

COMPENSATORY AFFORESTATION SCHEME OVER

38.5 HA.

OF

NON FOREST LAND IN VILLAGE PIPALPADARIN

LAXMIPUR TAHASIL

AND

ADDITIONAL COMPENSATORY AFFORESTATION

SCHEME OVER 22 HA. IN HATIMALI DPF IN

LAXMIPUR RANGE

OF KORAPUT DISTRICT, ODISHA IN LIEU OF

DIVERSION OF 38.062 HA. OF FOREST LAND FOR

THE PROPOSED ALUMINA REFINERY PROJECT AT

KANSARIGUDA

OF

M/S HINDALCO INDUSTRIES LTD- ADITYA
ALUMINIUM REFINERY PROJECT

Under the present Compensatory Afforestation Scheme attempt has been made to rejuvenate the existing crop through silvicultural operations and gap plantation at blanks to reforestate the degraded forests and improvement in soil moisture regime of the site. Various forest interventions will be adopted to achieve the desired results as per Govt. approved cost norm vide O.O No. 1109 dt. 08/11/2021 & Memo No. 21393 dt. 13/12/2021 of PCCF Odisha.

Selection of Sites/ Description of vegetation :

This non-forest land for Compensatory Afforestation has been identified in one patch i.e. in the village Pipalpadar over 38.5 ha. in Laxmipur Tahasil, Koraput District. The details of ROR showing the name of village, khata No., Plot No., total area in acres, and area required for CA are furnished in the following statement.

Name of Village	Khata No.	Status of the land	Plot No.	Total area of the plot in Ac.	Proposed area (in Acres)	Classification
Pipalpadar	76	AAA	72	46.80	20.28	Pahar
	76	AAA	73	41.10	38.60	Pahar
	76	AAA	74	36.25	33.95	Pahar
	76	AAA	03	18.65	2.31	Pahar
Total				142.80	95.14 Ac. or 38.50 Ha.	

The status of above non-forest land is Pahar kisam as per the revenue record prepared prior to 25.10.1980 and the land has not been included in the DLC report of Koraput District as Forest land. The site have been jointly verified by Tahasildar, Laxmipur with concerned RI etc. and Range Officer, Laxmipur with his staff on 07.01.2021 and joint verification report is enclosed **Annexure-I**.

Past System of Management:

Although the area is non-forest land and included in Pahar kisam in the ROR, hosts degraded vegetation as narrated above. The identified area is under the control of Revenue Department and classified as 'Pahar' and there is no management procedure for the said land. There is evidence of soil erosion due to undulating topography and biotic interference.

Soil & Topography:

The site find place on Survey of India topo sheet No. E44F4 between Latitude 19°06'54.30" & Longitude 83°09'44.69". The topographical configuration of the identified site is hilly and undulating. Such steep terrain at certain patches support shallow soil and even exposed rocks within the site. For such characteristics the scheme proposes to take up adequate soil and moisture conservation measures as per approved cost norm of PCCF, Odisha.

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Temperature:

This area experiences cold weather between November-January when the temperature drops to less than 10° C. The temperature rises steadily from January onwards reaching 32° C to 40° C in summer (May). So it is under tropical condition with limited rainy days.

Climate & Rainfall:


The area has a tropical climate with monsoon rains from June to September and occasional rains during winter are regular phenomenon of the site. This area also experiences occasional gusty wind to heavy thunderstorms during summer season (April to June). Monsoon breaks out in early to middle of June and continues up to September. The average annual rainfall is about 1648 mm under the influence of southwest monsoon. On an average there are about 100 rainy days. The humidity is maximum in the months of July to August (0%) and minimum in February (36%). The wind velocity varies between 40 KMPH and 80 KMPH although occasional higher values have also been reported. Lightening incidents are rarely reported in this area.


Objective of the scheme:

The main objective of the scheme is to take up Aided natural generation with gap plantation on the compensatory non-forest land. The existing degraded vegetation shall be tended silviculturally and the permanent gaps shall be planted with the following species at the rate of 200 plants per ha. Also to maintain the biodiversity of this site through soil and moisture conservation measures and given priority to the species faring well in and around that locality.

In addition idegenious, medicinal species and fruit bearing species shall also be mixed along with economic species which shall be beneficial for the community, wildlife and State economy. Species like, Gamhar, Pahadi Sissoo, Bamboo, Harida, Bahada, Amla, Karanja, Neem, Arjun, Tamarind, Mango, Jack fruit, Jamun shall be planted there. Contour trenches, staggered trenches, check dams graded earthen bund, LBCD, sub surface dyke & WHS percolation pits across Reels, Nalas, Gullies shall be constructed basing on field requirements as per SMC works model-C of the approved cost norm.

As per MoEF guideline Compensatory afforestation should be taken up by planting 1,000 plants per ha. in the non-forest land. Therefore 38.50 ha. x 1,000 plants = 38,500 plants are required to be planted at the site. As the site hosts degraded vegetation of forest species the above no. of plants cannot be accommodated there. Only plantation can be taken up in permanent gaps at a spacing of 3.16 mt. x 3.16 mt. in large gaps and in staggered manner in small gaps. On field visit it is observed that the entire area can be restocked by planting 200 nos. of plants per ha. on an average in gaps followed by artificial regeneration to the existing forest growth. Hence a total of **7,700 nos.** of seedlings shall be planted in the said non-forest land over 38.5 ha of CA land.


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As per point no. 3.2 (i) and explanation-2 of MoEF guideline vide letter No. F.No. 11-423/2011-FC dt. 8.11.2017 it is mentioned that "If the requisite number of plants i.e. 1000 plant per ha. cannot be planted on the non-forest land identified for CA, then the balance number of plants will be planted in degraded forest land as per the provision of the working plan". This has also been clarified in point no. 2.4 clarification para-vi (page 46) of revised guideline letter No. F.No. 5-2/2017/FC dt. 28.03.2019 Annexure-II.

Therefore, balance seedling 30,800 nos. will have to be planted in **Hatimali DPF** under Kakiriguma beat of Laxmipur range identified by RO and staff of Laxmipur range as per provision of working plan in pursuance to the above MoEF letter. The above DPF have been allotted to **Rehabilitation Working Circle** in the current working plan.


