), Emblica officinalis (amla), Kurum (Adina cordifolia), Tectona grandis and other species as per the suitability of the sites will be preferred to be raised and planted on the sites.

# ALIGNMENT AND STACKING

Alignment, stacking and pitting will be taken up in the month of January-February, pits of size 45cm X 45cm will be dug maintaining a spacing of 2.5 mt. x 2.5 mt in all selected CA sites of AR & ANR before going to pitting.

#### **PLANTING**

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The seedlings will be planted in dug out pits of 45 cm<sup>3</sup> maintaining a spacing of 2.5 mt between the pits i.e. @ 1600 & @1000 Seedlings/Ha in the Block (AR) Plantation sites respectively and @500 Plants/Ha in the ANR Plantation sites. Plantation should be taken up after first regular shower of monsoon and should ideally be completed by end of July. NPK/DAP/etc. will be applied as per the plantation guideline in the norm for basal dose. Anti- termite and insecticide applied per pit while planting. Casualty replacement whenever required during the planting year and in the subsequent years upto third year should be undertaken for which the seedlings shall be raised and kept in stock at site as well as in the Central Nursery of the Ranges.

#### CHOICE OF SPECIES

Species like Artocarpus hetrophylla (Jackfruit), Bombax ceiba (Simili), Cassia fistula (Sunari), Dendrocalamus strictus. (Bamboo), Gmelina arborea (Gambhari), Azadirachta indica (Neem), Madhuca latifolia (Mahula), Terminalia chebula (Harida), Terminalia belerica (Bahada) Mangifera indica (Aamba-Local variety), Albizzia procera/Lebbek (Sirisa), Emblica officinalis (Amla), Pongamia pinnata (karanja), Terminalia arjuna (Arjuna), Aegle marmelos (Bela), Dalbergia sishoo (Bali Sisoo), Samania saman (Bada Chakunda), Syzygium cumini (Jamun), Tamarindus indica (Tentuli), Terminalia tomentosa (Asan), Ziziphus mauritiana (Bara Koli), Swietenia mahagoni (Mehagani), Bauhinia vahlii (Siali), Simaruba glauca (Simaruba), Tectona grandish (Saguan), Acacia auniciloformin, Acacia Magnum, Silver Oak etc. and species as per the suitability of the sites will be choised and select during the planting period.

## PLANTING TECHNIQUES & MODEL

Out of the above species the intensity of plantation for Fuel yielding and Timber species will be planted 35:35 % and Bamboo and Fruit yielding species in 10:20 ratio.

The planting of species shall be planted in such a manner that the long term fruit, timber yielding species/Bamboo shall be surrounded with short term fuel wood yielding species. The species should be planted alternate to each other & no repetition of species in close of pits shall be done.

# WEEDING, SOIL WORKING AND MANURING

For establishment and better growth of the planted seedlings, weeding, soil working and manuring are necessary. It is prescribed to carry out one weeding, one soil working and manuring during the first year alongwith soil moisture conservation in the form of staggered trenches. One weeding, one soil working and application of fertilizer in second year of plantation Weeding and manuring for the first and second year shall be carried out during August- September along the contour. Application of vermin compost shall be given preference. First weeding shall be carried out after the first pair of leaf of the planted species have come up preferably in August. The detailed cost estimate of various operations to be taken up in Block & ANR plantation has been furnished below. Fire line should be drawn in order to avoid damage to the plants during fire season (February to June).

#### POINTS OF IMPORTANCE:

While taking up plantation, the following vital points shall be taken up for consideration:

- All care should be taken to raise healthy seedlings of minimum 60cm to 1 Mtr height and 10% extra of the required stock has to be raised. Pitting shall be invariably done during January-February, when the soil is moist by fall of dew. The sites being the hilly slopes, pits shall be dug along the contours and alternate liens should be staggered. Planting shall be done at the onset of monsoon.
- Basal dose fertilizer and insecticide can be applied at the time of planting. Casualty
  replacement, weeding and soil working, application of fertilizer and insecticides shall be
  taken up as per the provisions made in the cost- norm at the proper time. Engaging
  requisite watchers as per norm is mandatory.
- All out efforts be taken to keep the plantation free from grazing, fire and other biotic interference.

The Schedule of operation for preparation of site, pre-planting, planting, post-planting are prescribed herewith:-

	OPERATIONS	PERIOD OF COMPLETION
i.	Advance preparation of site.	End of October
ii.	Alignment & Digging of pits	End of February
iii.	Stacking	End of February
iv.	Planting.	1st week of July
v.	Casualty replacement	End of July
vi.	Soil working, weeding, manuring	End of August
vii.	Soil & water conservation measuring	End of September
viii.	Fire line tracing	During December
ix	Watch & Ward	July to March

#### Post planting operation in 2<sup>nd</sup> year.

a. Casualty replacement, 1st weeding soil End of July

Working & manuring.

b. Fire line tracing During December

Throughout the year c.Watch & Ward

In 3rd year.

End of July a. Wedding, soil working and application of manure December b.Fire line tracing

Throughout the year c.Watch & Ward

In 4th year

End of December a.Fire line tracing September **b.Pruning** 

Throughout the year c.Watch & Ward

5th year to 10th year

End of December a.Fire line tracing September b.Pruning

Throughout the year c. Watch & Ward

#### WATERING:

The watering provision is to be provided to all AR/Block and ANR CA plantation sites for the period from November to March in 1st year, April to June and November to March from 2nd year to 5th year maintenance by the help of diesel pump sets to provide better growth of the plantation and to avoid damage due to hot sunlight or scarcity of water as well as to success of the plantation. The cost norm of watering model W-II/ Ha is enclosed.

#### WATCH & WARD:

The important element of successful plantation is Protection. Watchers are to be engaged on daily wage basis for ten years but they should assigned with specific work and their involvement in protecting the plantation should be ensured. It is suggested not to engage a particular person for the entire ten years but considering the work efficiency the person, if not found suitable should be changed. Since in all plantation sites enough care should be taken to engage efficient worker for protection as there is every possibility of damage by grazing. Therefore, in the planting design non browsable tree species like Simaruba should be planted in three four rows to-wards periphery of the plantation at the foot hill before Agave Plantation.

## **FENCING:**

To protect the plantation from grazing and other biotic interference, it will be provided Bamboo twigs and thorns fencing along the periphery of all AR/Block and ANR Plantation sites of the degraded Forest Land for better protection as well as survival of the Plantations. The cost estimate for Bamboo Twig fencing/Ha has been enclosed.

#### **CONTROL MEASURES:**

- 1) The nursery journal, the plantation journal and other records shall be maintained separately in accordance with the provision of "The Orissa Forest Plantation Manual 1977" indicating the physical and financial achievements. Necessary entries with regard to plantation activities undertaken shall be entered in the journals and shall be produced before the inspecting officers. In case of any eventuality like cyclone, thunder storm, hail storm etc. if caused destruction to the plantation, this should also be noted. It is also necessary to note the distribution of rain fall which not only helps in the growth of plants at site but also acts as a guideline for the ensuing years nursery schedule to be formulated.
- 2) For protection, measures shall be taken to save the plantation from fire incidence and prevent accidental trespass of cattle, goat etc. to the premises of the nursery. Boundary area will be scrapped to a width of 2 mtr. During February / March the cut materials are to be burnt under strict supervision.

## SOIL MOISTURE CONSERVATION:

Soil and moisture conservation activities are essentially required to be dove-tailed to plantation activities in order to improve water availability in Forest. In order to achieve the objective and implement the programme efficiently a well planned strategy is essential. The natural slope of the Forest land selected for Compensated Afforestation are varies from 0 degree to 35 degree being the foothill. The areas selected for the catchment where the precipitation touches the ground and subsequently drained through the drainage line. So this becomes the focus area of the soil moisture conservation programme. The intervention suggested below is aimed at capturing the rain water to enhance the retention period and to increase the quantum of infiltration.



Forest floor treatment:

- Staggered Trenches- The staggered trenches are primarily aim to break the runoff which otherwise will form reels and gullies. Such reels when conversed will form gullies. Continuous gullies when joined together will form a ditch. Therefore it is aimed at excavating staggered trenches as per the field requirement during execution of works. Each such trench will be 2 m (length) X 0.5 m (width) x 0.5m (depth). These trenches will conserve rain water of this region and facilitates its percolation. Therefore while aligning such trenches adequate care should be taken so that gullies are not formed by the water flowing downhill from the wedges of trench.
- Graded Earthen Bund- Earthen graded bunds can be erected on the low slope (<5%) Forest and pediments of hills. These bunds would be 1.5 Meter high (minimum) and follow a longitudinal slope of 0.2% to 0.5%. The purpose of these bunds is to guide the runoff along a longer path to increase time of concentration and promote infiltration. Preferably burrow pits to be located on the upstream.

This can be laid on the border of Forest land or it can be on the where the hill slope ends and pediment begins. This bund will prevent direct entry of runoff from hills/forest into cultivable land. Its main purpose is to delay the runoff and increase the time of concentration substantially. The alignment of the bund will be such that the flow path will be as wuide as possible. This will provide sufficient width for the rain water to flow at shallow depth thus facilitating quick infiltration. Earth borrowed from the pits dug from the upstream should meet the requirement of earth work for the graded bund.

The burrow pits of this bund will be discontinuous and act as soak pits to enhance infiltration. Burrow pits may be located on the downstream side if sufficient earth is not available on the upstream.

The top of the bund should have longitudinal slope of 0.2 to 0.5% so that the flow path is non-silting & non-erosive. If required Loose Boulder spurs would be put up across the flow path to control the longitudinal slope.

It may be noted that this bund is not to retain water for very long as in case of reservoir bunds. Its purpose is to change the direction of flow of runoff. Stone pitching on the upstream side may be necessary to prevent scouring by runoff coming downhill.

#### DRAINAGE LINE TREATMENT:

Drainage line treatment can be done on the site by Construction of Loose Boulder Structure, Wire mesh structure etc. as per the requirement of the sites where the structure is to be created across the drainage line for retention of run-off and reduction of velocity. Such structure should preferably have top width of 1m with upstream slope of 1:1 ration and downstream ration of 1:5 ratios.

# EOPLE'S PARTICIPATION:

In order to involve the adjoining villages in the protection of plantation, meetings are to be conducted in the adjoining villages and efforts to be made to constitute VSS who will be assigned with the task of protection and management of the compensatory Afforestation with sharing benefit as per JFM Resolution 1993 for all plantation site. For the above purpose supporting activities like livelihood improvement/Socio economic development of the VSS members, strengthening of the local level institution, Capacity Building and local level training and Entry Point Activities (EPA) is to be conducted on every VSS of the plantation site. For the success of the above and to create Assets for the communities bonafide requirement and to improve the socio economic status during the project implementation period will be meet from 5 % funds of the CA cost is to be provided by the User Agency as per the direction of the Divisional Forest Officer, Koraput to meet the VSS's fulfillment.

#### PROTECTION SOUAD:

For protecting the growing Forest for 10 years from illicit felling one dedicated squads having 10 persons with one driver for riding of squad vehicle per squad are required. The user agency-NALCO to provide 1 Nos Mahindra Scorpio (S-11), 1 Nos. Mahindra Thar LX 4-STR and 1 Nos. Mahindra Bolero B6 (O) for better monitoring of the project activities by the executing, inspecting and monitoring authorities (DFO, ACFs & FROs & Other Officials) and for movement of the squad members. One squads (10 members) consisting of 10 members & one driver to ride the squad vehicle will be recruited locally through service provider for better protection and survive of the plantation sites as well as of the adjoining Forest area. Accordingly provisions has been made to provided for one squad. The details of cost of Vehicle, POL and annual maintenance of the vehicle has been enclosed (Cost of Vehicles, RTO charges, Insurance cost of POL, Annual Maintenance, Squad & Driver Remuneration etc) and will be deposited by the user agency M/s NALCO as per the suggestion of the DFO or to supply the same in shape of kinds in favour of Divisional Forest Officer, Koraput to meet the above expenses.

## PROTECTION FROM FOREST FIRE & INCLUDING PREVENTION & MANAGEMENT:

The Selected degraded Forest Land for Compensatory Afforestation of 1400 Ha consist in 14 Nos sites are venerable to Forest Fire. If Fire occurs in those CA sites then it causes extensive damage to flora and fauna site by site generate heat and smoke causing pollution to local Environment. Generally Forest Fire occurs starting from January to End of June. So to avoid the Forest Fires in those areas and to save the areas from damage and loss of flora and fauna as well as surrounding Environment, prevention measures like prevention and management plan, procurement of adequate Fire Fighting equipment, Tools, First Aid Box, Communication by Mobile Network/VHF, Muck drill, Maintenance of Fire line, Boundary line, Provision of Fire Fighting Squad Members with Vehicle & POL, coordination with village/VSS members, organization of meeting,

Rally, Proper display sign boards/Banners, including pictorial depiction of do and don't do in local language in odia, reward and awareness programmes etc. is to be required. For all the above purpose of prevention of Fire Management of those areas provision of 5 % of the cost of CA scheme has been provided for the project period of 10 years and will be deposited by the user agency M/s NALCO as per the suggestion of the DFO, Koraput to meet the above expenses.

#### PROVISION FOR GIS LAB:

Now a day's Geographic information system (GIS) is required to do the technical hub for mapping, analysis and planning and serves the entire programme by digital system in which this Division wants to introduction and Installation of GIS, Insertion of data from "Google earth" into "GIS", Insertion of data into Arc Map GIS, Rectify image in Arc Map GIS, Creation of shape file, Editing shape file in G.I.S, creation of Buffer, Use of "SELECT" toll in Arc GIS, Over lay Analysis/ Union of two layers in this Division on which it provide image based guidance to the officials of this Division so that they will become able to use the basics of GIS tool and get benefits from GIS. Accordingly provisions has been made to install one GIS Lab inside the DFO office campus, Koraput for which a provision of Rs. 25,00,000/- (Rupees Twenty Five Lakh) only has been provided and will be deposited by the user agency M/s NALCO as per the suggestion of the DFO, Koraput to meet the above expenses which help for Monitoring and Evaluation purpose also.

## MONITORING & EVALUATION:

The Range Officers of project implementing Ranges will undertake field checks of the works undertaken a the identified sites and will be cross checked by the Asst. Conservator of Forests (ACFs) and Divisional Forest Officer, Koraput Forest Division. GPS co-ordinates along with other required informations of compensatory Afforestation and other activities will be uploaded in the e-Green watch Portal of NIC, MoEF, and CC, Govt. Of India for the purpose of online monitoring Annual progress of plantation involving growth of planted seedlings, survival percentage etc. will be monitored a recorded in the plantation journal by the field staffs of project implanting Ranges and reported to the Divisional Forest Officer for necessary action. The same will be reported to higher authorities for monitoring and evaluation of the activities every year.

Funding Agency

M/s National Aluminium Company Limited (NALCO)

Proposed Monitoring Mechanism

The Scheme shall be executed by the Divisional Forest Officer, Koraput Forest Division with his staff and all Prescribed records are to be maintained.

Total Cost of the Project

Total Cost of the project is Rs. 128,99,18,970/(Rupees One Hundred Twenty Eight Corer Ninety
Nine Lakh Eighteen Thousand Nine Hundred
Seventy) only as detailed in Annexure- XII which
shall be payable by the user agency as per the advice
of DFO, Koraput Forest Division.