The site has been inspected by local forest staff of Laxmipur range on 22.01.2021 jointly and found suitable for block plantation with 1600 plant per ha. The site is completely barren with about 15 nos. of mango, Kusuma and Semul trees occurring here and there besides about 20 no's of teak plants in degraded condition noticed in one corner of the area. The entire area is covered with weeds like Lantana Kamera etc. perhaps the site is Podu ravaged area. Due to close proximity to villages, the area has been utilized by villagers in Podu cultivation and presently they have abandoned the site due to loss of fertility. Even by way of up routing the roots stocks and continuous burning no forest species are available there although occur in other parts of DPF.

Range Officer, Laxmipur and his staff during site inspection proposes to take up Block Plantation @ 1600 plant per ha. and the plantation shall be raised on latest Govt. approved core plantation cost norm vide O.O no. 1109 dt. 8.11.2021. Annexure-5 of the approved cost norm with matrix enclosed as **Annexure-III**.

The terrain is hilly with moderate slopes. The elevation varies from 990m to 1120m from the mean sea level. Besides the site exhibits exposed rock devoid of soil at places. Hence the RO proposed to afforestate the area with 1600 plant per ha. with soil and moisture conservation measures like staggered trench, percolation pit, contour trench, graded earthen bund, LBCD, Wire mesh LDCD, sub surface dyke and WHS as per the slope & site requirement.

As per requirement 30,800 no's @ 1600 per ha. Plants are to be planted there covering an area of $30,800/1600 = 19.25$ ha. or 20 ha. But due to presence of trees, teak shoots and exposed rock at places the RO proposed to take additional 2 ha. area totaling to $20+2 = 22$ ha. at the site to accommodate the required no of plants as narrated above.

It is proposed to manage both the plantation under JFM mode.


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Treatment for gap plantation in non-forest Land at Pipalapadar:

Gap plantation will be planted with 1 & ½ year old seedlings of indigenous species suitable to the sites. Other silvicultural operations for the degraded forest species shall be taken up by cutting of high stumps, singling out in congested shoots to promote the promising stools to establish, climber cutting, weeding, and soil & moisture conservation work will be also carried out. Special emphasis will be laid on fire preventive measures to avoid damages to the natural regeneration & plantations. The adjoining VSSs will be motivated to discourage grazing in forest areas and to protect for natural regeneration in the plantation/ the assigned areas as a whole. The management of ANR gap plantation area shall be on JFM mode. Govt. approved cost norm along with different silvicultural prescriptions for ANR gap plantation with 200 seedlings per hector is enclosed as **Annexure-IV**.

Treatment for Core plantation in Hatimali DPF:

Core plantation over an area of 22 ha. shall be taken up in Hatimali DPF @ 1600 plants per ha. to accommodate surplus 30,800 no's of seedling as per MoEF guideline. The area has been surveyed on GIS domain. The DGPS survey map showing the survey stations along with GPS coordinates of the survey stations is enclosed as **plate-III**. Besides survey of India top sheet no E44K13 showing the location of plantation area in Hatimali DPF is enclosed **plate-IV**.

Core plantation shall be raised according to the approved cost norm and prescriptions of PCCF Odisha vide annexure-5 and enclosed herewith as **Annexure-III**. Besides as per approved cost norms fencing shall be done around the periphery of the plantation by Bamboo twigs & thorn with maintenance for 5th years as per Govt. approved cost norm for Fencing model F-1.

Strategy:

1. The activities contemplated in this scheme will be taken up on micro watershed basis. The VSS members in and around the project will be sensitized through conduct of series of cooperation meetings in line of preparation of Micro Plan as adopted in the traditional plantation activities as per JFM guidelines.
2. The activities include improving in - situ Biodiversity and raising artificial regeneration of indigenous species, improvement of all herbs, shrubs etc. of the locality for eco-restoration.
3. The scheme includes planting of indigenous species.
4. Planting of fruit bearing species and bamboo will be preferred as per site specific condition.
5. Nursery will be raised after preparation of Treatment Plan (Micro Plan) and Treatment Map showing complete drainage line of the site.



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Divisional Forest Officer
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6. The drainage line treatment from top to bottom will be carried out by constructing a series of Check Dams and Water Harvesting Structures in order to recharge the ground water to promote better growth. Contour Trenches including Continuous Contour Trench will be adopted in slopes ranging between 6 - 33% and Contour bounding in slopes ranging between 3 - 60% will be adopted relevant to the actual site condition. It will be ensured that there is no surface runoff.
7. Indigenous species such as, Gambhar, Bija etc. will be preferred than other inferior species. One & half year old Karanja seedlings will be planted in ratio of 50:50 in perceptible blanks.
8. The neighboring villagers will be motivated to discourage grazing and prevent forest fire to protect natural regeneration of the site.
9. Monitoring and evaluation of the project will be done at different levels such as Range, Division and circle level.

Implementation of the Project :

The project will be implemented in the following sequence at the earliest after handing over of the forest land and receipt of funds for Compensatory Afforestation.

1. Survey & Demarcation of boundary of 38.5 ha. non-forest CA land :

The identified area is to be resurveyed as per co-ordinates and survey stations and chainage shown in the DGPS map. Area will be demarcated with RCC pillars of size 4 ft. x 6" x 6" for clear demarcation of the area with affixing signboards at the site. The pillar shall be serially numbered and engraved with geo-coordinates as per the approved DGPS surveyed map. It is proposed to post intermediate pillars in between survey stations along the boundary at visible distances for clear identification of CA land in the field. A total of 74 no's of pillars shall be posted including 28 DGPS pillars. A statement showing no's of pillars with GPS coordinates magnetic bearing and distance from pillar to pillar in meter is enclosed as **Annexure-V**. The DGPS survey map on village sheet of Pipalpadar showing the geo coordinates etc. duly verified by forest and revenue officials and vetted by ORSAC as per Govt. guideline is enclosed as **plate-I**. Besides Survey of India topo sheet No. E44F4 showing the CA site is enclosed as **plate-II**.

2. Fencing around the non-forest CA land :

To protect the plantation from grazing and other biotic interference, it will be provided with Angle iron and chain link wire mesh fence along the boundary over 38.5 ha. of the ANR gap plantation and regeneration cleaning area at Pipalpadar village.

- a) The Angle iron and chain link wire mesh fence shall be maintained for 10 years.

3. Preparation of Micro Plan :

Site specific Micro Plan will be prepared along with preparation of Treatment Map to assess amount of seedlings required and different physical Soil & Moisture Conservation structures to be taken up.


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4. **Raising of nursery, planting & post-planting operations.**

- a) Since 1 & ½ year old seedlings will be planted, mostly of Bamboo and other slow growing/late ripening of seeds species such as Neem, Karanja, Simaruba, Bahada, Jamu etc, nursery will be raised one year in advance. In no case seedlings less than 60 cm height will be planted which has been found to be time tested and successful.
- b) 45 cm cube will be dug in the month of January & February after alignment & stacking. If possible 4 ha. plotting will be done with demarcation of the 4 corner points of each sub-plot a separate sheet will be used to show number of pits dug plot wise and total number of pits in the sub plot will thus be found out. This procedure will ensure planting of required number i.e. **7700** of seedlings in the project.
- c) Gap planting may be done where at least 50 seedlings can be planted in each gap. The available gaps will be located after carrying out Silvicultural Cleaning of the area.
- d) Post planting operations will be carried out with provision of maintenance for 10 years.
- e) Nursery for Core plantation in Hatimali DPF over 22 ha. shall be raised near at the plantation site according to the Govt. approved cost norm.

Choice of Species :

As far as possible, indigenous species like Bamboo, Sisoo, Gambhar, Neem, Harida, Bahada, Amla, Kasi and native species as wood be available in the locality will be planted.

Important points for ANR gap plantation :

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

- i. All care to be taken to raise healthy seedlings of minimum 60 cm height. 10% extra of the required stock be raised. Complete 1 & 1/2 year seedlings shall be used in case of Bamboo, Asan, Arjun, Phasi, Neem, Harida, Bahada, Kasi etc.
- ii. Pitting shall invariably be done during January-February i.e., before onset of monsoon. In hilly areas, pits shall be dug along the contours in staggered manner.
- iii. Planting shall be done on the onset of monsoon and should not be delayed.
- iv. Basal dose of vermin compost @ 200gms/plant and 5 grams of Aldrin be applied at the time of planting.
- v. Casualty replacement, weeding and soil working, application of fertilizer and insecticides shall be taken up as per the provisions in the approved cost norm at the proper time.


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- vi. Engaging requisite watchers as per norm who shall also take up tracing of inspection path and fire line and maintenance of fence as and when required shall provide watch & ward. A watcher shed be constructed at suitable place for proper upkeep of the plantation.
- vii. All out efforts to be taken up to keep the plantation free from grazing, fire and other biotic interference.

5. Soil and Moisture Conservation Measures:

Soil and moisture conservation measures as per approved cost norms Annexure-11 shall be done in the field for both the plantations. Soil Conservation measure structures like Staggered Trench, Percolation pit, Contour trench, Graded earthen bund, LB CD, Wire mesh LB CD, Sub surface Dyke & WHS as per the slope & site requirement are to be done with five year maintenance.

6. Provision for watering to the planted seedlings :

Both the non-forest CA area over 38.5 ha. at Pipalpadar and 22 ha. at Hatimali DPF are located on the hill slopes with dry and arid climatic conditions.

To carryout watering for 7,700 nos. of seedlings for the gap plantation in Pipalpadar non-forest land, it is Proposed to take up manual watering with the help of diesel pump set fitted in to a bore well and engaging labourer as per approved cost norm vide watering model -W-II of One time cost norm for compensatory Afforestation. A nala is flowing near the plantation site which can meet also the water requirement for the plantations, if required.

However, in case of Core plantation to be taken at of Hatimali PRF, watering is required to be done since the site is on a hilly slope, and moisture retention capacity of soil is very poor. Hence it is proposed to water the plantation through Diesel energy pump system fitted in to the bore well at strategic locations at the foot hill manually as per Govt. approved cost norm vide watering model -W-II of Onetime cost norm for compensatory Afforestation.

7. 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 both plantation site at Pipalpadar and Hatimali DPF.


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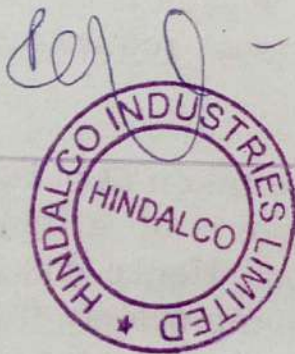
8. Monitoring and Evaluation:


The scheme shall be executed by the Range Officer and monitored by the Divisional Forest Officer and Conservator of Forests from time to time. Nursery and plantation journals shall be maintained from time to time to facilitate monitoring and evaluation of the project. To facilitate this, the user agency shall bear the cost required for the plantations as per approved cost norm.

9. Total cost of the project:

Total cost of the project will **Rs. 6,29,57,835/- (six core twenty nine lakhs fifty seven thousand eight hundred thirty five)** only which shall be deposited by the User Agency to DFO, Koraput in favour of Forest Department for execution of the scheme.

Note : The financial fore cast have been prepared based on the onetime cost norm for Compensatory Afforestation vide Office Order No. 1109 dt. 08.11.2021 of PCCF, Odisha and subsequent memo No. 20,565 dt. 01/12/2021 and memo No. 21393 dt. 13.12.2021 of PCCF Odisha.




Divisional Forest Officer,
Koraput Division, Koraput
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Koraput Forest Division


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FINANCIAL FORECAST

Prepared on the basis of One time cost norm for compensatory Afforestation approved by PCCF Odisha and using Ready Reckoner prepared for different types of AR & ANR models with models of Watering, Fencing & SMC works for the financial year 2022-23 (Recasted from the matrix) vide memo No. 20,565 dt. 01/12/2021.

Sl No.	Particulars	Area in ha.	Cost per ha.	Total cost in Rs.
1.	ANR Gap plantation in Non-forest Govt. land at Pipalpadar village under Laxmipur Tahasil using 200 seedlings per ha with wire mesh fencing, watering manually by Diesel pump set with Bore well and Soil moisture conservation measures as per approved cost norm in Sl No.5 of item No. ANR - 200+DP + WM +SMC of Ready Reckoner - 2022-23 FY.	38.5 ha	10,80,861/-	4,16,13,149/-
2.	Core plantation in degraded forest land in Hatimali DPF under Laxmipur range using 1600 seedlings per ha to accommodate balance 30,800 nos plants (out of total 38,500 nos) with Bamboo twig fencing, Watering manually by Diesel pump set with Bore well and Soil & moisture conservation measures as per approved cost norm in SL No. 4 item No. CA-1600+DP+BT+SMC of Ready Reckoner 2022-23 FY.	22 ha.	9,70,213/-	2,13,44,686/-
	Total			6,29,57,835/-

DP – Diesel pump set with manual watering

BT – Bamboo twig fencing

WM – Wire mesh fencing

SMC – Soil & moisture conservation

Rs. 6,29,57,835/- (six core twenty nine lakhs fifty seven thousand eight hundred thirty five) only.