Divisional Forest Officer
Koraput Forest Division
Divisional Forest Officer

Koraput Forest Division

COST NORM FOR AIDED NATURAL REGENERATION (ANR) @ 500 PLANTS PER HECTARE (18 Months old Seedlings)
WAGE RATE Rs.315/- PER DAY

	THOSE THE STATE OF	KATE KS.315/-				
SI. No	Items of work	Preferable Period of	No of Mandays	@ Rs.315/-	Material cost	Total cost
1	2	Execution 3	4	per day 5	(Rs)	(Rs.)
		a layer or to access the second	ALC: THE PROPERTY OF THE	Authorized Symphological dis-		
1	Survey, demarcation and pillar posting	Nov/Dec	Planting Oper 2	630	0	630
2	Preparation of Treatment Map (Digital Map)	Nov/Dec	1	315	100	415
3	Site preparation	Nov/Dec	2	630	. 0	630
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	4725	0	4725
5	Alignment and stacking for digging of pits	Feb/Mar	1	315	0	315
6	Digging of pits (45 cm x 45 cm x 45 cm) in hard and gravelly soil	Feb/Mar	20	6300	. 0	6300
	Total		41 .	12915	100	13015
	1ST YEA	R/PLANTI	NG YEAR	<b>医红铜</b> 棉		AND CENTRE
1	Refilling of pits by altering the dugout soil of the pits, application of Organic compounds/ CDM/FYM and Mixing the same perfectly.	June/July	4	1260	2500	3760
2	Transportation of 18 Month old poly pot seedlings in Hired Truck/ Tractor from the Permanent/Megha Nursery to Planting Site including loading and unloading (Average Lead of 10 RKM) & Stacing the seedlings @ Rs.6/per seedlings (550 Nos)	Juły/Aug	0	0	3300	3300
3	Watering the Polypot Seedlings at Planting site of plantation	July/Aug	1	315	0	315
4	Convence of Polythene bag seedlings on Headload from the stacking site to indivisual dugut pits within the Planting site, applying insecticides, Fertilizers and Planting after scooping the soil with other applied materials and pressing the soil prperly around the planted seedlings	July/Aug	11	3465	0	3465
5	(a) NPK/ Bio Fertilizer @ 50 gms per plant as basal dose = 25Kg @ Rs.30/- per kg = Rs.	July/Aug	0	o	1500	1500
	(b) Urea/Vermicompost/ Mo Khata/ any other Fertilizes @ Rs.375.00  (c) Insecticides/ Bio pesticides @ 5 gms/plant = 2.5 Kg @Rs.150/- per kg= Rs 375.00			84.		
6	Casualty replacement@ 10% (50 Nos)	July/Aug -	1.5	472.5	0	472.5
7	1st weeding & Manuaring	Aug/Sept	5	1575	0	1575
8	2nd weeding, Soil Working ( 1 Mtr diameter around the plant) & Manuring	Oct/Nov	8	2520	0	2520
9	Fire line tracing & inspection path	Feb/Mar	3	945	0	945
10	Watch & Ward including watering as per requirment	Aug-Mar	8	2520	0	2520
	Total		41.5	13072.5	7300	20372.5

D'visonal Forest Offic & Koraput Forest Division

Scanned with CamScanner

W.	2ND VI	EAR MAIN	TENANCE	The second temperature with the		Variot Swampan
1	Transportation of 50 Nos. of seedlings from Nursery to Planting Site including loading and unloading & Conveynce by tractor @ Rs.6/- per seedlings (50 Nos)	July	0	0	300	300
2	Casualty replacement@ 10% (50 Nos)	July	1.5	472.5	0	472.5
3	Cost of insecticide and fertilizer  (a) cost of insecticides/ Bio Pesticides (Themet/Forate) @ 5 Gms/Plant = 0.25 Kg @Rs.150/- Per Kg = Rs.37.50  (b) Urea/NPK/Bio Fertilizer/Vermicompost/ Mo Khata/ any other Fertilizes @ Rs. 1400/-	July/Aug	0	0	1437.5	1437.5
4	Weeding ( complete weeding), Manuaring and Soil Working (1 Mtr diameter around the plant)	Sept/Oct	8	2520	0	2520
5	Fire line tracing ( 2 Mtr Wide Fireline) and inspection path	Feb/Mar	3	945	0	945
6	Watch & Ward including watering as per requirment	Apr-Mar	12	3780	0	3780
200111100	Total	5. 6	24.5	7717.5	1737.5	9455
	the state of the s	AR MAIN	TENANCE			
1	Cost of Fertilizers Urea/NPK/Bio Fertilizer/Vermicompost/ Mo Khata/ any other Fertilizes= @ Rs. 1400.00	July/Aug	0	0	1400	1400
2	Weeding ( complete weeding), Manuaring and Soil Working (1 Mtr diameter around the plant)	Sept/Oct	. 8	2520	0	2520
3	Fire line tracing ( 2 Mtr Wide Fireline) & inspection path	Feb/Mar	3	945	0	945
4	Watch & Ward including watering as per requirment	Apr-Mar	12	3780	0	3780
	Total		23	7245	1400	8645
911	经经济公司 医生态 医电影 医克里克氏性畸形 医二氯甲基甲基甲基甲基甲基甲基甲基甲基甲基甲基甲基甲基甲基甲基甲基甲基甲基甲基甲基	AR MAINT	ENANCE			
1	Fire line tracing ( 2 Mtr Wide Fireline) & inspection path	Feb/Mar	3	945	0	945
2	Watch & Ward including watering as per requirment	Apr-Mar	12	3780	0	3780
	Total		15	4725	0	4725
	The state of the property of the section of the state of the state of the section	AR MAINT	ENANCE			
1	Fire line tracing (2 Mtr Wide Fireline over 400 M length) including Maint. of inspection path Watch & Ward including watering as per	Feb/Mar	3	945	0	945
2	requirment	Apr-Mar	12	3780	0	3780
	Total		15	4725	0	4725
1571 (1) 1571 (1)	,这是一个一个一个一个一个一个一个一个一个一个一个一个一个一个一个一个一个一个一个	AR MAINT	ENANCE			ingeritati
1	Fire line tracing ( 2 Mtr Wide Fireline over 400 M length) including Maint. of inspection path	Feb/Mar	3	945	0	945
2	Watch & Ward including watering as per requirment	Apr-Mar	12	3780	0	3780 4725
NITE OF	Total	A D D T A TRIC	15	4725		was through
(PX)		AR MAIN	ENANCE	A Matter of	A TOTAL COMPANY OF THE STATE OF	y and the same
1	Fire line tracing (2 Mtr Wide Fireline over 400 M length) including Maint. of inspection path	Feb/Mar	3	945	- 0	. 945
2	Watch & Ward including watering as per requirment	Apr-Mar	12	3780 4725	0	3780 4725
	Total		15	4/25		

TANKS AND	· · · · · · · · · · · · · · · · · · ·	9					
1	Piro II	8 TH Y	EAR MAIN	TENANCE			
	Fire line tracing ( 2 Mtr M length) including Mai	Wide Fireline over 400 nt. of inspection path	Feb/Mar	3	945	0	945
2	Watch & Ward inclu requirment	iding watering as per	Apr-Mar	12	3780	0	3780
		Total		15	4725	0	4725
	STATE OF STREET	9 TH Y	EAR MAIN	TENANCE	raviolet all 110		AND ATTIMES
1	Fire line tracing ( 2 Mtr M length) including Mai	Wide Fireline over 400	Feb/Mar	3	945	0	945
2	Watch & Ward inclu requirment	iding watering as per	Apr-Mar	12	3780	0	3780
	V. CONT. CO	Total		15	4725	0	4725
	Protesta de la Statistica de la Companya	10 TH Y	EAR MAIN	TENANCE			
1	Fire line tracing ( 2 Mtr M length) including Mai	Wide Fireline over 400 nt. of inspection path	Feb/Mar	3	945	0	945
2	Watch & Ward inclu requirment	ding watering as per	Apr-Mar	. 12	3780	0	3780
		Total		15	4725	0	4725
	YEAR WISE ABS	STRACT OF COST N	ORM (SHO	WING SEEDI	ING COST S	EPARATEL	<u>.Y)</u>
SI. No	Year	No. Person Day	Labour Cost @Rs.315/- per day	Material Cost in Rs.	MELD & Other Contigency 5 % of (4+5)	Cost of Seedlings @ Rs. 50.81 per seedlings	Total Cost in Rs.
1	2	3	4	<u>5</u>	<u>6</u>	44 Z 2 Z	<u>8</u>
1	0th Year	41	12,915.00	100.00	650.00	0	13,665
2	1st Year	41.5	13,072.50	7,300.00	1,019.00	27,945.50	49,337
3	2nd Year	24.5	7,717.50	1,737.50	472.50	2,540.50	12,468
4	3rd Year	23	7,245.00	1,400.00	432.00	0	9,077
5	4th Year	15	4,725.00	=	236.00	0	4,961
6	5th Year	15	4,725.00		236.00	0	4,961
7	6th Year	15	4,725.00		236.00	0	4,961
8	7th Year	15	4,725.00	-	236.00	0	4,961
9	8th Year	15	4,725.00	-	236.00	0	4,961
10	9th Year	15	4,725.00		236.00	. 0	4,961
_	101 77	15	4,725.00	120	236.00	0	4,961
11	10th Year	15	74,025.00	10,537.50	4225.50	30,486.00	1,19,274

Asst. Conservator of Forests Koraput Forest Division

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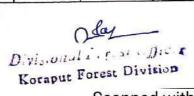
Divisional Forest Officer Koraput Forest Division Divisional Forest Officer Koraput Forest Division

# COST NORM FOR BLOCK PLANTATION @ 1000 PLANTS PER HECTARE (18 Months old Seedlings) WAGE RATE Rs.315/- PER DAY

SI. No	Items of work	Preferable Period of Execution	No of Mandays	Labour cost @ Rs.315/- per day	Material cost (Rs)	Total cost (Rs.)
1	2	3	4	. 5	6	7
15.00	$0^{ ext{th}}  ext{ vc}$	ar (Advance v	vork)			
1	Survey demarcation and pillar posting	Nov/Dec	2	630	0	630
2	Preparation of Treatment Map (Digital Map)	Nov/Dec	1	315	100	415
3	Site preparation (Cleaning & Removal of debrises)	Nov/Dec	12	3780	0	3780
4	Creation of 4.00 Mtr Wide Inspection Path	Feb/Mar	1	315	0	315
5	Alignment and stacking of pits	Feb/Mar	1	315	0	315
6	Digging of pits (45 cm x 45 cm x 45 cm) /50 cm diameter augur hole in hard & gravelly soil	Feb/Mar	. 40	12600	0	12600
7	Construction of Temporary Labour Shed, Drinking Water Facility and First Aid etc.	Jan/Mar	0	0	3500	3500
	Total		57	17955	3600	21555
	1ST YEA	R/PLANTIN	G YEAR		() (1) (1) (1)	
1	Refilling of pits by altering the dugout soil of the pits, application of Organic compounds/CDM/FYM and Mixing the same properly.	June/July	7.5	2362.5	5000	7362.5
2	Transportation of 18 Month old poly pot seedlings in Hired Truck/ Tractor from the Permanent/Megha Nursery to Planting Site including loading and unloading (Average Lead of 10 RKM) & Stacing the seedlings @ Rs.6/per seedlings (1100 Nos)	July/Aug	0	0	6600	6600
3	Watering the Polypot Seedlings at Planting site	July/Aug	2	630	0	630
4	Convence of Poly pot seedlings on Headload from the stacking site to indivisual dugut pits within the Planting site, applying insecticides, Fertilizers and Planting after scooping the soil with other applied materials and pressing the soil prperly around the planted seedlings	July/Aug	22.5	7087.5	0	7087.5
5	Cost of insecticide and fertilizer					
	(a) NPK/ Bio Fertilizer @ 50 gms per plant as basal dose = 50Kg @ Rs.30/- per kg = Rs. 1500.00 (b) Urea/Vermicompost/ Mo Khata/ any other Fertilizes in two subsequent doses @ Rs.750.00 (c) Insecticides/ Bio pesticides @ 5 gms/plant	July/Aug	0	0	3000	3000
	=5 Kg @Rs.150/- per kg= Rs.750.00			ļ		
	Casualty replacement@ 10% (100 Nos)	July/Aug	2.5	787.5	0	787.5
7	1st weeding & Manuaring	Aug/Sept	12	3780	0	3780
	2nd weeding, Soil Working (1 Mtr diameter around the plant) & Manuring	Oct/Nov	15	4725	0	4725
	Fire line tracing ( 2 Mtr Wide Fireline over 400 M long) including Maint. of inspection path	Feb/Mar	3	945	0	945
0	Watch & Ward including watering as per requirment	Aug-Mar	12	3780	0	3780
	Total		76.5	24097.5	14600	38697.5



	OND ME	AR MAINTI	ENANCE			
1	Transportation of 100 N	K MAINT	I	States that or prior of	TITTE A LINE WAS TO	The same of the sa
	Transportation of 100 Nos. of seedlings from Nursery to Planting Site including loading and unloading & Conveynce by tractor @ Rs.6/- per seedlings (100 Nos)	July	0	0	600	600
2	Casualty replacement@ 10% (100 Nos)	July	2.5	787.5	0	787.5
3	Cost of insecticide and fertilizer					
	(a) cost of insecticides/ Bio Pesticides @ 5 Gms/Plant = 0.5 Kg @Rs.150/- Per Kg = Rs.75.00 (b) Urea/NPK/Bio Fertilizer/Vermicompost/ Mo Khata/ any other Fertilizes @ Rs. 2800.00	Aug/Sept	0	0	2875	2875
4	Weeding (complete weeding), Manuaring and Soil Working (1 Mtr diameter around the plant)	Sept/Oct	15	4725	0	4725
5	Fire line tracing (2 Mtr Wide Fireline over 400 M long) including Maint. of inspection path	Feb/Mar	3	945	0	945
6	Watch & Ward including watering as per requirement	Apr-Mar	18	5670	0	5670
7	Maint. of Temporary Labour Shed, Drinking Water Facilities & First Aid etc.	Apr-Mar	. 0	0	1000	1000
	Total		38.5	12127.5	4475	16602.5
	3RD YEA	R MAINTE	ENANCE		进门,	
1	Cost of Fertilizers (Urea/NPK/Bio Fertilizer/Vermicompost/ Mo Khata/ any other Fertilizes) @ Rs. 2800.00	July/Aug	0	0	2800	2800
2	Weeding (complete weeding), Manuaring and Soil Working (1 Mtr diameter around the plant)	Sept/Oct	15	4725	0	4725
3	Fire line tracing (2 Mtr Wide Fireline over 400 M long) including Maint. of inspection path	Feb/Mar	3	945	0	945
4	Watch & Ward including watering as per requirment	Apr-Mar	18	5670	0	5670
5	Maint. of Temporary Labour Shed, Drinking Water Facilities & First Aid etc.	Apr-Mar	0	0	1000	1000
	Total		36	11340	3800	15140
	4TH VEA	R MAINTE	NANCE		Section and a section of the	
1	Fire line tracing ( 2 Mtr Wide Fireline over 400 M long) including Maint. of inspection path	Feb/Mar	3	945	0	945
2	Watch & Ward including watering as per requirment	Apr-Mar	18	5670	0	5670
-	Total		21	6615	0	6615
ATM AC	The second secon	R MAINTE		ASSESSED FOR THE PARTY OF THE P	Terranes in	Carlo Landon (Corr. 19)
1	Fire line tracing ( 2 Mtr Wide Fireline over 400 M length)	Feb/Mar	3	945	0	945
2	Watch & Ward	Apr-Mar	18	5670	0	5670
-	Total		21	6615	0	6615
	The state of the s	R MAINTE		SET CHARGE OF SPORTSON		
	The control of the co	N MAINTE	MAINCE	Ann		945
San .	Fire line tracing ( 2 Mtr Wide Fireline over 400	Feb/Mar	3	945 1	() 1	
1	M length)	Feb/Mar	3	945	0	
Sea		Feb/Mar Jan/Mar	3	945	0	945
1	M length) Pruning of branches, Singling out of multiple					



		7 TH YEA	RMAINTI	CNANCE	Allegar - Research		
	Fire line tracing (2 Mtr W M length)	/ide Fireline over 400	Feb/Mar	3	945	0	94.
2	Watch & Ward		Apr-Mar	18	5670	0	567
		Total		21	6615	0	661
		8 TH YEA	R MAINTI	ENANCE	And the second state of	Anteres Comment	
1	Fire line tracing (2 Mtr W M length)	ide Fireline over 400	Feb/Mar	3	945	0	94
2	Watch & Ward		Apr-Mar	18	5670	0	567
		Total		21	6615	0	661
# 1 <sub>2</sub>		9 TH YE	R MAINTE	CNANCE		1481 / -119 f. 1	
1	Fire line tracing ( 2 Mtr W M length)	ide Fireline over 400	Feb/Mar	3	945	0	94 567
2	Watch & Ward		Apr-Mar	18	. 5670	0	661
		Total		21	6615	0	001
			AR MAINT	ENANCE			a Mari Madala an
1	Fire line tracing ( 2 Mtr W M length)	ide Fireline over 400	Feb/Mar	3	945	- 0	94 567
2	Watch & Ward		Apr-Mar	18	5670	0	661
	Total			21	6615	0	001
			and the second second	21	6615	1200	
	YEAR WISE ABSTI		RM (SHOW)			1200	TELY)
SI. No	YEAR WISE ABSTI		RM (SHOW)  Labour Cost  @Rs.315/- per  day			1200	
		RACT OF COST NO  No. Person Day	Labour Cost @Rs.315/- per day	NG SEED	MELD & Other Contigency	Cost of Seedlings @ Rs. 50.81 per	
	Year 2	No. Person Day	Labour Cost @Rs.315/- per day	Material Cost in Rs.	MELD & Other Contigency 5 % of (4+5)	Cost of Seedlings @ Rs. 50.81 per seedlings	Total Cost in R
No	Year  2  Oth Year	No. Person Day	Labour Cost @Rs.315/- per day 4 17,955.00	Material Cost in Rs.	MELD & Other Contigency 5 % of (4+5)	Cost of Seedlings @ Rs. 50.81 per seedlings	Total Cost in R <u>8</u> 22,63
No	Year 2	No. Person Day  3  57  76.5	Labour Cost @Rs.315/- per day  17,955.00  24,097.50	Material Cost in Rs.  5  3,600  14,600	MELD & Other Contigency 5 % of (4+5)	Cost of Seedlings @ Rs. 50.81 per seedlings	Total Cost in R  8  22,63  96,52
1 1	Year  2  Oth Year	No. Person Day  3  57  76.5  38.5	Labour Cost @Rs.315/- per day  17,955.00  24,097.50  12,127.50	Material Cost in Rs. 5 3,600 14,600 4,475	MELD & Other Contigency 5 % of (4+5)  6  1,078  1,935	Cost of Seedlings @ Rs. 50.81 per seedlings	Total Cost in R  22,63  96,52  22,51
1 1 2	Year  2  Oth Year  1st Year	No. Person Day  3  57  76.5  38.5  36	Labour Cost @Rs.315/- per day  17,955.00  24,097.50  12,127.50  11,340.00	Material Cost in Rs.  5  3,600  14,600	MELD & Other Contigency 5 % of (4+5)  6  1,078  1,935  830  757	Cost of Seedlings @ Rs. 50.81 per seedlings	Total Cost in R  22,63  96,52  22,51  15,89
1 1 2 3	Year  2  Oth Year  1st Year  2nd Year	No. Person Day  3  57  76.5  38.5  36  21	Labour Cost @Rs.315/- per day  17,955.00  24,097.50  12,127.50  11,340.00  6,615.00	Material Cost in Rs. 5 3,600 14,600 4,475	MELD & Other Contigency 5 % of (4+5)  6  1,078  1,935  830  757  331	Cost of Seedlings @ Rs. 50.81 per seedlings	Total Cost in R  22,63  96,52  22,51  15,89  6,94
1 2 3 4	Year  2 Oth Year  1st Year  2nd Year  3rd Year	No. Person Day  3  57  76.5  38.5  36	Labour Cost @Rs.315/- per day  17,955.00  24,097.50  12,127.50  11,340.00  6,615.00  6,615.00	Material Cost in Rs.  5 3,600 14,600 4,475 3,800	MELD & Other Contigency 5 % of (4+5)  6  1,078  1,935  830  757  331  331	Cost of Seedlings @ Rs. 50.81 per seedlings # 7 - 55,891 5,081	Total Cost in R  22,63  96,52  22,51  15,89  6,94  6,94
1 2 3 4	Year  2 Oth Year  1st Year  2nd Year  3rd Year  4th Year	No. Person Day  3  57  76.5  38.5  36  21	Labour Cost @Rs.315/- per day  17,955.00  24,097.50  12,127.50  11,340.00  6,615.00  6,615.00  7,560.00	Material Cost in Rs.  5 3,600 14,600 4,475 3,800	MELD & Other Contigency 5 % of (4+5)  6  1,078  1,935  830  757  331  331  378	Cost of Seedlings @ Rs. 50.81 per seedlings # 7 - 55,891 5,081	Total Cost in R
1 1 2 3 4 5	Year  2 Oth Year  1st Year  2nd Year  3rd Year  4th Year  5th Year	No. Person Day  3 57 76.5 38.5 36 21 21	Labour Cost @Rs.315/- per day  17,955.00 24,097.50 12,127.50 11,340.00 6,615.00 7,560.00 6,615.00	Material Cost in Rs.  5 3,600 14,600 4,475 3,800	MELD & Other Contigency 5 % of (4+5)  6  1,078  1,935  830  757  331  331  378	Cost of Seedlings @ Rs. 50.81 per seedlings # 7 - 55,891 5,081	Total Cost in R  22,63  96,52  22,51  15,89  6,94  6,94  7,93
No 1 2 3 4 5 6 7	Year  2 Oth Year  1st Year  2nd Year  3rd Year  4th Year  5th Year  6th Year	No. Person Day  3 57 76.5 38.5 36 21 21 24	Labour Cost @Rs.315/- per day  17,955.00 24,097.50 12,127.50 11,340.00 6,615.00 7,560.00 6,615.00 6,615.00 6,615.00	Material Cost in Rs.  5 3,600 14,600 4,475 3,800	MELD & Other Contigency 5 % of (4+5)  6  1,078  1,935  830  757  331  378  331  378	Cost of Seedlings @ Rs. 50.81 per seedlings # 7 - 55,891 5,081	8 22,63 96,52 22,51 15,89 6,94 6,94 7,93 6,94
No 1 2 3 4 5 6 7 8 9	Year  2 Oth Year  1st Year  2nd Year  3rd Year  4th Year  5th Year  6th Year  7th Year  8th Year	No. Person Day  3  57  76.5  38.5  36  21  21  24  21	Labour Cost @Rs.315/- per day  17,955.00 24,097.50 12,127.50 11,340.00 6,615.00 7,560.00 6,615.00 6,615.00 6,615.00 6,615.00	Material Cost in Rs.  5 3,600 14,600 4,475 3,800	MELD & Other Contigency 5 % of (4+5)  6  1,078  1,935  830  757  331  331  378  331  331  331	Cost of Seedlings @ Rs. 50.81 per seedlings # 7 - 55,891 5,081	8 22,63 96,52 22,51 15,89 6,94 6,94 6,94 6,94 6,94
No 11 1 2 3 4 5 6 7 8	Year  2 Oth Year  1st Year  2nd Year  3rd Year  4th Year  5th Year  6th Year  7th Year  8th Year	No. Person Day  3 57 76.5 38.5 36 21 21 24 21 21	Labour Cost @Rs.315/- per day  17,955.00 24,097.50 12,127.50 11,340.00 6,615.00 7,560.00 6,615.00 6,615.00 6,615.00	Material Cost in Rs.  \$5 3,600 14,600 4,475 3,800	MELD & Other Contigency 5 % of (4+5)  6 1,078 1,935 830 757 331 331 378 331 331 331 331	Cost of Seedlings @ Rs. 50.81 per seedlings   7	8 22,63 96,52 22,51 15,89 6,94 6,94 7,93 6,94 6,94

Asst. Conservator of Forests Koraput Forest Division

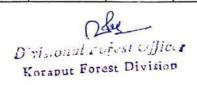
asst. Conservator of Perest KORAPUT

Divisional Forest Officer Koraput Forest Division Divisional Forest Off 1 Koraput Forest Division

SI.		2000 S 2000 COOPS		7.1	250	
No	Tage	Preferable Period of Execution	No of Mandays	Labour cost @ Rs.315/-	Material cost	Total cost
1	2	3		per day	(Rs)	(Rs.)
it is a	STREET, CO. D. ST. St. Co. of the Land St. Co. of the C		4	5	6	7
1	Survey demarcation and pillar posting	ar (Advance w Nov/Dec		<b>500</b>	n- 1-14-14022	12000
2	Preparation of Treatment Map (Digital Map)	Nov/Dec	2	630	0	63
3	Site preparation (Cleaning & Removal of debrises)		12	315 3780	0	378
4	Creation of 4.00 Mtr Wide Inspection Path	Feb/Mar	1	. 315	0	
5	Alignment and stacking of pits	Feb/Mar	2		1.50%	31
6	Digging of pits (45 cm x 45 cm x 45 cm) /50 cm diameter augur hole in hard & gravelly soil		64	20160	0	2016
7	Construction of Temporary Labour Shed, Drinking Water Facility and First Aid etc.		.0	0	3500	350
	Total		82	25830	3600	2943
	1ST YEAI	VPLANTING	1,000,000	45 E 45 15 15 15 15 15 15 15 15 15 15 15 15 15	3000	2743
1	Refilling of pits by altering the dugout soil of the	The production described to the		THE TAX STATE		
	pits, application of Organic compounds/ CDM/FYM and Mixing the same properly.	June/July	12	3780	8000	11780
2	Transportation of 18 Month old poly pot seedlings in Hired Truck/ Tractor from the Permanent/Megha Nursery to Planting Site including loading and unloading (Average Lead of 10 RKM) & Stacing the seedlings @ Rs.6/per seedlings (1760 Nos)	July/Aug	0	0	10560	10560
3	Watering the Polypot Seedlings at Planting site	July/Aug	3	945	0	945
	Convence of Poly pot seedlings on Headload from the stacking site to indivisual dugut pits within the Planting site, applying insecticides, Fertilizers and Planting after scooping the soil with other applied materials and pressing the soil prperly around the planted seedlings	July/Aug	36	11340	0	1134(
2	Cost of insecticide and fertilizer  (a) NPK/ Bio Fertilizer @ 50 gms per plant as basal dose = 80Kg @ Rs.30/- per kg = Rs. 2400.00  (b) Urea/Vermicompost/ Mo Khata/ any other Fertilizes in two subsequent doses @ Rs.1200/-	July/Aug	0	0	4800	4800
	c) Insecticides/ Bio pesticides @ 5 gms/plant -8 Kg @Rs.150/- per kg= Rs.1200.00					
	Casualty replacement@ 10% (160 Nos)	July/Aug	4	1260	0	1260
1:	st weeding & Manuaring	Aug/Sept	15	4725	0	4725
21 ar	nd weeding, Soil Working ( 1 Mtr diameter cound the plant) & Manuring	Oct/Nov	20	6300	0	6300
M	ire line tracing ( 2 Mtr Wide Fireline over 400 long) including Maint. of inspection path	Feb/Mar	3	945	0	945
W	atch & Ward including watering as per requirment	Aug-Mar	12	3780	0	3780
	Total		105	33075	23360	56435



2ND YE	AR MAINTE	NANCE			。2015年9月1日日
ce by tractor @ Rs.6/- per	July	0	0	960	96
10% (160 Nos)	July	4	1260		-
fertilizer	1 0 11 1		1200	- 0	126
des/ Bio Pesticides @ 5 g @Rs.150/- Per Kg =	Aug/Sept	0	0	4606	460
veeding), Manuaring and ameter around the plant)	Sept/Oct	20	6300	0	630
nt. of inspection path	Feb/Mar	3	945	0	94
J. S.	Apr-Mar	18	5670	0	567
Labour Shed, Drinking Aid etc.	Apr-Mar	0	0	1000	1000
Total		45	14175	6566	2074
3RD YEA	R MAINTEN	IANCE		V	
t/ Mo Khata/ any other	Sept/Oct	0	0	4486	4486
eeding), Manuaring and meter around the plant)	Sept/Oct	20	6300	0	6300
. of inspection path	Feb/Mar	3	945	0	945
12 2	Apr-Mar	18	5670	0	5670
Aid etc.	Apr-Mar	0	0	1000	1000
		41	12915	5486	18401
	R MAINTEN	ANCE			SELECTION OF
of inspection path	Feb/Mar	3	945	0	945
	Apr-Mar	18	5670	0	5670
		21	6615	0	6615
	R MAINTEN.	ANCE		Survey of States	- 14-12
of inspection path	Feb/Mar	3	945	0	945
ing watering as per	Apr-Mar	18	5670	0	5670
Total	70 W	21	6615	0	6615
6 TH YEAR	RMAINTEN	ANCE			
Wide Fireline over 400 of inspection path	Feb/Mar	3	945	0	945
		A STATE OF THE PARTY OF THE PAR		19	
ngling out of multiple	Apr-Mar	5	• 1575	Ō	1575
regling out of multiple	Apr-Mar Apr-Mar	5 18	· 1575	0	1575 5670
	O Nos. of seedlings from the including loading and ce by tractor @ Rs.6/- per tractor @ Rs.150/- Per Kg = Fertilizer/Vermicompost/ ertilizes @ Rs. 4486/- weeding), Manuaring and ameter around the plant) tr Wide Fireline over 400 nt. of inspection path luding watering as per tractor water around the plant of the Manuaring and meter around the plant of the Wide Fireline over 400 tractor water around the plant of the Wide Fireline over 400 tractor inspection path unding watering as per tractor water around the plant of inspection path and water around the plant of the Wide Fireline over 400 tractor path of inspection path ding watering as per tractor water as per tractor path ding watering as per tractor path ding watering as per tractor tractor path ding watering as per tractor path ding watering as per tractor tractor water and tractor water water and tractor water and tractor water and tractor water and t	O Nos. of seedlings from Site including loading and ce by tractor @ Rs.6/- per  O 10% (160 Nos)  O 10% (160 Nos)  Fertilizer  des/ Bio Pesticides @ 5 a @Rs.150/- Per Kg =   Fertilizer/Vermicompost/ ertilizes @ Rs. 4486/-  weeding), Manuaring and ameter around the plant)  It Wide Fireline over 400 and the fireline over 400 and th	Nos. of seedlings from lite including loading and ce by tractor @ Rs.6/- per 20 10% (160 Nos) July 4 fertilizer des/ Bio Pesticides @ 5 g @Rs.150/- Per Kg = Fertilizer/Vermicompost/ ertilizes @ Rs. 4486/- weeding), Manuaring and ameter around the plant) for Wide Fireline over 400 ht. of inspection path	Nos. of seedlings from tite including loading and ce by tractor @ Rs.6/- per Division in cite including loading and ce by tractor @ Rs.6/- per Division Path Carbon Path Path Path Path Path Path Path Path	Nos. of seedlings from lite including loading and ce by tractor @ Rs.6/- per