User Agency



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Joint verification report on identification of Compensatory
Afforestation land relating to forest diversion proposal for Alumina
Refinery with Co-generation Power Plant of Hindalco Industries Ltd. at
Kansariguda in Rayagada and Koraput District of Odisha

Joint verification of (94.50Ac.) 38.5 ha. of non-forest Govt. land in village Pipalpadar under Pipalpadar RI circle of LaxmipurTahasil, District Koraput for raising Compensatory Afforestation in lieu of diversion of 38.062 ha. of forest land (23.153 ha. in Koraput district & 14.909 ha. in Rayagada district) for establishment of Alumina refinery with Co-generation Power Plant and other ancillary structures of Hindalco Industries Ltd. on dt. 07/01/2021 in presence of following revenue and Forest officials.

- Ref: 1) Letter No. APP/HINDALCO/21/2020 dt. 01.12.2020 of AVP, Corporate affairs, Hindalco Industries, Bhubaneswar.
2) Letter No. 6546 dt. 14.12.2020 of DFO, Koraput to the address of RO, Laxipur.
3) Letter No. 2601/2020 dt. 23.12.2020 of Tahasildar, Laxmipur to the address of RI, Laxmipur.

Members present

1. Mr. Upendra Laha, OAS, Tahasildar, LaxmipurTahasil.
2. Mr. Prakash K. Nayak, Revenue Inspector, K.I Pipal Padar.
3. Mr. Sambhu B. B. B., Amin, LaxmipurTahasil.
4. Mr. Kumar Khara, R.O. Laxmipur.
5. Mr. Kabir Ch. Sahoo, Forester.
6. Mr. Rabi Muckuli, FG, Forest Guard.
7. Mr. Sanjeet Kumar Patel, Manager, Hindalco Industries

Today i.e. 07/01/2021 we jointly verified the following plots.

Village	Khata No.	Plot No.	Total area in Ac.	Proposed area in Ac.	Status of land	Kissam	Remarks
Papal padar	76	72	46.80	20.28	AAA	Pahar	Part
	76	73	41.10	38.60	AAA	Pahar	Part
	76	74	36.25	33.95	AAA	Pahar	Part
	76	3	18.65	2.31	AAA	Pahar	Part
Total				95.14 or 38.5 ha.			

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We jointly certified that our observations are as under:

- Land identified for Compensatory Afforestation is PaharKissam (Non-forest land) as per revenue record as on 25.10.1980.
- The land is not included in the DLC forest land list of Koraput district.
- The land is free from encroachment and from any encumbrances.
- The land is having forest growth such as Sal, Asan, Teak, Mahul, Kendu etc.
- The land identified have small gaps at places and gaps can be planted with hardy, indigenous, light demander species @ 200 plants per ha. and it is suitable for Aided Natural Regeneration with gap plantation. The area requires soil & moisture conservation measures in form of gulley plugging, check damming, contour trench etc.

Amrpal
7/1/21
Revenue Inspector
Kalinga

Amrpal
07/01/2021
Forest Range Officer
LAXMIPUR

Amrpal
7/1/21
Tahsil Officer
LAXMIPUR

Aditya
7.1.2021
Aditya Aluminium
(A unit of Hindalco Industries Ltd.)
C/o Utkal Alumina Guest House
Laxman Nayak Street, New Colony
Rayagada-765001, Ph: 06856224277

Rabi
7/1/2021

Rabi Muduli, F.G.
Pipalpaden Beat.

Amrpal
Divisional Forest Officer
Koraput Forest Division



Amrpal
Asst. Conservator of Forest,
Koraput Forest Division
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OFFICE OF THE FOREST RANGE OFFICER, LAXMIPUR RANGE
AT/PO -LAXMIPUR, DIST-KORAPUT (ODISHA)
Email-laxmipurforestrange@gmail.com, Off Tel No-06855(268555)

To

Memo No-30 Date:-25/01/2021

The Divisional Forest Officer
Koraput Forest Division
Koraput.

Sub:

Proposal for Diversion of 38.062 ha. of forest land (23.153 ha. in Koraput district and 14.909 ha. in Rayagada district) for establishment of Alumina Refinery with Co-generation Power Plant at Kansariguda - Regarding identification of Compensatory Afforestation (CA) land and Drafting of CA scheme.

Ref:

Your office memo No. 6546 dt. 14.12.2020.

Sir,

In inviting a reference to the memo No. cited above it is to report you that the under signed with the local Forest staff and Tahasildar, Lxmipur, concerned Revenue Inspector, Amin and representatives of the Hindalco Industries (Aditya Birla Group) jointly inspected and verified the CA land site over 38.5 ha. in Mauza Pipalpadar on 07.01.2021. The site is Govt. Non-forest land with status Abada Ajogya Anabadi having kissam pahar and free from encroachment. The joint verification report details land schedule, DGPS survey map on village sheet and Survey of India topo sheet No. E44F4 showing the CA site duly authenticated by us is enclosed here with for favbours of your kind information & necessary action.

On site inspection it is noticed that the non-forest CA land hosts degraded forest growth with blank areas at places. On an average blank patches can be planted with @ 200 seedlings per ha. followed by Aided Natural Regeneration practices (ANR). The existing forest species can be tended with silvicultural operations with required soil and moisture conservation measures. As per MoEF guidelines of CA vide F.No. 11-423/2011-FC dt. 8.11.2017 a total of 38,500 nos. (@ 1,000 plants/ha.) are required to be planted at the site. However, due to existing forest growth only (38.5 ha. x 200 nos.) 7,700 nos. of seedlings can be planted there. Therefore, balance (38,500 - 7,700) 30,800 can be planted in nearby Hatimali DPF of this range where the above balance seedlings can be planted over 19.25 ha or 20 ha @1600 plants per ha. The said forests land is completely barren caused due to heavy biotic interferences. Even no roots stocks of forest species are found that except around 15 nos. Of Mango, Kusum & simal trees occurring here and there and around 200 nos. of



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Koraput Forest Division

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degraded teak should be available in one corner of the site. The forest land finds place on Survey of India topo sheet No. E44K13 & the site showing the GPS co-ordinates & a DGPS map of the boundary is enclosed herewith for favour of your kind reference. Plants @ 1600/ Hectare can be planted there on Govt. approved Bald hill cost norm with required soil & moisture conservation measures. Two Hectare additional area having proposed due to presence of above trees species & exposed rocks noticed at the site totalling to 22 Hectares. This for your kind information & necessary action.