11-5-41-	And 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	7 TH VEA	R MAINTE	NANCE	Santa Supra		
1	Fire line tracing ( 2 Mtr M long) including Maint	Wide Fireline over 400	Feb/Mar	3	945	0	945
2	Watch & Ward		Apr-Mar	18	5670	0	5670
		Total		21	6615	0	6615
		8 TH YEA	R MAINTE	NANCE			
1	Fire line tracing ( 2 Mtr M long) including Maint		Feb/Mar	3	945	0	945
2	Watch & Ward		Apr-Mar	18	5670	0	5670
		Total		21	6615	0	6615
		Barbar Strand Contraction and the Contract Contract Contract	R MAINTE	NANCE			
1	Fire line tracing ( 2 Mtr M long) including Maint	Wide Fireline over 400 of inspection path	Feb/Mar	3	945	0	945
2	Watch & Ward		Apr-Mar	18	5670	0	5670
· · · · · · · · · · · · · · · · · · ·	The state of the s	Total	TO SECURITY	21	6615	0	6615
		THE PERSON NAMED AND PROPERTY OF THE PERSON	R MAINTE	NANCE			a sass
1	Fire line tracing ( 2 Mtr M long) including Maint	of inspection path	Feb/Mar	3	945	0	945
2	Watch & Ward		Apr-Mar	18	5670	0	5670 <b>6615</b>
		Total		21	6615	0	0013
a Love I i i i i	ACCURAGE GOVERNMENT OF THE SECRET PARTY.	\$20 STUDIES OF THE WIND TO PERSON	Control of the Control of	March 2007			
	YEAR WISE ABST	RACT OF COST NO.	RM (SHOWII	NG SEEDL	ING COST	SEPARATI	DLY)
SI. No	YEAR WISE ABST	RACT OF COST NOI	Labour Cost @Rs.315/- per day	Material Cost in Rs.	MELD & Other Contigency 5 % of (4+5)	Cost of Seedlings @ Rs. 50.81 per seedlings	
No	Year	The state of the s	Labour Cost @Rs.315/- per	Material	MELD & Other Contigency 5	Cost of Seedlings @ Rs. 50.81 per	Total Cost in
No	Year 2	No. Person Day	Labour Cost @Rs.315/- per day	Material Cost in Rs.	MELD & Other Contigency 5 % of (4+5)	Cost of Seedlings @ Rs. 50.81 per seedlings	Total Cost in Rs.
No 1	Year 2 Oth Year	No. Person Day	Labour Cost @Rs.315/- per day	Material Cost in Rs.	MELD & Other Contigency 5 % of (4+5)	Cost of Seedlings @ Rs. 50.81 per seedlings	Total Cost in Rs. 8
1 1 2	Year  2  0th Year  1st Year	No. Person Day	Labour Cost @Rs.315/- per day 4 25,830	Material Cost in Rs.	MELD & Other Contigency 5 % of (4+5)	Cost of Seedlings @ Rs. 50.81 per seedlings	Total Cost in Rs.  30,901 1,46,142
No 1 1 2 3	Year  2  Oth Year  1st Year  2nd Year	No. Person Day  3  82  105	Labour Cost @Rs.315/- per day  4  25,830  33,075	Material Cost in Rs. 5 3,600 23,360	MELD & Other Contigency 5 % of (4+5)  6  1,471  281	Cost of Seedlings @ Rs. 50.81 per seedlings - 2 - 89,426	Total Cost in Rs.  30,901 1,46,142 29,908
No 1 2 3 4	Year  2  Oth Year  1st Year  2nd Year  3rd Year	No. Person Day  3  82  105  45	Labour Cost @Rs.315/- per day  4  25,830  33,075  14,175	Material Cost in Rs. 5 3,600 23,360 6,566	MELD & Other Contigency 5 % of (4+5)  6  1,471  281  1,037	Cost of Seedlings @ Rs. 50.81 per seedlings - 2 - 89,426	Total Cost in Rs.  30,901 1,46,142 29,908 19,321
No 1 2 3 4 5	Year  2  Oth Year  1st Year  2nd Year  3rd Year  4th Year	No. Person Day  3  82  105  45  41	Labour Cost @Rs.315/- per day  4  25,830  33,075  14,175  12,915	Material Cost in Rs.  3,600 23,360 6,566 5,486	MELD & Other Contigency 5 % of (4+5)  6  1,471  281  1,037  920	Cost of Seedlings @ Rs. 50.81 per seedlings - 2 - 89,426	Total Cost in Rs.  30,901 1,46,142 29,908 19,321 6,946
1 1 2 3 4 5	Year  2 Oth Year 1st Year 2nd Year 3rd Year 4th Year 5th Year	No. Person Day  3  82  105  45  41  21	Labour Cost @Rs.315/- per day  4  25,830  33,075  14,175  12,915  6,615	Material Cost in Rs.  3,600 23,360 6,566 5,486	MELD & Other Contigency 5 % of (4+5)  6  1,471  281  1,037  920  331	Cost of Seedlings @ Rs. 50.81 per seedlings - 2 - 89,426	Total Cost in Rs.  30,901 1,46,142 29,908 19,321 6,946 6,946
No 1 1 2 3 4 5 6 7	Year  2 Oth Year 1st Year 2nd Year 3rd Year 4th Year 5th Year 6th Year	No. Person Day  3 82 105 45 41 21 21	Labour Cost @Rs.315/- per day  4  25,830  33,075  14,175  12,915  6,615  6,615	Material Cost in Rs.  3,600 23,360 6,566 5,486	MELD & Other Contigency 5 % of (4+5)  6  1,471  281  1,037  920  331  331	Cost of Seedlings @ Rs. 50.81 per seedlings - 2 - 89,426	Total Cost in Rs. 30,901
No 1. 1 2 3 4 5 6 7 8	Year  2 Oth Year  1st Year  2nd Year  3rd Year  4th Year  5th Year  6th Year  7th Year	No. Person Day  3 82 105 45 41 21 21 21 26	Labour Cost @Rs.315/- per day  4  25,830  33,075  14,175  12,915  6,615  6,615  8,190	Material Cost in Rs.  3,600 23,360 6,566 5,486	MELD & Other Contigency 5 % of (4+5)  6  1,471  281  1,037  920  331  331  409	Cost of Seedlings @ Rs. 50.81 per seedlings - 2 - 89,426	Total Cost in Rs.  30,901 1,46,142 29,908 19,321 6,946 6,946 8,599
No 1. 1 2 3 4 5 6 7 8 9	Year  2 Oth Year  1st Year  2nd Year  3rd Year  4th Year  5th Year  6th Year  7th Year  8th Year	No. Person Day  3 82 105 45 41 21 21 26 21 21 21	Labour Cost @Rs.315/- per day  4  25,830  33,075  14,175  12,915  6,615  6,615  8,190  6,615	Material Cost in Rs.  3,600 23,360 6,566 5,486	MELD & Other Contigency 5 % of (4+5)  6  1,471  281  1,037  920  331  409  331	Cost of Seedlings @ Rs. 50.81 per seedlings - 2 - 89,426	Total Cost in Rs.  30,901 1,46,142 29,908 19,321 6,946 6,946 8,599 6,946 6,946
No 1. 1 2 3 4 5 6 7 8	Year  2 Oth Year  1st Year  2nd Year  3rd Year  4th Year  5th Year  6th Year  7th Year	No. Person Day  3 82 105 45 41 21 21 21 26 21	Labour Cost @Rs.315/- per day  4  25,830  33,075  14,175  12,915  6,615  6,615  8,190  6,615  6,615	Material Cost in Rs.  3,600 23,360 6,566 5,486	MELD & Other Contigency 5 % of (4+5)  6  1,471  281  1,037  920  331  409  331  331	Cost of Seedlings @ Rs. 50.81 per seedlings	Total Cost in Rs.  30,901 1,46,142 29,908 19,321 6,946 6,946 8,599 6,946

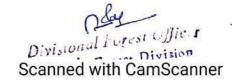
Asst. Conservator of Forests Koraput Forest Division

Koraput Forest Division

K O R A P U T

Divisional Forest Officer Rotaguo Forest Division Officer
Koraput Forest Division

		RM FOR RA				onth)	-	
SI. No	Items of work	WAGE RA Preferable Period of Execution	Unit	Unit Cost	No./ Quantity	Labour cost @ Rs.315/-	Material cost	Total cost (Rs.)
1	2	3	4	5	6	per day	8	9
	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	inancial Ye						10-25-20450
1	Cost of Polythene (9"*5"*200)300 Nos/Kg =3.33 Kg@ 208/- per Kg (Including GST)	Nov-Dec	Kg	208	3.33	-	693.00	693.00
	Procurment of raw & crude Polypot Mixture (Soil, Sand & CDM in ratio (2:1:1)							
2	(i)Soil	Nov-Dec	Cft	10	22 .	-	220.00	220.00
	(ii)Sand	Nov-Dec	Cft	16	11	-	176.00	176.00
	(iii)CDM	Nov-Dec	Cft	25	11	-	275.00	275.00
	(iv)Insecticides/Bio-Pesticide	Nov-Dec	Kg	150	2		300.00	300.00
3	Preparation of Soil Mixture Includes Pulverisation and straining & Mixing ingredients in proper ratio (2:1:1)	Nov-Dec	MD	315	2	630.00	٠	630.00
4	Filling of Polypot Bags & Setting in	Nov-Dec	MD	315	3	945.00	S <b>≠</b> 2	945.00
5	the beds  Collection of seeds grading &  Treatment	Dec	MD	315	2	630.00	•	630.00
6	Preparation of germination Bed & Sowing of Seeds	Jan	MD	315	0.5	157.50	•	157.50
7	Dibbling of Seeds/ Pricking out the seedlings from germination beds and Transplanting in the poly bags and Providing sheds.	Jan	MD	315	2	630.00	500.00	1,130.00
8	Watering (Jan to March)	Jan-Mar	MD	315	9	2,835.00		2,835.00
9	Maintenance of Nursery inluding Fencing	Jan-Mar	MD	315	4	1,260.00	500.00	1,760.00
10	Contigencies (Watercan, Buckets, Nursery Shed, Electric Charges/ Desel Charges/ Maint. of Pump Set/ Maint.		-	-	-	-	460.50	460.50
	of Nursery, etc.) Total				22.5	7,087.50		
<b>13</b>	2nd Financial Year (Shifting o	f Seedlings	to large	r Polyth	ene begs t	o avoid ro	ot coilling	& bette
В.,	2nd Financial Feat (Smitting C	growt	h (Apr to	March	)			
1	Waering for 3 Months (April to	April-June	MD	315	9	2,835.00	**************************************	2,835.00
2	June) Cost of Insecticides/Bio pestcides	May-June	Kg/Lts	315	0	: <u>-</u>	400.00	400.00
3	Application of insecticides/Bio Pesticides	May-June	MD	315	1	315.00	7 <b>4</b> 6)	315.00
4	Cost of Polypot (12"*10"*300)60 Nos/Kg =17 Kg@ 208/- per Kg (Including GST)	May-June	Kg	208	17	<u> </u>	3,536.00	3,536.0
	Procurment of raw & crude Polypot Mixture (Soil, Sand &		25	#		2	7.	
.	CDM in ratio (2:1:1) (i)Soil	Apr/May	Cft	10	100	-	1,000.00	1,000.0
5		Apr/May	Cft	16	50		800.00	800.00
	(ii)Sand	Apr/May	Cft	25	50	-	1,250.00	1,250.0
1	(iii)CDM	Apr/May	Kg	150	3	-	450.00	450.00
6	(iv)Insecticides/ Bio-Pesticide  Preparation of Potting Mixture	· Oct-Nov	MD	315	6	1,890.00		1,890.0
	Includes Pulverisation and straining		MD	315	35	11,025.00		11,025.0
7	Filling of Polypot Bags including re- potting and setting	Oct-Nov	1010	313	3F.#3	11,025.00		



8	Watering (Oct to March)							
9	Sorting Woodi	Oct-Mar	MD	315	19	5,985.00	•	5,985.00
10	Sorting, weeding, grading and resetting over one year period	Apr-Mar	MD	315	15	4,725.00	-	4,725.00
10	Contigencies (Watercan, Buckets, Nursery Shed, Electric Charges/ Desel Charges/ Maint. of Pump Set/ Maint. of Nursery, etc.)					-	400.00	400.00
Ne Ostribus	Total	Yes -			85	26,775.00	7,836.00	34,611.00
		ncial Year (N	laintenan	ce upto Pla	nting) Apr	ll-June	The property	
1	Watering (Apr to June)	Apr-June	MD	315	12	3,780.00	-	3,780.00
2	Weeding, shifting and grading	Apr-June	MD	315	4	1,260.00	-	1,260.00
3	Cost of Insecticides/Bio pestcides	Apr-June			0		400.00	400.00
4	Application of insecticides/Bio Pesticides	Apr-June	MD	315	1	315.00	e	315.00
5	Contigencies		•	•	-	-	230.00	230.00
	Grand Total		Aller		17	5,355.00	630.00	5,985.00
		AI	BSTRA	ACT				
te kras	Item of Wor				MD	Labour cost @ Rs.315/- per day	Material Cost in Rs.	Total Cost in Rs.
A	1st Financial Year (3 Months)				22.5	7,087.50	3,124.50	10,212.00
В	2nd Financial Year (12 Months	s)			85	26,775.00	7,836.00	34,611.00
С	3rd Financial Year (3 Months)				17	5,355.00	630.00	5,985.00
_	Total				124.5	39217.50	11590.50	50,808.00

Cost per 18 Months old Seedlings= 50808/1000=50.81

Asst. Conservator of Forests Koraput Forest Division

Koraput Forest Division

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Divisional Forest Officer
Koraput Forest Division
Divisional Forest Officer

Koraput Forest Division

FENCING FOR COMPENSATORY PLANTATION RAISED INSIDE THE FOREST AREAS USING BAMBOO TWIGS & THORNS (250 Rmt/Ha) Wage Rate Rs.-315/- Per day Labour Material SI. Preferable Total cost No of cost @ cost Items of work Period of No Mandays Rs.315/-Execution (Rs) (Rs.) per day 1 5 6 7 0th year (PPO) 1 NIL 0 0 Total 0 0 0 0 1st year Maintenance 1 Set/Oct Taking an average erimeter of 250 Rmt/Ha @93.85/mt (Half bundle Bamboo Twigs/Mt @ 120/Bundle) 30 9450 14133 23583 Labour: Materials = 40: 60 (Approximate) Bamboo Poles of 8 height a distance of 2 Mt Set/Oct spacing to be fixed (2" under soil & 2" above soil) 250/2=125+1=126 Nos. of Bamboo Poles 1 0 0 8400 8400 Bamboo (Approximate) 24" height = 3 Poles 1 Bamboo (Approximately) 24" Height = 3 Poles 126/3 = 42 Bamboos @ Rs.200/- Per Bamboo 3 Preparation of Bamboo poles, Digging of holes Set/Oct of 2 ft depth and fixing Bamboo poles @20 6.5 2047.5 0 2047.5 Poles/Md Cost of Bamboo for tieing the Bamboo twigs Set/Oct 4 row fence with double side two strand bamboo batten (One 6" above ground and other one 4 Ft 0 0 4200 4200 (250x2)/24=21above ground) Bamboo @200/Bamboo Making Bamboo batten, Finishing the batten & Set/Oct 5 0 2835 9 2835 Tieing the same on doule strand on Coir rope etc. @Rs.11/Rmt. Cost of coir rope @Rs. 0.125 Kg/Rmt 500 x Set/Oct 6 0 0 4375 4375 0.125 kg = 62.5 Kg @Rs.70/KgMaking one Bamboo Twigs gate with Bamboo 7 0 0 500.5 500.5 Frame Total 14332.5 31608.5 45941 45.5 Rate per running Mtr Rs.45941/250=183.764/Rmt Or Say Rs.184/-2ND YEAR MAINTENANCE Repair & Maintanance of Bamboo Twigs Fence 6300 1500 20 7800 Feb/Mar including Materials Cost **Grand Total** 20 6300 1500 7800 Rate per running Mtr Rs.7800/250=31.20/Rmt Or Say Rs.31/-3RD YEAR MAINTENANCE Repair & Maintanance of Bamboo Twigs Fence 20 6300 5675 11975 Feb/Mar including Materials Cost 6300 5675 11975 **Grand Total** 20 Rate per running Mtr Rs.11975/250=47.90/Rmt Or Say Rs.48/-4TH YEAR MAINTENANCE Repair & Maintanance of Bamboo Twigs Fence 6300 5675 11975 20 Feb/Mar including Materials Cost

**Grand Total** 

Rate per running Mtr Rs.11975/250=47.90/Rmt Or Say Rs.48/-

Divisional Parest Office Koraput Forest Division

6300

20

5675

11975

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e rester	MANAGEMENT COMMANDER OF THE STREET	and the state of t		*			
1	9.80 (S. 1219) (1.9)	5TH YE	AR MAINT	ENANCE			
	Repair & Maintanance of including Materials Cos	of Bamboo Twigs Fence	Feb/Mar	20	6300	5675	11975
D.		Grand Total	*	20	6300	5675	11975
Kat	e per running Mtr Rs.11	975/250=47.90/Rmt Or S	Say Rs.48/-			140	
			BSTRAC	$\mathbf{T}$			
SI. No	Year	No. Person Day	Labour Cost @Rs.315/- per day	Material Cost in Rs.	MELD & Other Contigency	Seedling Cost in Rs.	Total Cost in Rs.
1	0th Year	0	-	·	0	0	) ( <u>=</u>
2	1st Year	45.5	14,332.50	31,608.50	0	0	45,941
3	2nd Year	20	6,300.00	1,500.00	0	0	7,800
4	3rd Year	20	6,300.00	5,675.00	0	0	11,975
5	4th Year	20	6,300.00	5,675.00	0	0	11,975
6	5th Year	20	6,300.00	5,675.00	0	0	11,975
	Total	125.5	39,532.50	50,133.50	0	0	89,666

Asst. Conservator of Forests Koraput Forest Division

Asst. Conservator of Forests Koraput Forest Division KORAPUT Divisional Forest Officer Koraput Forest Division Divisional Forest Officer Koraput Forest Division