Yours faithfully


Forest Range Officer
Laximpur
25/11/2021

- Encl : 1) Authenticated land schedule DGPS Survey map of CA site on village sheet of Pipalpadar.
2) Joint verification report duly signed by Revenue and Forest officials and representative of Hindalco Industries.
3) Authenticated Survey of India Topo sheet No. E44F4 showing non-forest CA site.
4) Survey of India Topo sheet No. E44K13 showing plantation site in forest land of Hatimali DPF over 22 ha.
5) DGPS surveyed map of the forest land in Hatimali DPF.


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Koraput Forest Division




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Annexure-II

F.No. 11-423/2011 - FC
Government of India
Ministry of Environment, Forest and Climate Change
(Forest Conservation Division)

Indira Paryavaran Bhawan,
Jor Bagh Road, Aliganj,
New Delhi-110003.
Dated: 8th November, 2017

To

The Principal Secretary (Forests)
All States/UT Governments.

Sub: Identification and suitability of Non-forest land for Compensatory Afforestation under Forest Conservation Act 1980 - regarding Identification of Land Bank for Compensatory Afforestation (CA)

Sir,

I am directed to invite your kind attention to the chapter III of guidelines issued in 2003 by MoEF to implement the Forest Conservation Act 1980 which deals with compensatory afforestation. The para 3.2 of the said guidelines provides for identification of land for compensatory afforestation.

In 3.2 (i) it has been clarified that Compensatory afforestation shall be done over equivalent area of non-forest land (NFL).

As an explanation to 3.2(i) it has been mentioned that:

As a matter of pragmatism, the revenue lands/zudpi jungle/ Chhote/ Bade jhar ka jungle/ jungle-jhari land/civil - soyam lands and all other such categories of land, on which the provisions of Forest (Conservation) Act, 1980 are applicable, shall be considered for the purpose of compensatory afforestation provided that lands on which compensatory afforestation is proposed shall be notified as RF under the Indian Forest Act, 1927.

The application of the GIS based Decision support system (DSS) by the ministry suggests that in many cases a substantial portion of the land identified for compensatory afforestation already contain vegetation of varying density. Creation of compensatory afforestation on such land will not fully compensate the loss of trees, as there will not be enough space for the requisite number of plants to be planted. Outright rejection of such NFL for compensatory afforestation is not desirable. However, once such NFL are selected for compensatory afforestation, these NFL are required to be transferred to State Forest Department and brought under the regular management control of the SFD.

The issue of identification of suitable land for Compensatory afforestation and land bank consisting of both Degraded Forest Land (DFL) and Non Forest Land (NFL) to be made available to user agencies for compensatory afforestation has been considered in the Ministry and following guidelines are issued for identification of suitable land for Compensatory Afforestation and creation of Land Bank under Forest Conservation Act 1980:

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The following amendment is made in 3.2(i) and explanation 2 is added as under

- i. The purpose of compensatory afforestation (CA) is to compensate the loss of land by land and loss of trees by trees.
- ii. For compensatory afforestation the number of plants to be planted over compensatory afforestation land shall be at least 1000 plants per hectare of forest land diverted.
- iii. If the requisite number of plants @ 1000/ha can not be planted on the non-forest land identified for taking up CA, then the balance number of the plants will be planted in degraded forest land as per the provisions of working plans. The State Government will intimate to the MOEF&CC the names of the R.F./P.F. in which the balance seedling will be planted. The User Agency will deposit the cost of planting these seedlings.
- iv. If the compensatory afforestation has to be done on degraded forest land (DFL) identified for CA for as provided in para 3.2 (vi), 3.2(vii) and 3.2(ix) then normally, 1000 saplings will be planted per ha of the diverted land. In case 1000 saplings can not be accommodated per ha in the DFL identified for CA, the balance seedlings will be planted in any RF/PF as per prescription of working plan. The State Govt. will intimate names of the RFs/PFs in which the balance seedlings will be planted. The user agency will deposit the cost of plantation of the same.
- v. The compensatory afforestation may also include several activities like soil & moisture conservation, regeneration cleaning, silvicultural activities in addition to plantation as prescribed in the working plan as applicable. Compensatory afforestation schemes under Assisted Natural Regeneration models as applicable to the identified non forest land (NFL) as well as degraded forest land (DFL) may be considered as per the site requirement.
- vi. State Government will formulate compensatory afforestation scheme including activities like soil & moisture conservation, regeneration cleaning, silvicultural activities and shall ensure maintenance of these plantations for a period of seven to ten years as per requirement.
- vii. The non forest land over which compensatory afforestation will be taken up shall be notified as RF/PF and shall remain under the administrative control of State Forest Department. If the DFL over which CA will be taken up is not a notified forest under IFA or State Forest Act the same shall be notified as RF/PF under this act.

In para 3.2 (ix) the following sub para is added after (f) for identification of Land bank for compensatory afforestation

- (g) The States and UTs shall create land bank for Compensatory Afforestation for speedy disposal of the FC proposals under FC Act 1980. The degraded forest land with crown density upto 40% under the administrative control of forest department may be identified using the Satellite imagery and in consultation with Forest Survey of India and will be made available for CA for Central Government projects and Central Public Sector Units (CPSU). The revenue lands/zudpi jungle/ Chhote/ Bade jhar ka jungle/ jungle-jhari land/civil - soyam lands and all other such categories of land, on which the provisions of Forest (Conservation) Act, 1980 are applicable and other

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waste lands and non-forest lands may also be identified as land bank for the purpose of Compensatory Afforestation. Accordingly, it was decided that to expedite creation of land bank in a systematic manner a Committee under Chairmanship of the Principal Chief Conservator of Forests may be constituted with Chief Wildlife Warden and representatives of revenue department in the State as members of the Committee. The committee may identify the following areas as land bank on priority for inclusion in the land Bank in addition to the blank area and plantation blank referred in para 3.2 (ix)(c) :

- (i) Degraded forest land with crown density upto 40% under the administrative control of forest department
 - (ii) Areas falling in wildlife corridors to improve connectivity between habitats.
 - (iii) Areas falling in and around the Protected Areas (PAs), eco-sensitive zone of PAs, forest areas under direct administrative control of the SFDs to ensure consolidation of such areas.
 - (iv) Habitat of rare, threatened and endangered species of flora and fauna located in the areas not under direct administrative and management control of the SFD to ensure long term conservation of such habitats.
 - (v) Areas falling in catchment areas of important rivers, water supply schemes, irrigation projects, hydro-electric projects etc.
- (h) To monitor the progress of creation of land bank for compensatory afforestation, the Ministry will constitute committees under chairmanship of Head of each Regional Office of the Ministry. Among others, representatives of the National Tiger Conservation Authority (NTCA) and the FSI will also be included as member of these committees. These committees will review the progress in creation of land bank for compensatory afforestation in the States/UTs falling under jurisdiction of the Regional Offices and submit a quarterly report to the Ministry.

This issues with the approval of competent authority

(Nisheeth Saxena)
Assistant Inspector General of Forests (FC)

Copy to:

1. All PCCFs States/UTs
2. All Regional Office, MOEF&CC
3. Nodal Officers (FCA) O/o the PCCFs All States/UT
4. DIGF(FC)/Dir(ROHQ)/All AIGFs(FC), MOEF&CC New Delhi
5. PPS to Secretary, MOEF&CC New Delhi
6. PPS to DGF&SS, MOEF&CC New Delhi
7. PPS to IGF(FC)
8. Guard File

(Nisheeth Saxena)
Assistant Inspector General of Forests (FC)

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F. No. 5-2/2017- FC
Government of India
Ministry of Environment, forests and Climate Change
(FC Division)

Indira Paryavaran Bhawan,
Aligarj, Jor Bag Road,
New Delhi - 110003.

Dated: 28th March, 2019

To,
The Principal Secretary/Secretary (Forests),
All State/UT Governments.

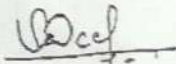
Sub: Handbook of guidelines for effective and transparent implementation of the provisions of Forest (Conservation) Act, 1980.

Sir,

In supersession of all guidelines issued in the past, a handbook of guidelines is issued for effective and transparent implementation of the provisions of Forest (Conservation) Act, 1980. All the provisions enshrined in these guidelines will be applicable from 8th March 2019 onwards. The copy of comprehensive guidelines is available on Ministry's website: www.parivesh.nic.in.

This issue with the approval of competent authority.

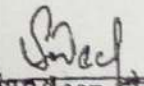
Yours faithfully,


(Sandeep Sharma)

Assistant Inspector General of Forest (FC)

Copy to:

1. Prime Minister's Office, New Delhi.
2. Secretary, Ministry of Mines/Coal/Steel/MoRTH/MoPNG/MHA/MoP/MoTA, Government of India, New Delhi.
3. Principal Chief Conservator of Forests, all State/UT Governments.
4. Nodal Officer (FCA), all State/UT Governments.
5. All Regional Offices, Ministry of Environment, Forest and Climate Change (MoEF&CC), GoI, New Delhi.
6. Joint Secretary in-charge, Impact Assessment Division, MoEF&CC, GoI, New Delhi.
7. All IGF/ DIGF/ AIGF in MoEF&CC, GoI, New Delhi.
8. Sr. Director (Technical), NIC, MoEF&CC with a request to place a copy of the letter on website of this Ministry.
9. PPS to Secretary (EF&CC)/DGF&SS/ADGF(FC)/ADGF(Wildlife), MoEF&CC, New Delhi.
10. Guard File.


(Sandeep Sharma)
Assistant Inspector General of Forest (FC)


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In the State Government stating that land identified for CA will be transferred and mutated in favour of the State Forest Department for creation of CA immediately on receipt of Stage-I approval under the FC Act for diversion of forest land required by the user agency, will be sufficient.

2.4. Clarification:

- (i) As a matter of pragmatism, the revenue lands/zudpi jungle/chhote/bade jharka jungle/jungle-jhari land/civil-soyam/orange lands and all other such categories of forest lands not under management and/or administrative control of the State/UT Forest Department, on which the provisions of FC Act, 1980 are applicable, shall be considered for the purpose of compensatory afforestation. Such lands on which compensatory afforestation is proposed shall be provided double in extent to the area proposed for diversion and shall be transferred and mutated in the name of State Forest Department. It shall be notified as Reserve Forest (RF)/Protected Forests (PF) under the Indian Forest Act, 1927 prior to Stage-II approval.
- (ii) In Arunachal Pradesh, Degraded Unclassed Forests (USF) shall be considered for CA provided such land proposed for CA shall be double the extent of area proposed for diversion. Such land shall be transferred and mutated in the name of State Forest Department and notified as RF/PF, under IFA 1927 or Assam Forest Regulation 1891 or Anchal Forest Reserve/Village Forest Reserve under the Arunachal Pradesh Forest Reserve/Village Forest Reserve (Consolidation and Maintenance) Act 1975 as amended from time to time, prior to Stage-II approval.
- (iii) Waste lands of Himachal Pradesh, which come under the category of Protected Forests but have neither been demarcated on the ground nor transferred & mutated in the name of forest department in the revenue records, shall be considered for the purpose of CA provided that double the area of such category is covered under CA and is declared as RF/PF under IFA, 1927 after mutation in the name of SFD prior to Stage-II approval. This dispensation shall be applicable for the Central, State and Private sector projects.
- (iv) ~~Provisions of CA will be applicable for renewal of a mining lease, including the area broken up prior to 25.10.1980, if the same was not applied earlier.~~
- (v) Any non-forest land for the purpose of Compensatory afforestation (CA), selected by the State Government, in lieu of forest land to be diverted may be accepted by MoEF&CC irrespective of crown density. All such lands shall be mutated in favour of State forest department and declared as protected forest prior to stage I approval.
- (vi) State government shall prepare a CA scheme with 1000 plants per ha for all such non-forest lands. In case it is not possible to raise plantation at the rate of 1000 plants per ha on the selected non-forest land, then the balance plants shall be planted on degraded forest land as per working plan prescriptions. All forest lands which have crown density below 40 percent should only be treated as degraded forest land for the purpose of CA.
- (vii) Any degraded forest land for the purpose of CA, selected by State Government may be accepted by MoEF&CC only if the crown density of the area is below 40 percent.