	WATEDING MODEL WILL WAS	D	1.01.5		
	Diesel Pump set with Borewell (1 Pump set + Bore v	ig Provision well for 5Ha	Plantation) V	tion Vogo Pata C	2215/
	Year of Installation	(Oth Vear)	i i iantation), v	wage Rate (	v315/-
1	Cost of Borewell	car	and the second s	1,50,000	article des la constant
2	Cost of Diesel Pump set 5HP			60,000	
3	Diesel pump set & assessories like commander Pipes, etc.			30,000	
4	Water Storage Tanks/ Flexible pipes	-		TO ANSAULT DISSUSSED TO	
1	S. Tambe Pipes	_		15,000	
Cost	t of Water per Plant (2,55,000/5000)= Rs51/- Cost of Water per I	1a= Rs 51 000	/-	2,55,000	51,00
i la	1ST YEAR WA				
1	Recurring expenditure i.e. Diesel, Mobil, Engine Oil, etc. for pun	nping water- 2	1 x 1000 =		21,00
2	Watering 1000 Plants (Nov-Mar) @200 Plants/Md with 7 days ro	- Record		/ld x 315=	31,50
	watering 1000 Flants (1007-191a) (@200 Flants/ivid with 7 days for	ration 20 ivid	C S Wientar Too I	Total	52,50
Middle All N	2ND YEAR WA'	TERING			
	Recurring expenditure i.e. Diesel, Mobil, Engine Oil, etc. for pun	needs as the contract of	I x 1000 =	Service Age	
2	Maintenance Diesel pump se etc. @15% of the installation cost	T IND			21,00 7,65
+	Watering 1000 Plants (Apr-June & Nov-Mar-8 Months) @200 Plants/Md with 7 of	days rotation 20 M	Id x 8 Month = 160 Ma	d x 315=	50,40
	Control of the contro			Total	79,0
	3RD YEAR WAT	FEDINO	Section of the section	Total	79,0.
		et/pastaretes percentare			Carl Class
1	Recurring expenditure i.e. Diesel, Mobil, Engine Oil, etc. for pum	ping water- 2	1 x 1000 =		21,0
	Maintenance Diesel pump se etc. @15% of the installation cost				7,6
	Watering 1000 Plants (Apr-June & Nov-Mar-8 Months) @200 Plants/Md with 7 c	lays rotation 20 M	d x 8 Month = 160 M	d x 315=	50,4
				Total	79,0
	4TH YEAR WAT	TERING			
	Recurring expenditure i.e. Diesel, Mobil, Engine Oil, etc. for pum	ping water- 21	x 1000 =		21,0
+	Maintenance Diesel pump se etc. @15% of the installation cost				7,6
+	Watering 1000 Plants (Apr-June & Nov-Mar-8 Months) @200 Plants/Md with 7 d	lays rotation 20 M	d x 8 Month = 160 Me	d x 315=	50,4
				Total	79,0
	5TH YEAR WAT	ERING			and the factor
T	The same of the sa	y 1,800 to 100 t		的数型。0.942 H 不同性的	**CLAN.BY4.5
F	Recurring expenditure i.e. Diesel, Mobil, Engine Oil, etc. for pum	ping water- 21	x 1000 =		21,0
N	Aaintenance Diesel pump se etc. @15% of the installation cost				7,6
u	Vatering 1000 Plants (Apr-June & Nov-Mar-8 Months) @200 Plants/Md with 7 d	lays rotation 20 M	d x 8 Month = 160 M	d x 315=	50,4
1				Total	79,0
	ABSTRAC	T			1-31-31-31
gens.	Year	No. Person days	Labour Cost @Rs.315/- per day	Material Cost	Total Cost Rs.
_	Oth Year	0		51,000	51,000
	1st Year	100	31,500	21,000	52,500
	2nd Year	160	50,400	28,650	79,050
	3rd Year	160	50,400	28,650	79,050
	4th Year	160	50,400	28,650	79,050
	5th Year	160	50,400	28,650	79,050
-77	Total	740	2,33,100	1,86,600	4,19,70

Asst. Conservator of Forests
Koraput Forest Division
ASST. Conservator of Forest;
Koraput Forest Division
KORAPUT

Divisional Forest Officer Koraput Forest Division Divisional Forest Offic I Koraput Forest Division

_	Cost Norms for cre Cons	ation of Compens ervation of Moist	satory Affo ure Wage	orestation v Rate @315	vith Stabi	lization o	f Soil &
SI. No	Items o	of work	Preferable Period of	No of	Labour cost @ Rs.315/-	Material cost	Total cost
1			Execution	Mandays	per day	(Rs)	(Rs.)
1	The same of the sa	2	3	4	5	6	7
1	NIL		0 <sup>th</sup> year (PPO				
				0	0	0	0
		Total	(A) 10 (A)	0	U		U Silver
1	Soil Conservation measure Trench, Percolation Pit, Con earthen bund, LBCD, Wre in Dyke & WHS as per the slo LS	structures like Staggered ntour trench, Graded mesh, LBCD, Sub Surface	year Mainten Apr/Sept	o o	0	20215	20215
		Total		0	0	20215	20215
		2ND YEA	AR MAINT	ENANCE			
1	Maintenance of SMC stru year cost	uctures @15 % of initial	Apr/July	0	0	3032	3032
		Grand Total		0	0	3032	3032
		3RD YEA	AR MAINTI	ENANCE	A CALLET	的學術	
1	Maintenance of SMC stru year cost	uctures @15 % of initial	Apr/July	0	0	3032	3032
		Grand Total		0	0	3032	3032
A TOTAL	and participation of the second or the secon	and the second s	AR MAINTI	ENANCE			
1	Maintenance of SMC stru year cost		Apr/July	0	0	3032	3032
	3	Grand Total		0	0	3032	3032
		(1) 日本の主义を大力・1 (中 ) (1) (1) (1) (2) (2) (2) (1) (2) (2) (2) (2) (2) (2) (2) (2) (2) (2	AR MAINTI	ENANCE			
1	Maintenance of SMC stru year cost	ectures @15 % of initial	Apr/July	0	0	3032	3032
	your cost	Grand Total		0	0	3032	3032
		$\mathbf{A}$	BSTRAC	$\mathbf{T}$			
SI. No	Year	No. Person Day	Labour Cost @Rs.315/- per day	Material Cost in Rs.	MELD & Other Contingency	Seedling Cost in Rs.	Total Cost in Rs.
	0th Year	0		-	0	0	-
1	1st Year	0	•	20,215.00	0	0	20,215
3	2nd Year	0	-	3,032.00	0	0	3,032
4	3rd Year	0	121	3,032.00	0	0	3,032
5	4th Year	0	-	3,032.00	0	0	3,032
6	5th Year	0	- 1	3,032.00	0	0	3,032
<u></u>	VIN W W	0	- 11	32,343.00	0	0	32,343

Asst. Conservator of Forests Koraput Forest Division

Total

Koraput Forest Division

K O R A P U T

Divisional Forest Officer
Koraput Forest Division
Divisional Forest Officer
Koraput Forest Division

CALCULATION SHEET FOR COST OF VEHICLE INCLUDING MAINTENANCE ETC.

SI.	Work to be done	Estimated expenditure
No 1	Cost of one Mahindra Scorpio S11 on Road Price including RTO,	Rs. 20,98,000=00
	Insurance & Other charges	Rs. 14,40,000=00
	POL @ Rs. 12,000 Month x 120 Month  Maintenance including Tyre & Tube etc. @ Rs. 60,000/- per year for 10 Year  Sub Total	Rs. 6,00,000=00
	Sub Tour	Rs. 41,38,000=00 Rs. 16,00,000=00
2	Cost of one Mahindra Thar LX 4-STR Convertible Diesel MT on Road Price including RTO, Insurance & Other charges	
-	12 000 Month v 120 Month	Rs. 14,40,000=00 Rs. 6,00,000=00
	Maintenance including Tyre & Tube etc. @ Rs. 60,000/- per year for 10 Year  Sub Total	Rs. 36,40,000=00
3	Cost of 1 Nos of Mahindra Bolero B6 (O) on Road Price including	Rs. 11,00,000=00
	RTO, Insurance & Other charges @ Rs. 11,00,000/- POL @ Rs. 12,000 Month x 120 Month = Rs. 14,40,000/-	Rs. 14,40,000=00
	Maintenance including Tyre & Tube etc. @ Rs. 60,000/- per year for 16 16	Rs. 6,00,000=00
	Rs.6,00,000/- Sub Total	Rs. 31,40,000=00
	Grand Total	Rs. 1,09,18,000=00

(Rupees One Crore Nine Lakh Eighteen Thousand) only

Asst. Conservator of Forests Koraput Forest Division Divisional Forest Officer
Koraput Forest Division
Noticed Forest Officer

Koraput Forest Division

#### Annexure-IX

Calculation sheet for deployment of Driver through Service Provider (In Rs.)

SI No	Category	Basic wage rate/ day	Basic Wage per month	EPF 13% of the wage	ESI, 4.75% of the wage	GST @ 18%	Service Charges @100/- per person	Total requirement per month (Col.4+5+6+7)	Total Amount (Col. 8+9)
1_	2	3	4	5	6	7	8	9	10
1	Deployment of Driver through service provider	405/-	12150/-	1580/-	577/-	2187/-	100/-	16594/-	16594/-

For 1 person @Rs. 16594/- per month for 1 persons for 10 years = Rs. 16594 x 1 x 12 x 10 = Rs. 19,91,280/-

(Rupees Nineteen Lakh Ninety One Thousand Two Hundred Eighty)only

Asst. Conservator of Forests Koraput Forest Division

K O R A P U T

Divisional Forest Officer Koraput Forest Division

#### Annexure-X

Calculation sheet for deployment of Squad Person through Service Provider (In Rs.)

SI No	Category	Basic wage rate/ day	Basic Wage per month	EPF 13% of the wage	ESI, 4.75% of the wage	GST @ 18%	Service Charges @100/- per person	Total requirement per month (Col.4+5+6+7)	Total Amount (Col. 8+9)
1	2	3	4	5	6	7	8	9	10
1	Deployment of Squad Person through service provider	315/-	9450/-	1229/-	449/-	1701/-	100/-	12929/-	12929/-

For 10 person @Rs. 12929/- each per month for for 10 years = Rs. 12929 x 10 x 12 x 10 = Rs. 1,55,14,800/-

(Rupees One Crore Fifty Five Lakh Fourteen Thousand Eight Hundred)only

Asst. Conservator of Forests

Koraput Forest Division

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Coraput Forest Division

Divisional Forest Officer Koraput Forest Division

# READY RECKONER (FINANCIAL OUTLET) FOR COMPENSATORY AFFORESTION SCHEMES ON DEGRADED FPREST LAND FOR THE FY 2021-22

SI			Watering	Fencing				
No	CA-Code	Core Plantation	Diesel Pumpset with mannual	Bamboo Twigs	SMC	Total Cost per Ha	Total CA Area in Ha	Grand Total Cost
CA 5	00+WATERING+FENCING	CA (ANR) 500					0-1	
1	ANR500 + DP+ BT+ SMC	1,36,098	4,78,294	99,967	35,633	7,49,992	770	57,74,93,840
CA 1	000+WATERING+FENCING	CA (AR) 1000						29 32 3 3
2	AR1000 + DP+ BT+ SMC	2,34,718	4,78,294	99,967	35,633	8,48,612	200	16,97,22,400
CA 1	600+WATERING+FENCING	CA (AR) 1600		-				
3	CA1600 + DP+ BT+ SMC	3,10,117	4,78,294	99,967	35,633	9,24,011	430	39,73,24,730

Grand Total | 1,14,45,40,970

Asst. Conservator of Forests Koraput Forest Division

Asst. Conservator of Forests Coraput Forest Division KORAPUT

**Divisional Forest Officer Koraput Forest Division** Divisional Forest Offic .

Koraput Forest Division

# TOTAL PROJECT COST OF THE COMPENSATORY AFFORESTATION PLANTATION SCHEME

SI. No	Plantation Type	Extent area in Ha/Rmt etc	Cost Norm per Ha (Rs)	Total Cost (Rs)	Remarks
1	ANR With Gap Plantation @500 Plants/Ha including cost of Plantation+ Diesel Pump & Manual Watering + Bamboo Twig Fencing + Soil Moisture Conservation (SMC)	770 Ha	7,49,992/-	57,74,93,840	
2	AR Plantation @1000 Plants/Ha including cost of Plantation+ Diesel Pump & Manual Watering + Bamboo Twig Fencing + Soil Moisture Conservation (SMC)	200 Ha	8,48,612/-	16,97,22,400	Rs. 114,45,40,970/- is to be deposited in Adhoc CAMPA Account
3	AR Plantation @1600 Plants/Ha including cost of Plantation+ Diesel Pump & Manual Watering + Bamboo Twig Fencing + Soil Moisture Conservation (SMC)	430 Ha	9,24,011/-	39,73,24,730	
	Sub Total (1+2+3)	1400 Ha		114,45,40,970	
4	Strengthening of the VSS of the adjoinir of EPA activities/ Incentive etc for 10 Y	g CA sites with ear i.e. from 5 %	provision of the CA Cost	5,72,27,000	
5	Monitoring & Supervision Cost i.e. ( Maintenance etc. for 10 year			1,09,18,000	To be supplied in kinds (Vehicles).
6	Deployment of Protection Squad (10 for ride of Squad Vehicle through se Cost for 10 years= (1,55,14,800+19, say Rs. 1,75,06,000/-	rvice provider-l	Remuneration	1,75,06,000	POL, Maint. Cost & Remuneration etc. cost to be deposited as per the direction of the
7	Protection from Forest Fire, Preventi Years i.e. 5 % of the CA Cost. For all	on and Manage I CA sites in si	ement for 10 x Ranges.	5,72,27,000	DFO, Koraput Forest Division
8	Installation of one GIS Lab in DFO	Office Campus.		25,00,000	
		Sub Tota	1 (4+5+6+7+8)	14,53,78,000	
		67 ACRES (1870)	<b>Grand Total</b>	128,99,18,970	
-	Rupees One Hundred Twenty Eight C	rore Ninety Nin	ie Lakh Eighteer	Thousand Nine I	Hundred Seventy) only.

Asst Conservator of Forests

Koraput Forest Division

KORAPUT

Divisional Forest Officer
Koraput Forest Division
Divisional Forest Officer
Koraput Forest 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. To outcome is as mentioned below:

Interviet of the parameter of the	-		Name of the Forest Block	Area		Cla	ssification (	of identified	Classification of identified Land (in Ha)	fa)		Area s	uitable for	Area suitable for Plantation (in Ha)	(in Ha)	Plantation	
2         3         4         5         6         7         8         9         10         11         12         13         14         15         16         ANR           Koraput         Janiguda PRF         100         0         58704         8.099         33.197         0         100         88.129         2.627         9.244         8.099         33.197         0         100         88.129         2.627         9.244         100         88.129         2.627         9.244         100         ANR           Semiliguda         Mandaput Ext. PRF         40         0         6.688         32.162         0.87         0         40         6.968         32.162         0.87         0         40         6.968         32.162         0         0         9.244         10         8.99         33.162         0         0         9.244         10         0<	± 8		(RF/PRF/PF/DPF/Revenue Forest)	identified for CA/ ACA/ PCA (in Ha)		Moderatel y Dense Forest	Open Forest	Non- Forest	Scrub	Water	Total	Open Forest	Non- Forest	Scrub	Total	Model (AR/ANR)	Remarks
Koraputt         Janiguda PRE         100         0         58.704         8.099         33.197         0         100         58.704         9.31.97         0         100         58.704         9.31.97         0         0         0         0         58.702         9.244         0         <	-	2	3	4	5	9	7	80	6	10	11	12	13	14	15	16	17
Koraput         Kankadabari RF         100         0         88.129         2 627         9.244         0         100         88.129         2 627         9.244         0         100         88.129         2 627         9.244         100         ANR           Semiliguda         Nandapur Ext. PRF         40         0         6.598         32.162         0.87         0         0         6.598         32.162         0.87         1.327         0	-	Koraput	Janiguda PRF			0	58.704	8.099	33.197	0	100	58.704	8.099	33.197			
Semiliguds         Nandapur Ext. PRF         40         0         6.688         32.162         0.87         40         6.968         32.162         0.87         40         6.968         32.162         0.87         40         ANR           Semiliguda         kaasandi PRF         50         0         0         36.727         13.273         0         0         6.2036         19.424         8.54         0         50         13.273         0         0         0         40         8.6         35.727         13.273         0         0         0         40         8.8         0		Koraput	Kankadabari RF	100	0	0	88.129	2.627	9.244	0	100	88.129	2.627	9.244	100	ANR	
Semiliguda         Kasandi PRF         50         0         36,727         13,273         0         50         36,727         13,273         0         50         36,727         13,273         0         50         ANR           Semiliguda         Ampavadi RF         90         0         62,036         19,424         8,54         0         90         62,036         19,424         8,54         0         90         62,036         19,424         8,54         0         90         62,036         19,424         8,54         0         90         62,036         19,424         8,74         90         ANR           Balda         Mali Bhimdol RF         100         0         0         12,067         72,041         6,892         0         0         18,915         81,085         0         10,0         18,915         100         ANR           Laxmipur         Raixil RF         90         0         0         25,558         64,552         9,88         0         10,0         11,667         29,535         58,798         100         ANR           Laxmipur         Haitibari RF         10         0         0         25,558         58,798         0         10,0         10,0 <td>5</td> <td>Semiliguda</td> <td>Nandapur Ext. PRF</td> <td>40</td> <td>0</td> <td>0</td> <td>896.9</td> <td>32.162</td> <td>0.87</td> <td>0</td> <td>40</td> <td>896.9</td> <td>32.162</td> <td>0.87</td> <td>40</td> <td>ANR</td> <td></td>	5	Semiliguda	Nandapur Ext. PRF	40	0	0	896.9	32.162	0.87	0	40	896.9	32.162	0.87	40	ANR	
Semiliguda         Ampavali RF         90         6.20.36         19.424         8.54         0.90         6.20.36         19.424         8.54         0.90         6.20.36         19.424         8.54         0.90         6.20.36         19.424         8.54         0.90         6.20.36         19.424         8.54         0.0         0.0         121.067         72.041         6.892         0         120.067         72.041         6.892         0         120.067         72.041         6.892         0         120.067         72.041         6.892         0         120.067         72.041         6.892         0         120.07         72.041         6.892         0         120.07         72.041         6.892         0         120.07         72.041         6.892         0         120.07         72.041         6.892         0         120.07         72.041         8.88         100         0         18.88         100         0         0         0         25.568         64.552         9.88         0         0         0         0         25.568         64.552         9.88         0         0         0         0         0         0         0         0         0         0         0         0	শ	Semiliguda	Kasandi PRF	80	0	0	36.727	13.273	0	0	50	36.727	13.273	0	50	ANR	Suitable for ANR with Gap Plantation @500
Balda         Mali Bhimdol RF         200         0         120,067         72,041         6.892         0         200         121,067         72,041         6.892         0         121,067         72,041         6.892         0         121,067         72,041         6.892         0         121,067         72,041         6.892         20         100         ANR           Laxmipur         Raisil RF         90         0         6.562         24.38         0         0         6.562         24.38         0         100         18.915         81.085         100         ANR           Laxmipur         Anisil RF         100         0         0         25.568         64.552         9.88         0         100         11.667         29.535         88.798         10         ANR           Laxmipur         Hatibari RF         60         0         0         60         50.535         88.798         0         60         60         AR           Balda         Hatibari RF         60         0         0         60         60         60         60         60         60         60         83.312         10         AR         100         AR           Lexmipur <td>8</td> <td>Semiliguda</td> <td>Ampavali RF</td> <td>06</td> <td>0</td> <td>0</td> <td>62.036</td> <td>19.424</td> <td>8.54</td> <td>0</td> <td>06</td> <td>62.036</td> <td>19.424</td> <td>8.54</td> <td>06</td> <td>ANR</td> <td>Plants/Ha</td>	8	Semiliguda	Ampavali RF	06	0	0	62.036	19.424	8.54	0	06	62.036	19.424	8.54	06	ANR	Plants/Ha
Laxuniput         Cihodabeda PRF         100         0         65.62         24.38         0         10         65.62         24.38         0         100         65.62         24.38         0         10         65.62         24.38         0         9         65.62         24.38         0         9         65.62         24.38         0         9         65.62         24.38         0         9         65.62         24.38         0         9         65.62         24.38         0         9         66.52         24.38         0         0         0         65.62         24.38         0	9		Mali Bhimdol RF	200	0	0	120.067	72.041	6.892	0	200	121.067	72.041	6.892	200	ANR	
Laximpur         Raisil RF         90         0         65.62         24.38         0         90         65.62         24.38         0         90         65.62         24.38         0         65.62         24.38         0         65.62         24.38         0         65.62         24.38         0         100         25.568         64.552         9.88         100         AR           Laximpur         Totaguda PRF         100         0         16.667         29.535         58.798         0         11.667         29.535         58.798         100         AR           Balda         Hatibari RF         60         0         60         60         60         60         AR         60         60         AR         60         60         AR         60         60         60         60         AR         60         60         60         AR         60         60         60         60         AR         60         60         60         60         AR         60	7	Lamtaput	Ghodabeda PRF	100	0	0	0	18.915	81.085	0	100	0	18.915	81.085	100	ANR	
Narayanpadna         Jamuguda PRF         100         0         25.568         64.552         9.88         0         100         25.568         64.552         9.88         100         AR           Laxmipur         Totaguda PRF         100         0         10.667         29.535         58.798         0         10.67         29.535         58.798         100         AR           Balda         Hatibari RF         60         0         0         60         0         60         0         60         AR           Laxmipur         Hatimali DPF         100         0         75.966         21         3.034         0         10         75.966         21         3.034         0         10         AR           Laxmipur         Godmak PRF         120         0         24.802         11.886         83.312         0         120         24.802         11.886         83.312         0         150         AR	G	- Indiana	Raisil RF	06	0	0	65.62	24.38	0	0	06	65.62	24.38	0	06	ANK	
Laximpur         Totaguda PRF         100         0         10.667         29.535         58.798         0         11.667         29.535         58.798         100         AR           Laximpur         Hatibari RF         60         0         0         60         0         60         0         60         0         60         AR           Laximpur         Hatimali DPF         120         0         75.966         21         3.034         0         15.966         21.886         83.312         10         AR           Laximpur         Godmak PRF         120         0         16.828         41.802         91.37         150         AR         AR	0 2		Jamuguda PRF	001	0	0	25.568	64.552	9.88	0	100	25.568	64.552	9.88	100	AR	Suitable for AR
Balda         Hatibari RF         60         0         60         60         60         60         60         AR           Leximipur         Hatimali DPF         120         0         75.966         21         3.034         0         150         75.966         21         3.034         100         AR           Laxinipur         Godinak PRF         120         0         24.802         11.886         83.312         0         150         15.828         41.802         91.37         150         AR	5		Totaguda PRF	100	0	0	10.667	29.535	862.85	0	100	11.667	29.535	58.798	100	AR	Plants/Ha
Leximpur         Hatimali DPF         100         0         75.966         21         3.034         0         150         75.966         21         3.034         0         150         75.966         21         3.034         100         AR           Laxmipur         Godmak PRF         120         0         24.802         11.886         83.312         0         120         24.802         11.886         83.312         120         AR           Laxmipur         Godmak PRF         150         0         16.828         41.802         91.37         150         AR	1 =	_	Hatibari RF	09	0	0	0	09	0	0	09	0	09	0	09	AR	
Godmak PRF 150 0 0 24.802 11.886 83.312 0 120 24.802 11.886 83.312 120 AR 1.802 91.37 0 150 150 150 150 AR	2	-	Hatimali OPF	100	0	0	75.966	21	3.034	0	100	75.966	21	3.034	100	AR	Suitable for AR Plantation @1600
Courds Ramii DPF 150 0 0 16.828 41.802 91.37 0 150 16.828 41.802 91.37 150	1 5	_	Godmak PRF	120	0	0	24.802	11.886	83.312	0	120	24.802	11.886	83.312	120	AR	Plants/Ha
	- 1 -	Lanimin	Gouda Ramii DPF	150	0	0	16.828	41.802	91.37	0	150	16.828	41.802	91.37	150	AR	

Divisional Forest Officer
Koraput Forest Division, Koraput
(1) Wisional Forest Officer
Koraput Forest Division

Countersigned

Regional Chief Conservator of Forests Koraput Circle, Koraput

# SCHEME FOR ADITIONAL COMPENSATORY **AFFORESTATION OVER** 140 Ha. AT GODMAK PRF OF LAXMIPUR

RANGE

UNDER KORAPUT FOREST DIVISION FOR DIVERSION OF 697.979Ha. OF FOREST LAND

#### **FOR**

POTTANGI BAUXITE MINES UNDER POTTANGI TAHASIL, DIST. KORAPUT (ODISHA)

OF

M/s. NATIONAL ALUMINIUM COMPANY LIMITED, **BHUBANESWAR (ODISHA)** 

# SCHEME FOR ADDITIONAL COMPENSATORY AFFORESTATION FOR DIVERSION OF FOREST LAND FOR POTTANGI BAUXITE MINES, KORAPUT

# Introduction:

This scheme is prepared for Additional Compensatory Afforestation in Forest land in view of diversion of forest by M/s. National Aluminium company limited (NALCO) as required under section 3 of forest (Conservation) act-1980. NALCO is a Navaratna Public Sector Undertaking under Ministry of Mines, Govt of India, with its registered office at Bhubaneswar, Odisha. The Mines and Alumina Refinery is one of the largest integrated Bauxite-Alumina-Aluminium-Power Complex in the country. The Company Has a 2.275MTPA Alumina Refinery along with a 6.825 MTPA Bauxite Mine (Panchpatmali) located near Damanjodi in Koraput district of Odisha. NALCO is expanding its Alumina refinery capacity by proposing 5th stream of the alumina refinery at Damanjodi for additional production of one million tons per annum (MTPA) of alumina. To cater the raw material requirement of this project, the Pottangi bauxite deposit near Pottangi Village of Koraput district, Odisha has been identify by NALCO for mining lease which was discovered by the Geological Survey of India (GSI) in Nov-1971. The Mining Plan has been prepared for 697.979Ha and submitted under Rule 16(1) of Minerals (other than Atomic and Hydrocarbons Energy Mineral) Concession Rule 2016 along with Progressive Mine Closure Plan under Rule 23 of MCDR 2017 for approval. Govt of Odisha has granted the lease in favour of NALCO for a period of 50 years and issued a fresh letter of Terms and Conditions governing the grant of mining lease vide letter no 3794/SM dated 14.05.2018.

The mine is proposed over a total area of 697.979 Ha. Coming under forest category. However, the M/s. NALCO has agreed of provide fund for raising of Additional Compensatory plantation over 140 Ha. having forest land in lieu of 697.979 Ha. Forest land of Koraput Division.

# DETAILS OF LAND FOR ADDITIONAL COMPENSATORY AFFORESTATION:

The identified Degraded Forest land for Additional Compensatory Affaorestation has been listed below. The DFO, Koraput Forest Division vide her letter No. 4231 dated 07.09.2022 allotted 140 Ha. of Degraded Forest land for Compensatory Afforestation purpose.

Land schedule (140 Ha.) of land prepared for Additional Compensatory Afforestation ANR with gap. @ 500/Ha.

Sl. No.	Name of the Range	Name of Forest Block	Area in Ha.	Remarks
1	Laxmipur	Godmak PRF	140	Suitable for ANR with Gap Plantation @500 Plants/Ha
	Total		140	

#### VEGETATION DENSITY:

The density of the crop of the above selected compensatory afforestation area of Block Plantation site is 0.05 where it is 0.1 to 0.3 in ANR Plantation sites.

## DESCRIPTION OF EXISTING VEGETATION

This area is covered with unwanted obnoxious weeds like Eupatorium and Lantana along with some pole crops in scattered manner. No prominent economic species are available within the proposed site. However, saplings and bushy growth of Mersunga leaf plant (Murraya coinghii), Mango (Mangifera indica), Jackfruit (Artocarpus heterophyllus), Poksungha (Chromelana Sp.), Khakada (Gelonium multiflorum), Asan (Terminalia alata), Naguari (Lantana camara), Begunia (Vitex negundo), Palas (Butea monosperma) etc are existing now Besides, some shrubs/ herbs of Bhuin-neem (Andrographics paniculata), Kurei (Hollarhena anti-dysenterica), Kendu (Dyospyrus melanoxylon) etc are also noticed in some patches. The growth of the weeds and bushes are too much congested.

# Description of the Area:

- Topography: The terrain of the above degraded Forest area are gently slope to hilly with some where good soil and drainage. (i)
- Climatic Condition: The climatic condition of the area favouring growth of dry deciduous forest having average annual rain fall of 75 - 100 cm. and maximum temperature 45°C. The summer season (II) is from March to June, rainy season is from July to September and winter from November to February.
- Slope: The slopes are gentle to moderate, rarely steep. When the slopes are gentle to moderate, they are congenial for formation of thick bauxite profile. The slope gradient varies from 1:6 to 1:12. The peak portions of the deposit are occupied by khondalites (iii) forming the ridges.

- (iv) Drainage Pattern: The drainage pattern is of dendritic type.
- (v) Temperature: The area enjoys a tropical climate. Lying at an altitude of over 1000m. Above M.S.L., Pottangi area has a pleasant climate during summer. The temperature in May rarely exceeds 40°C. The winter months are pretty cold and in December-January, the temperature often drops down to 5°C.

#### SURVEY & DEMARCATION

The area is to be surveyed in field with reference to the Forest map using G.P.S. system and the survey as well as posting of RCC Pillar will be done by the user agency.

The plantation area to be indicated by sign boards at corners or at point of intersection with roads, inspection paths and boundary lines. The sign boards would contain the name of the plantation site, area, year of planting, planting module, no. of seedlings planted, funding agency & other details, if necessary.

#### Technical Details:-

#### OBJECTIVE OF THE SCHEME -

It is mandatory requirement under the provision of Forest (Conservation) Act, 1980.

- To replenish the loss of forest land to be diverted for non-forestry purpose i.e. mining of Bauxite.
- (ii) To generate employment to the villagers living around the identified area.
- (iii) To increase the ground water table through Soil & Moisture Conservation.
- (iv) To increase the bio-diversity for improvement of the local ecology.
- (v) To fulfil the requirement of fuel wood & small timber of the local inhabitants.
- (vi) To provide a green clothing to the area by means of artificial regeneration or plantation inorder to reduce soil erosion.
- (vii) The pattern of plantation will be "ANR with 500 plants per Ha" is to be carried out on the selected Additional CA area.

#### PLANTATION TECHNIQUE

The area should be well demarcated before raising plantation by G.P.S. survey and fixing of Boundary pillar (where missing) by engraving thereon the co-ordinates and distance to next pillar. As far as possible weeds will be removed especially prior to flowering time in-order-to prevent fruiting and dispersal of seeds. Preferably indigenous species are to be planted in the area coupled with soil and moisture conservation measures.

#### PLANTING & POST-PLANTING:

#### RAISING OF NURSERY

18 Month old Seedlings will be planted on the selected Additional CA site where the seedlings for the plantation shall be raised in the different Permanent Central nursery's of concerned CA Plantation Range of Koraput Forest Division and transportation of seedlings shall be done from each CN to Plantation site during planting period. Further 10% extra seedlings shall be raised to compensate and mitigate the eventuality of seedling casualty in the nursery. Standard nursery practices shall be followed for raising of seedlings in polythene bags. Permanent gaps need to be assessed well in advance where plantation can be done. Species like Gmelina arborea (Gambhar). Terminalia alata (Asan), Pongamia glabra (Karanj), Emblica officinalis (amla), Kurum (Adina cordifolia). Tectona grandis and other species as per the suitability of the sites will be preferred to be raised and planted on the sites.

#### ALIGNMENT AND STACKING

Alignment, stacking and pitting will be taken up in the month of January-February, pits of size 45cmX 45cm X 45cm will be dug maintaining a spacing of 2.5 mt. x 2.5 mt in all selected CA sites of AR & ANR before going to pitting.

#### **PLANTING**

The seedlings will be planted in dug out pits of 45 cm3 maintaining a spacing of 2.5 mt between the pits i.e. @500 Plants/Ha in the ANR Plantation sites. Plantation should be taken up after first regular shower of monsoon and should ideally be completed by end of July. NPK/DAP/etc. will be applied as per the plantation guideline in the norm for basal dose. Anti- termite and insecticide applied per pit while planting. Casualty replacement whenever required during the planting year and in the subsequent years upto third year should be undertaken for which the seedlings shall be raised and kept in stock at site as well as in the Central Nursery of the Ranges.