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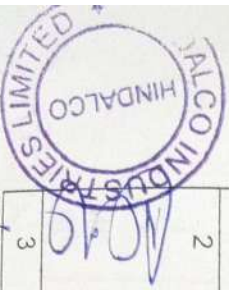
Annexure-III

Annexure-5 BASE COST NORM FOR COMPENSTORY AFFORSTATION (BLOCK PLANTATION) @1600 PLANTS PER HECTER (18 months old seedling)

Wage rate @ Rs.311.00 MANDAY

Sl. No	Items of work	Period of Execution	No of Mandays	Labour cost (Rs.)	Material Cost (Rs)	Total Cost in (Rs.)
1	2	3	4	5	6	7
0 TH YEAR (ADVANCE WORK) PRE-PLANTING OPERATION						
1	Survey, demarcation and pillar posting.	Nov/Dec	2	622.00	0	622
2	Preparation of Treatment Map (Digital Map)	Nov/Dec	1	311.00	100	411
3	Site preparation (Cleansing & removal of debris)	Nov/Dec	12	3732.00	0	3732
4	Creation of 4.00 mt wide Inspection Path	Feb/Mar	1	311.00	0	311
5	Alignment and stacking	Feb/Mar	2	622.00	0	622
6	Digging of pits (45 cm x 45 cm x 45 cm) in hard and gravelly soil	Feb/Mar	64	19904.00	0	19904.00
7	Construction of temporary labour shed, drinking water facility and first-aid etc.	Jan/Mar		0.00	3500	3500.00
	Total		82	25502	3600	29102
1 ST YEAR/PLANTING YEAR						
1	Refilling of pits by altering the dug-out soil of the pits, application of organic compounds/ CDM/PYM & mixing the same properly.	Jun/July	12	3732.00	8000	11732
2	Transportation of 18 months old pol ypot seedlings in hired truck/ tractor from the permanent/ Mega Nursery to planting site including loading & unloading .(average lead of 10 Rkm) & stacking the seedling @ Rs.-6/-per seedling.(1760 nos)	July/Aug	0	0.00	10560	10560.00
3	Watering the poly pot seedlings at planting site	July/Aug	3	933.00	0	933.00

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Sl. No	Items of work	Period of Execution	No of Mandays	Labour cost (Rs.)	Material Cost (Rs)	Total Cost in (Rs.)
1	2	3	4	5	6	7
4	Conveyance of poly pot seedlings on head load from the stacking site to individual dugout pits within the planting site, applying insecticide, fertilizers & planting after scooping the soil with other applied materials & pressing the soil properly around the planted seedlings.	July/Aug	36	11196	0	11196.00
5	Cost of Fertilizer & Insecticide					
	NPK/Bio-fertilizer @ 50 gms/plant as basal dose = 80kg @ Rs.30/- per kg = Rs.1400.00. (b) Urea/Vermicompost/Mo Khata/any other fertilizer in two subsequent doses @ Rs.1200/- (C) Insecticide/Bio-pesticide @ 5 gms/plant = 8 Kg. @ Rs. 150/- per Kg. = 1200/-.	July/Aug			4800	4800.00
6	Casualty Replacement @ 10% (160 nos.)	July/Aug	4	1244.00	0	1244.00
7	1st weeding & Manuring	Aug/Sep	15	4665.00	0	4665.00
8	2nd weeding, soil working (1mt. Diameter around the plants) and manuring.	Oct/Nov	20	6220.00		6220.00
9	Fire line tracing (2m. Wide fire line over 400 m long) including maintenance of inspection patch	Feb/Mar	3	933.00	0	933.00
10	Watch & Ward including watering as per requirement.	Aug-Mar	12	3732.00	0	3732.00
	Total		105	32655	23360	56015

Sl. No	Items of work	Period of Execution	No of Mandays	Labour cost (Rs.)	Material Cost (Rs.)	Total Cost in (Rs.)
1	2	3	4	5	6	7
2 ND YEAR MAINTENANCE						
1	Transportation of 160 seedlings from Nursery to plantation site including loading unloading & conveyance by Tractor @ Rs. 6/- per seedlings.	July	0		960	960.00
2	Casualty replacement (10%)	July	4	1244.00	0	1244.00
3	(a) Cost of Insecticide/Bio-pesticide @ 5 gms/Plant = 0.8 Kg. @ Rs. 150/- per Kg. = Rs. 120/- (b) Urea/NPK/Bio-fertilizer/Vermi-compost/ Mo/Khata/any other fertilizer @ Rs. 4468/-	Aug/Sep	0			
4	Weeding (Complete weeding), Manuring & soil working (1mt. Diameter around the plants).	Sep/Oct	20	6220.00	4606	10826
5	Fire line tracing (2m. Wide fire line over 400 m. long) including maintenance of Inspection path.	Feb/Mar	3	933.00	0	933
6	Watch & Ward including watering as per requirement.	Apr-Mar	18	5598.00	0	5598
7	Maintenance of Temporary Labour shed, Drinking water facility and First-Aid etc.			0.00	1000	1000
	Total		45	13995	6566	20561
3 RD YEAR MAINTENANCE						
1	Cost of Fertilizer Urea/NPK/Bio-fertilizer/ Vermicompost/ Mo Khata/any other fertilizer	Sep/Oct		0.00	4486	4486
2	Weeding (Complete weeding), Manuring & soil working (1mt. Diameter around the plants).	Sep/Oct	20	6220.00	0	6220
3	Fire line tracing (2m. Wide fire line over 400 m. long) including maintenance of Inspection path.	Feb/Mar	3	933.00	0	933





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Sl. No	Items of work	Period of Execution	No of Mandays	Labour cost (Rs.)	Material Cost (Rs.)	Total Cost in (Rs.)
1	1	3	4	5	6	7
4	Watch & Ward including watering as per requirement.	Apr-Mar	18	5598.00	0	5598
5	Maintenance of Temporary Labour shed, Drinking water facility and First-Aid etc.	Feb/Mar		0.00	1000	1000
	Total		41	12751.00	5486	18237.00
4 TH YEAR MAINTENANCE						
1	Fire line tracing (2m. Wide fire line over 400 m length) including maintenance of inspection path.	Feb/Mar	3	933.00	0	933
2	Watch & Ward	Apr-Mar	18	5598.00		5598
	Total		21	6531.00	0	6531
5 TH YEAR MAINTENANCE						
1	Fire line tracing (2m. Wide fire line over 400 m length) including maintenance of inspection path.	Feb/Mar	3	933.00	0	933
2	Watch & Ward	Apr-Mar	18	5598.00		5598
	Total		21	6531	0	6531
6 TH YEAR MAINTENANCE						
1	Fire line tracing (2m. Wide fire line over 400 m length) including maintenance of inspection path.	Feb/Mar	3	933.00	0	933
2	Pruning of branches, singling out of multiple shoots	Jan/Mar	5	1555.00		1555
3	Watch & Ward	Apr-Mar	18	5598.00		5598
	Total		26	8086	0	8086