# CHOICE OF SPECIES

Species like Artocarpus hetrophylla (Jackfruit), Bombax ceiba (Simili), Cassia fistula (Sunari), Dendrocalamus strictus. (Bamboo), Gmelina arborea ( Gambhari ), Azadirachta indica (Neem), Madhuca latifolia (Mahula), Terminalia chebula (Harida), Terminalia belerica (Bahada) Mangifera indica (Aamba-Local variety), Albizzia procera/Lebbek (Sirisa), Emblica officinalis (Amla), Pongamia pinnata (karanja), Terminalia arjuna (Arjuna), Aegle mannelos (Bela), Dalbergia sishoo (Bali Sisoo), Samania saman (Bada Chakunda), Syzygium cumini (Jamun), Tamarindus indica (Tentuli), Terminalia tomentosa (Asan), Ziziphus mauritiana (Bara Koli), Swietenia mahagoni (Mehagani), Bauhinia vahlii (Siali), Simaruba glauca (Simaruba), Tectona grandish (Saguan),

Acacia auniciloformin, Acacia Magnum, Silver Oak etc. and species as per the suitability of the sites will be choised and select during the planting period.

### PLANTING TECHNIQUES & MODEL

Out of the above species the intensity of plantation for Fuel yielding and Timber species will be planted 35:35 % and Bamboo and Fruit yielding species in 10:20 ratio.

The planting of species shall be planted in such a manner that the long term fruit, timber yielding species/Bamboo shall be surrounded with short term fuel wood yielding species. The species should be planted alternate to each other & no repetition of species in close of pits shall be done.

# WEEDING, SOIL WORKING AND MANURING

For establishment and better growth of the planted seedlings, weeding, soil working and manuring are necessary. It is prescribed to carry out one weeding, one soil working and manuring during the first year alongwith soil moisture conservation in the form of staggered trenches. One weeding, one soil working and application of fertilizer in second year of plantation Weeding and manuring for the first and second year shall be carried out during August- September along the contour. Application of vermin compost shall be given preference. First weeding shall be carried out after the first pair of leaf of the planted species have come up preferably in August. The detailed cost estimate of various operations to be taken up in ANR plantation has been furnished below. Fire line should be drawn in order to avoid damage to the plants during fire season (February to June).

## **POINTS OF IMPORTANCE:**

While taking up plantation, the following vital points shall be taken up for consideration:

- All care should be taken to raise healthy seedlings of minimum 60cm to 1 Mtr height and 10% extra of the required stock has to be raised. Pitting shall be invariably done during January-February, when the soil is moist by fall of dew. The sites being the hilly slopes, pits shall be dug along the contours and alternate liens should be staggered. Planting shall be done at the onset of monsoon.
- Basal dose fertilizer and insecticide can be applied at the time of planting. Casualty replacement, weeding and soil working, application of fertilizer and insecticides shall be taken up as per the provisions made in the cost- norm at the proper time. Engaging requisite watchers as per norm is mandatory.

 All out efforts be taken to keep the plantation free from grazing, fire and other biotic interference.

The Schedule of operation for preparation of site, pre-planting, planting, post-planting are prescribed herewith:-

i. Advance preparation of its	PERIOD OF COMPLETION
Of Character of City	End of October
ii. Alignment & Digging of pits iii. Stacking	End of February
v. Planting.	End of February
v. Casualty replacement	1 <sup>st</sup> week of July
vi. Soil working, weeding, manuring	End of July
vii. Soil & water conservation measuring	End of August
viii. Fire line tracing	End of September
ix Watch & Ward	During December
ward	July to March

# Post planting operation in 2<sup>nd</sup> year.

a.Casualty replacement, 1<sup>st</sup> weeding soil : End of July Working & manuring.

b. Fire line tracing : During December
c. Watch & Ward : Throughout the year

In 3<sup>rd</sup> year.

a. Wedding, soil working and application of manure
b. Fire line tracing

End of July
December

c. Watch & Ward : Throughout the year

In 4<sup>th</sup> year

a. Fire line tracing

b. Pruning

End of December

September

c.Watch & Ward : September : Throughout the year

5<sup>th</sup> year to 10<sup>th</sup> year
a.Fire line tracing
b.Pruning
: End of December
: September

c. Watch & Ward : Throughout the year

#### WATERING:

The watering provision is to be provided to all ANR Additional CA plantation sites for the period from November to March in 1<sup>st</sup> year, April to June and November to March from 2<sup>nd</sup> year to 5<sup>th</sup> year maintenance by the help of diesel pump sets to provide better growth of the plantation and to avoid damage due to hot sunlight or scarcity of water as well as to success of the plantation. The cost norm of watering model W-II/ Ha is enclosed.

#### WATCH & WARD:

The important element of successful plantation is Protection. Watchers are to be engaged on daily wage basis for **ten years** but they should assigned with specific work and their involvement in protecting the plantation should be ensured. It is suggested not to engage a particular person for the entire ten years but considering the work efficiency the person, if not found suitable should be changed. Since in all plantation sites enough care should be taken to engage efficient worker for protection as there is every possibility of damage by grazing. Therefore, in the planting design non browsable tree species like Simaruba should be planted in three four rows to-wards periphery of the plantation at the foot hill before Agave Plantation.

## **FENCING:**

To protect the plantation from grazing and other biotic interference, it will be provided Bamboo twigs and thorns fencing along the periphery of ANR Plantation sites of the degraded Forest Land for better protection as well as survival of the Plantations. The cost estimate for Bamboo Twig fencing/Ha has been enclosed.

#### CONTROL MEASURES:

- The nursery journal, the plantation journal and other records shall be maintained separately in accordance with the provision of "The Orissa Forest Plantation Manual 1977" indicating the physical and financial achievements. Necessary entries with regard to plantation activities undertaken shall be entered in the journals and shall be produced before the inspecting officers. In case of any eventuality like cyclone, thunder storm, hail storm etc. if caused destruction to the plantation, this should also be noted. It is also necessary to note the distribution of rain fall which not only helps in the growth of plants at site but also acts as a guideline for the ensuing years nursery schedule to be formulated.
- 2) For protection, measures shall be taken to save the plantation from fire incidence and prevent accidental trespass of cattle, goat etc. to the premises of the nursery. Boundary area will be scrapped to a width of 2 mtr. During February / March the cut materials are to be burnt under strict supervision.

## SOIL MOISTURE CONSERVATION:

Soil and moisture conservation activities are essentially required to be dove-tailed to plantation activities in order to improve water availability in Forest. In order to achieve the objective and implement the programme efficiently a well planned strategy is essential. The natural slope of the Forest land selected for Compensated Afforestation are varies from 0 degree to 35 degree being the foothill. The areas selected for the catchment where the precipitation touches the ground and subsequently drained through the drainage line. So this becomes the focus area of the soil moisture conservation programme. The intervention suggested below is aimed at capturing the rain water to enhance the retention period and to increase the quantum of infiltration.

Further the additional soil moisture conservation measures is to be provided for the Moderate Dance Forest (MDF) area as per the DSS identification of MoEF and CC (Forest Conservation Nodal) New Delhi to avoid the soil erosion and to conserve the soil as well as moisture of the Forest area for which additional cost has been provided in the scheme.

# Forest floor treatment:

- Staggered Trenches- The staggered trenches are primarily aim to break the runoff which otherwise will form reels and gullies. Such reels when conversed will form gullies. Continuous gullies when joined together will form a ditch. Therefore it is aimed at excavating staggered trenches as per the field requirement during execution of works. Each such trench will be 2 m (length) X 0.5 m (width) x 0.5m (depth). These trenches will conserve rain water of this region and facilitates its percolation. Therefore while aligning such trenches adequate care should be taken so that gullies are not formed by the water flowing downhill from the wedges of trench.
- Graded Earthen Bund- Earthen graded bunds can be erected on the low slope (<5%) Forest
  and pediments of hills. These bunds would be 1.5 Meter high (minimum) and follow a
  longitudinal slope of 0.2% to 0.5%. The purpose of these bunds is to guide the runoff along a
  longer path to increase time of concentration and promote infiltration. Preferably burrow pits
  to be located on the upstream.</li>

This can be laid on the border of Forest land or it can be on the where the hill slope ends and pediment begins. This bund will prevent direct entry of runoff from hills/forest into cultivable land. Its main purpose is to delay the runoff and increase the time of concentration substantially. The alignment of the bund will be such that the flow path will be as wuide as possible. This will provide sufficient width for the rain water to flow at shallow depth thus facilitating quick infiltration. Earth borrowed from the pits dug from the upstream should meet the requirement of earth work for the graded bund.

The burrow pits of this bund will be discontinuous and act as soak pits to enhance infiltration. Burrow pits may be located on the downstream side if sufficient earth is not available on the upstream.

The top of the bund should have longitudinal slope of 0.2 to 0.5% so that the flow path is non-silting & non-erosive. If required Loose Boulder spurs would be put up across the flow path to control the longitudinal slope.

It may be noted that this bund is not to retain water for very long as in case of reservoir bunds. Its purpose is to change the direction of flow of runoff. Stone pitching on the upstream side may be necessary to prevent scouring by runoff coming downhill.

# DRAINAGE LINE TREATMENT:

Drainage line treatment can be done on the site by Construction of Loose Boulder Structure, Wire mesh structure etc. as per the requirement of the sites where the structure is to be created across the drainage line for retention of run-off and reduction of velocity. Such structure should preferably have top width of 1m with upstream slope of 1:1 ration and downstream ration of 1:5 ratios.

#### PEOPLE'S PARTICIPATION:

In order to involve the adjoining villages in the protection of plantation, meetings are to be conducted in the adjoining villages and efforts to be made to constitute VSS who will be assigned with the task of protection and management of the compensatory Afforestation with sharing benefit as per JFM Resolution 1993 for all plantation site. For the above purpose supporting activities like livelihood improvement/Socio economic development of the VSS members, strengthening of the local level institution, Capacity Building and local level training and Entry Point Activities (EPA) is to be conducted on every VSS of the plantation site. For the success of the above and to create Assets for the communities bonafide requirement and to improve the socio economic status during the project implementation period will be meet from 5 % funds of the CA cost is to be provided by the User Agency as per the direction of the Divisional Forest Officer, Koraput to meet the VSS's fulfilment.

#### MONITORING & EVALUATION:

The Range Officer of Laxmipur Range will undertake field checks of the works of the additional CA sites and will be cross checked by the Asst. Conservator of Forests (ACFs) and Divisional Forest Officer, Koraput Forest Division. GPS co-ordinates along with other required informations of Addl CA and other activities will be uploaded in the e-Green watch Portal of NIC, MoEF, and CC, Govt. Of India for the purpose of online monitoring Annual progress of plantation involving growth of planted seedlings, survival percentage etc. will be monitored a recorded in the plantation journal by the field staffs of project implanting Ranges and reported to the Divisional Forest Officer for necessary action. The same will be reported to higher authorities for monitoring and evaluation of the activities every year.

Funding Agency

M/s National Aluminium Company Limited (NALCO)

Proposed Monitoring Mechanism

The Scheme shall be executed by the Divisional Forest

Officer, Koraput Forest Division with his staff and all

Prescribed records are to be maintained.

Total Cost of the Project

Total Cost of the project is Rs. 12,69,94,830/(Rupees Twelve Corer Sixty Nine Lakh Ninety Four Thousand Eight Hundred Thirty) only as detailed in the Total Project Cost which shall be payable by the user agency as per the advice of the concerned

authority.

# READY RECKONER (FINANCIAL OUTLET) FOR ADDITIONAL COMPENSATORY AFFORESTION SCHEMES AT GODMAK PRF FOR THE FY 2022-23

			Watering	Fencing		Total	Total CA	Grand Total
SI No	CA-Code	Core Plantation	Diesel Pumpset with mannual	Bamboo Twigs	SMC	Cost per Ha	Area in Ha	Cost
CA 5	00+WATERING+FENCING	CA (ANR) 500						and the second
1	ANR500 + DP+ BT+ SMC	1,42,904	5,02,209	1,04,966	37,415	7,87,494	140	11,02,49,160
							rand Total	11,02,49,160

Asst. Conservator of Forests
Koraput Forest Division rests
Koraput Forest Division
K O R A P U T

Divisional Forest Officer

Koraput Forest Division

Koraput Forest Division

Koraput Forest Division

# TOTAL PROJECT COST OF THE ADDITIONAL COMPENSATORY AFFORESTATION PLANTATION SCHEME

SI. No	Plantation Type	Extent area in Ha/Rmt etc Cost Norm per Ha (Rs)		Total Cost (Rs)	Remarks	
	ANR With Gap Plantation @500 Plants/Ha including cost of Plantation+ Diesel Pump & Manual Watering + Bamboo Twig Fencing + Soil Moisture Conservation (SMC)	140 Ha	7,87,494/-	11,02,49,160	To be Deposited s	
	Sub Total (1)	140 Ha		11,02,49,160	the authority.	
2	Additional Soil Moisture Conservation per DSS Reorts @37,415/- Ha	of the MDF are	a over 139 Ha as	52,00,685	the authority.	
		11,54,49,845				
3	10 % of the total Plantation cost toward adjoining CA sites with provision of EP	1,15,44,985				
			Grand Total	12,69,94,830		

Asst. Conservator of Forests

Koraput Forest Division

Koraput Forest Division

KORAPUT

Divisional Forest Officer

Koraput Forest Division

Koraput Forest Division

# Financial out let for Additional Compensatory Afforesttion Scheme over 140 Ha. at Godmark PRF of Laxmipur Range of Koraput Forest Division as per Matrix of CA Plantation for 2022-23

Amount in Rs.	Laxmipur Range of Koraput Forest Division as per Matrix of CA Fanta-	
2,00,06,560.00	No. Description  Description  14 and lings over 140 ha. @ 142904/-	Sl. No.
1,46,95,240.00	Cost of ANR plantation @500 Planta/ha with 18 month old seedlings over 140 ha. @ 142904/-per ha. with 10 years maintenance.	1
52,38,100.00	Cost of Fencing with Bamboo Twig over 140 ha. @ 104966/- per ha.	2
	Soil Moisture Consevation work over 140 ha @ Rs. 37415/- per ha.	3
7,03,09,260.00	Watering provision to Plantation Water provision to CA Plantation through Diesel Pumpset fitted with Borewell. over 140 ha.	4
11,02,49,160.00	@ Rs. 502209/- Sub Total	
52,00,685.00	5 Additional Soil Moisture Consevation work @ Rs. 37415/- per ha over 139 ha. (MDF Area)  Total	
11,54,49,845.00	5 Additional Soil Moisture Consevation work & Total	5
1,15,44,984.50	10% of the total plantation cost towards EPA/ incentive to VSS including Monitoring &	
12,69,94,829.50	6 Evaluation Grand Total	6
12,69,94,830.00	Or sa	
Only.	Four Tousand Eight Hundred Thirt	
On	Dyardadis	

Coraput Forest Division

Divisional Forest Officer

Noraput Forest Division.

Divisional Forest Office,

Koraput Forest Division.

1	Sl. Items of work	Preferable Period of Execution	Unit	Unit Cost	DLINGS (18 ER DAY No./ Quantity	Labour cost @ Rs.315/-	Material cost	Total cost
	2	3	4	5	-	per day	(Rs)	(Rs.)
1	A.1	st Financial	Vear (Se	3	6	7	8	9
t	1 Cost of Polythene (9"*5"*200)300 Nos/Kg =3.33 Kg@ 208/- per Kg		Teat (See	eding Co	st for 3 Mo	nths)		- 5.51
1	(Including GST)  Procurment of raw & crude Polynot	Nov-Dec	Kg	208	3.33	-	693.00	693.00
	Mixture (Soil, Sand & CDM in ratio (2:1:1)							075.00
		Nov-Dec	Cft	10	22			
2		Nov-Dec	Cft	16	11	-	220.00	220.00
	(iii)CDM	Nov-Dec	Cft	25	11		176.00	176.00
	(iv)Insecticides/ Bio-Pesticide	Nov-Dec	Kg	150	2	-	275.00	275,00
3	Preparation of Soil Mixture Includes Pulverisation and straining & Mixing ingredients in proper ratio (2:1:1)	Nov-Dec	MD	326	2		300.00	300.00
4	Filling of Polypot Bags & Setting in the beds	Nov-Dec	MD	326	3	652.00	-	652.00
5	Collection of seeds grading & Treatment	Dec	MD	326	2	978.00	-	978.00
6	Preparation of germination Bed & Sowing of Seeds	Jan	MD	326	0.5	652.00		652.00
7	Dibbling of Seeds/ Pricking out the					163.00	-	163.00
	ransplanting in the poly bags and Providing sheds.	Jan	MD	326	2	652.00	500.00	1,152.00
8	Watering (Jan to March)	Jan-Mar	MD	326	9	2,934.00		2,934.00
9	Maintenance of Nursery inluding Fencing	Jan-Mar	MD	326	4	1,304.00	500.00	1,804.00
0	Contigencies (Watercan, Buckets, Nursery Shed, Electric Charges/ Desel Charges/ Maint. of Pump Set/ Maint. of Nursery, etc.)		-	-	-	-	460.50	460.50
	Total				22.5	7,335.00	3,124.50	10,459.50
3. 2	nd Financial Year (Shifting of Se	edlings to la	rger Poly Mar		gs to avoid	root coilling &	better grow	th)Apr to
T	Waering for 3 Months (April to June)	April-June	MD	326	9	2,934.00	-	2,934.00
1	Cost of Insecticides/Bio pestcides	May-June	Kg/Lts	326	0	-	400.00	400.00
+	Application of insecticides/Bio Pesticides	May-June	MD	326	-1	326.00		326.00
	Cost of Polypot (12"*10"*300)60 Nos/Kg =17 Kg@ 208/- per Kg (Including GST)	May-June	Kg	208	17		3,536.00	3,536.00
	Procurment of raw & crude Polypot Mixture (Soil, Sand & CDM in ratio (2:1:1)			j ira	1			
_	(i)Soil	Apr/May	Cft	10	100	_	1,000.00	1,000.00
f	(ii)Sand	Apr/May	Cft	16	50		800.00	800.00
+	(iii)CDM	Apr/May	Cft	25	50	1 VT-1	1,250.00	1,250.00
					3			

C	3rd Financial Year (3 Months)				124.5	40587.00	11590.50	52,177.50
В	2nd Financial Year (12 Months)				17	5,542.00	630.00	6,172.00
A		s)			85	27,710.00	7,836.00	35,546.00
_	1st Financial Year (3 Months)				22.5	7,335.00	3,124.50	10,459.50
	Item of Wo				MD	Labour cost @ Rs.326/- per day	Material Cost in Rs.	Total Cost in Rs.
N 4.			ABST	RACT				
	Grand Total				17	5,542.00	630.00	6,172.00
5	Contigencies			-	-		230.00	230.00
4	Application of insecticides/Bio Pesticides	Apr-June	MD	326	l	326.00	_	326.0
3	Cost of Insecticides/Bio pesteides	Apr-June	#1-		0	-	400.00	400.0
2	Weeding, shifting and grading	Apr-June	MD	326	4	1,304.00		1,304.0
1	Watering (Apr to June)	Apr-June	MD	326	12	3,912.00		3,912.0
-	C. 3rd Fi	nancial Year	(Mainten	ance upto	Planting) Ap	oril-June		
	Total				85	27,710.00	7,836.00	35,546.0
10	Contigencies (Watercan, Buckets, Nursery Shed, Electric Charges/ Desel Charges/ Maint. of Pump Set/ Maint. of Nursery, etc.)		•	-	-	-	400.00	400.
9	Sorting, weeding, grading and re- setting over one year period	Apr-Mar	MD	326	15	4,890.00		4,890.0
8	Watering (Oct to March)	Oct-Mar	MD	326	19	6,194.00		6,194.0
1-	Filling of Polypot Bags mentaling to	Oct-Nov	MD	326	35	11,410.00	-	
/	Preparation of Potting Mixture Includes Pulverisation and straining	Oct-Nov	MD	326	6	1,956.00		

Cost per 18 Months old Seedlings= 52177.50/1000=52.17

# COST NORM FOR AIDED NATURAL REGENERATION (ANR) @ 500 PLANTS PER HECTARE (18 Months old Seedlings) WAGE RATE Rs.326/- PER DAY

SI No	50 Table 100	Preferable Period of	No of Mandays	Labour cost @ Rs.326/-	Material cost	Total cos
1	2	Execution	Mandays	per day	(Rs)	(Rs.)
	0 <sup>th</sup>	3	4	5	6	7
1	Survey, demarcation and pillar posting	ce work) Pre-l	Planting Oper	ation	Novil 1	
2	Treparation of Treatment Man (Digital Man)	T.OWIDEC	2	652	0	65
3	one preparation	Nov/Dec	1	326	100	420
4	Silvicultural Operations including clearance of weed, cutting of climber History	Nov/Dec	2	652	0	652
	singling of shoots & removal of cut out after drying from the field to blank space.	Jan/Feb	15	4890	0	4890
5	Alignment and stacking for digging of pits	E-h0f				
6	Digging of pits (45 cm x 45 cm x 45 cm x 45 cm)	Feb/Mar	1	326	0	326
	gravery son	Feb/Mar	20	6520	0	6520
No.	Total		41	13366	100	12466
SH.	1ST YEA	AR/PLANTII	VG YEAR	13300	100	13466
1	Refilling of pits by altering the dugout soil of the pits, application of Organic compounds/ CDM/FYM and Mixing the same perfectly.	June/July	4	1304	2500	3804
2	Transportation of 18 Month old poly pot seedlings in Hired Truck/ Tractor from the Permanent/Megha Nursery to Planting Site including loading and unloading (Average Lead of 10 RKM) & Stacing the seedlings @ Rs.6/- per seedlings (550 Nos)	July/Aug	0	0	3300	3300
3	Watering the Polypot Seedlings at Planting site of plantation	July/Aug	1	326	0	326
	Convence of Polythene bag seedlings on Headload from the stacking site to indivisual dugut pits within the Planting site, applying insecticides, Fertilizers and Planting after scooping the soil with other applied materials and pressing the soil prperly around the planted seedlings	July/Aug	11	3586	0	3586
()	Cost of insecticide and fertilizer  (a) NPK/ Bio Fertilizer @ 50 gms per plant as pasal dose = 25Kg @ Rs.30/- per kg = Rs.	July/Aug	0	0	1500	1500
F	b) Urea/Vermicompost/ Mo Khata/ any other Fertilizes @ Rs.375.00 c) Insecticides/ Bio pesticides @ 5 gms/plant					
=	-2.5 Kg @Rs.150/- per kg= Rs 3/5.00			490	0	489
(	Casualty replacement@ 10% (50 Nos)	July/Aug	1.5	489		1630
	st weeding & Manuaring	Aug/Sept	5	1630	0	
2 a	nd weeding, Soil Working (1 Mtr diameter round the plant) & Manuring	Oct/Nov	8	2608	0	2608
F	ire line tracing & inspection path	Feb/Mar	3	978	0	978
W	Vatch & Ward including watering as per	Aug-Mar	8	2608	0	2608

1	2ND YI	EAR MAINTE	NAME OF THE OWNER O			
1	Transportation of 50 Nos. of seedlings from	MAINTE	NANCE			1
	Nursery to Planting Site including loading and unloading & Conveynce by tractor @ Rs.6/- per seedlings (50 Nos)	July	0	0	300	30
2	Casualty replacement@ 10% (50 Nos)	Tul				
3	Cost of insecticide and fertilizer	July	1.5	489	0	48
	(a) cost of insecticides/ Bio Pesticides (Themet/Forate) @ 5 Gms/Plant = 0.25 Kg @Rs.150/- Per Kg = Rs.37.50	July/Aug	0	0	1437.5	1437.
_	(b) Urea/NPK/Bio Fertilizer/Vermicompost/ Mo Khata/ any other Fertilizes @ Rs. 1400/-					
4	Weeding (complete weeding), Manuaring and Soil Working (1 Mtr diameter around the plant)	Sept/Oct	8	2608	0	260
5	Fire line tracing (2 Mtr Wide Fireline) and inspection path	Feb/Mar	3	978	0	97
6	Watch & Ward including watering as per requirment	Apr-Mar	12	3912	0	391
	Total		24.5	7987	1737.5	9724.:
	3RD YE	AR MAINTE				W. Kell
1	Cost of Fertilizers Urea/NPK/Bio Fertilizer/Vermicompost/ Mo Khata/ any other Fertilizes= @ Rs. 1400.00	July/Aug	0	0	1400	1400
2	Weeding (complete weeding), Manuaring and Soil Working (1 Mtr diameter around the plant)	Sept/Oct	8	2608	0	2608
3	Fire line tracing (2 Mtr Wide Fireline) & inspection path	Feb/Mar	3	978	0	978
4	Watch & Ward including watering as per requirment	Apr-Mar	12	3912	0	3912
	Total		23	7498	1400	8898
1	4TH YE	AR MAINTE	NANCE			75-5 Y-
1	Fire line tracing ( 2 Mtr Wide Fireline) & inspection path	Feb/Mar	3	945	0	945
2	Watch & Ward including watering as per requirment	Apr-Mar	12	3780	0	3780
	Total		15	4725	0	4725
250	5TH YE	AR MAINTE	NANCE		7.4 1.4. A	
1	Fire line tracing (2 Mtr Wide Fireline over 400 M length) including Maint, of inspection path	Feb/Mar	3	978	0	978
2	Watch & Ward including watering as per requirment	Apr-Mar	12	3912	0	3912
-	Total		15	4890	0	4890
25	6 TH YE	AR MAINTE	NANCE		100	1.34
1	Fire line tracing (2 Mtr Wide Fireline over 400 M length) including Maint. of inspection path	Feb/Mar	3	978	0	978
2	Watch & Ward including watering as per requirment	Apr-Mar	12	3912	0	3912
	Total		15	4890	0	4890
	7 TH YE	AR MAINTE	NANCE		Self-Life 1	PARTIES.
1	Fire line tracing (2 Mtr Wide Fireline over 400 M length) including Maint. of inspection path	Feb/Mar	3	978	0	978
2	Watch & Ward including watering as per requirment	Apr-Mar	12	3912	0	3912 4890
~	Total	m 2 17 7 1	15	4890	U	4070

	Fire line tracing (2)	8 TH YE	AR MAINT	ENANCE			
	Fire line tracing (2 Mtr W M length) including Main	de Fireline over 400	Feb/Mar	3	978	0	978
2	Watch & Ward including requirment	watering as per	T CO/IVIAL	3	976	V	9/0
_	requirment	0 - 10	Apr-Mar	12	3912	0	3912
- 3		Total		15	4890	0	4890
1	Fire line tracing (2 Mtr W	9 TH YE	AR MAINT	ENANCE		118 1191	
2	Watch & Ward including Maint, of inspection path		Feb/Mar	3	978	0	978
	requirment		Apr-Mar	12	3912	0	3912
`		Total		15	4890	0	4890
1	Fire line tracing (2 Mtr V M length) including Main	Vide Fireline over 400	EAR MAINT	TENANCE	5-95		
2	Watch & Ward including	L. 01 Inspection noth	Feb/Mar	3	978	0	978
	requirment		Apr-Mar	12	3912	0	3912
	Section Concession	Total		15	4890	0	4890
3:5	TEAR WISE ABS	TRACT OF COST N	ORM (SHOW	VING SEEDLI	ING COST SI	EPARATEL.	Y)
SI. No	Year	No. Person Day	Labour Cost @Rs.326/-	Material Cost	MELD &	Cost of	74 F F F F F F F F F F F F F F F F F F F
	A large springer and a second second		per day	in Rs.	Contigency 5 % of (4+5)	Seedlings @ Rs. 52.17 per seedlings	Total Cost in Rs.
1	2	1			Contigency 5	Rs. 52.17 per seedlings	
1	2 Oth Year	3 41	per day	in Rs.	Contigency 5 % of (4+5)	Rs. 52.17 per seedlings	Rs. <u>8</u>
	TO THE PART OF THE		per day	in Rs.	Contigency 5 % of (4+5)	Rs. 52.17 per seedlings	Rs.
1	0th Year	41	per day 4 13,366.00	in Rs.	Contigency 5 % of (4+5)  6  673.00	Rs. 52.17 per seedlings	Rs. 8
1 2	0th Year 1st Year	41 41.5	9er day 4 13,366.00 13,529.00	in Rs.  5  100.00  7,300.00	Contigency 5 % of (4+5)  6  673.00  1,041.00	Rs. 52.17 per seedlings  7 0 28,694.00	Rs. 8 14,139 50,564
1 2 3	0th Year 1st Year 2nd Year	41 41.5 24.5	9er day  4  13,366.00  13,529.00  7,987.00	in Rs.  5  100.00  7,300.00  1,737.50	Contigency 5 % of (4+5)  6  673.00  1,041.00  486.00	Rs. 52.17 per seedlings  Z  0  28,694.00  2,609.00	Rs. 8 14,139 50,564 12,820
1 2 3 4	0th Year 1st Year 2nd Year 3rd Year	41 41.5 24.5 23	9er day  4  13,366.00  13,529.00  7,987.00  7,498.00	in Rs.  5  100.00  7,300.00  1,737.50	Contigency 5 % of (4+5)  6  673.00  1,041.00  486.00  445.00	Rs. 52.17 per seedlings  2 0 28,694.00 2,609.00 0	Rs. 8 14,139 50,564 12,820 9,343
1 2 3 4 5	0th Year 1st Year 2nd Year 3rd Year 4th Year	41 41.5 24.5 23 15	9er day  4  13,366.00  13,529.00  7,987.00  7,498.00  4,890.00	in Rs.  5  100.00  7,300.00  1,737.50  1,400.00	Contigency 5 % of (4+5)  6  673.00  1,041.00  486.00  445.00  245.00	Rs. 52.17 per seedlings  2 0 28,694.00 2,609.00 0	8 14,139 50,564 12,820 9,343 5,135
1 2 3 4 5 6 7	0th Year 1st Year 2nd Year 3rd Year 4th Year 5th Year	41 41.5 24.5 23 15	9er day  13,366.00 13,529.00 7,987.00 7,498.00 4,890.00 4,890.00	in Rs.  100.00 7,300.00 1,737.50 1,400.00	Contigency 5 % of (4+5)  6  673.00  1,041.00  486.00  445.00  245.00	Rs. 52.17 per seedlings  2 0 28,694.00 2,609.00 0 0	8 14,139 50,564 12,820 9,343 5,135 5,135
1 2 3 4 5 6 7 8	Oth Year  1st Year  2nd Year  3rd Year  4th Year  5th Year  6th Year	41 41.5 24.5 23 15 15	9er day  4 13,366.00 13,529.00 7,987.00 7,498.00 4,890.00 4,890.00 4,890.00	in Rs.  100.00 7,300.00 1,737.50 1,400.00	Contigency 5 % of (4+5)  6  673.00  1,041.00  486.00  445.00  245.00  245.00	Rs. 52.17 per seedlings  2 0 28,694.00 2,609.00 0 0 0	Rs.  8 14,139 50,564 12,820 9,343 5,135 5,135 5,135
1 2 3 4 5 6 7 8	Oth Year  1st Year  2nd Year  3rd Year  4th Year  5th Year  6th Year  7th Year  8th Year	41 41.5 24.5 23 15 15 15	9er day  4 13,366.00 13,529.00 7,987.00 7,498.00 4,890.00 4,890.00 4,890.00 4,890.00	in Rs.  100.00 7,300.00 1,737.50 1,400.00	Contigency 5 % of (4+5)  6  673.00  1,041.00  486.00  445.00  245.00  245.00  245.00	Rs. 52.17 per seedlings  2 0 28,694.00 2,609.00 0 0 0 0	Rs.  8 14,139 50,564 12,820 9,343 5,135 5,135 5,135 5,135
1 2 3 4 5	0th Year 1st Year 2nd Year 3rd Year 4th Year 5th Year 6th Year 7th Year	41 41.5 24.5 23 15 15 15 15	9er day  4 13,366.00 13,529.00 7,987.00 7,498.00 4,890.00 4,890.00 4,890.00 4,890.00	in Rs.  100.00 7,300.00 1,737.50 1,400.00	Contigency 5 % of (4+5)  6  673.00  1,041.00  486.00  245.00  245.00  245.00  245.00	Rs. 52.17 per seedlings  2 0 28,694.00 2,609.00 0 0 0 0 0 0 0 0	8 14,139 50,564 12,820 9,343 5,135 5,135 5,135 5,135 5,135 5,135