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Sl. No	Items of work	Period of Execution	No of Mandays	Labour cost (Rs.)	Material Cost (Rs.)	Total Cost in (Rs.)
1	2	3	4	5	6	7
7TH YEAR MAINTENANCE						
1	Fire line tracing (2m. Wide fire line over 400 m length) including maintenance of inspection path.	Feb/Mar	3	933.00	0	933
2	Watch & Ward	Apr-Mar	18	5598.00		5598
	Total		21	6531.00	0	6531
8TH YEAR MAINTENANCE						
1	Fire line tracing (2m. Wide fire line over 400 m length) including maintenance of inspection path.	Feb/Mar	3	933.00	0	933
2	Watch & Ward	Apr-Mar	18	5598.00		5598
	Total		21	6531	0	6531
9TH YEAR MAINTENANCE						
1	Fire line tracing (2m. Wide fire line over 400 m length) including maintenance of inspection path.	Feb/Mar	3	933.00	0	933
2	Watch & Ward	Apr-Mar	18	5598.00		5598
	Total		21	6531	0	6531
10TH YEAR MAINTENANCE						
1	Fire line tracing (2m. Wide fire line over 400 m length) including maintenance of inspection path.	Feb/Mar	3	933.00	0	933
2	Watch & Ward	Apr-Mar	18	5598.00		5598
	Total		21	6531	0	6531
2	Watch & Ward	Apr-Mar	18	5598.00		5598
	Total		21	6531	0	6531



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YEAR WISE ABSTRACT OF COST NORM (SHOWING SEEDLING COST SEPARATELY)

Sl. No	Year	No. Person Day	Labour cost @ Rs.311/- per day (Rs.)	Material cost (Rs.)	Monitoring, Evaluation, Learning, Documentation and other Contingency (5%) of (4+5)	Cost of seedlings @ Rs. 50.31 per seedling	Total cost in (Rs.)
1	0th year	82	25502.00	3600.00	1398.00	0	30500.00
2	1st year	105	32655.00	23360.00	2800.00	88546	147361.00
3	2nd year	45	13995.00	6566.00	1028.00	8050	29639.00
4	3rd year	41	12751.00	5486.00	911.00	0	19148.00
5	4th year	21	6531.00	0.00	326	0	6857.00
6	5th year	21	6531.00	0.00	326	0	6857.00
7	6th year	26	8086.00	0.00	404	0	8490.00
8	7th year	21	6531.00	0.00	326	0	6857.00
9	8th year	21	6531.00	0.00	326	0	6857.00
10	9th year	21	6531.00	0.00	326	0	6857.00
11	10th year	21	6531.00	0.00	326	0	6857.00
	Total	425	132175.00	39012	8497.00	96596.00	276280.00

Note:

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

MATRIX FOR MODEL-I B CONVENTIONAL CA PLANTATION (AR) 1600 PLANTS PER HA.

Sl No.	Comment year	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	XIII	XIV	XV	XVI	XVI I	XVI II	XIX	XX	X XI	Total cost (10 year s)
Base Norm		305 00	147 361	296 39	161 48	685 7	685 7	849 0	685 7	685 7	685 7	685 7											
1	2021-22	305 00	154 729	326 74	221 66	833 5	875 1	113 77	964 8	101 31	106 37	111 69											310 117
2	2022-23		320 25	162 465	343 08	232 74	875 2	918 9	119 46	101 30	106 38	111 69	117 27	123 13									325 623
3	2023-24			336 26	170 588	360 23	244 38	919 0	964 8	125 43	106 37	111 70	117 27	123 13									341 903
4	2024-25				353 07	179 117	378 24	256 60	965 0	101 30	131 70	111 69	117 29	123 13	129 29								358 998
5	2025-26					370 72	188 073	397 15	269 43	101 33	106 37	138 29	117 27	123 15	129 29	135 75							376 948
6	2026-27						389 26	197 477	417 01	282 90	106 40	111 69	145 20	123 13	129 31	135 75	142 54						395 796
7	2027-28							408 72	207 351	437 86	297 05	111 72	117 27	152 46	129 29	135 78	142 54	149 67					415 587
8	2028-29								429 16	217 719	459 75	311 90	117 31	123 13	160 08	135 75	142 57	149 67	157 15				436 366
9	2029-30									450 62	228 605	482 74	327 50	123 18	129 29	168 08	142 54	149 70	157 15	165 01			458 186
10	2030-31									473 15	240 035	506 88	343 88	129 34	135 75	176 48	149 67	157 19	165 01	173 26			481 096



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Koraput Forest Division
K O R A P U T



READY RECKONER FOR COMPENSATORY AFFORSTATION SCHEMES FOR 2021-22 FY

Figure in Rs.

Sl No.	CA Code	Core plantation	Watering				Fencing			SMC	Total Cost
			Solar & Drip system	Diesel Pumpset with manual	Diesel Pumpset with manual	Solar & maual	Bamboo Twigs	Wire Mesh	SF		
CA 1000 + Watering + Fencing			CA 1000								
1	CA 1000 + SD + BT + SMC		234718	202327	0	0	99967	0	0	35633	572645
2	CA 1000 + SD + WM + SMC		234718	202327	0	0	0	419331	0	35633	892009
3	CA 1000 + SD + SF+ SMC		234718	202327	0	0	0	0	161948	35633	634626
4	CA 1000 + DP + BT + SMC		234718	0	478294	0	99967	0	0	35633	848612
5	CA 1000 + DP + WM + SMC		234718	0	478294	0	0	419331	0	35633	1167976
6	CA 1000 + DP + SF + SMC		234718	0	478294	0	0	0	161948	35633	910593
7	CA 1000 + SM + BT + SMC		234718	0	0	471893	99967	0	0	35633	842211
8	CA 1000 + SM + WM + SMC		234718	0	0	471893	0	419331	0	35633	1161575
9	CA 1000 + SM + SF + SMC		234718	0	0	471893	0	0	161948	35633	904192
CA 1600 + Watering + Fencing			CA1600								
1	CA 1000 + SD + BT + SMC		310117	202327	0	0	99967	0	0	35633	648044
2	CA 1000 + SD + WM + SMC		310117	202327	0	0	0	419331	0	35633	967408
3	CA 1000 + SD + SF+ SMC		310117	202327	0	0	0	0	161948	35633	710025
4	CA 1000 + DP + BT + SMC		310117	0	478294	0	99967	0	0	35633	924011
5	CA 1000 + DP + WM + SMC		310117	0	478294	0	0	419331	0	35633	1243375
6	CA 1000 + DP + SF + SMC		310117	0	478294	0	0	0	161948	35633	985992
7	CA 1000 + SM + BT + SMC		310117	0	0	471893	99967	0	0	35633	917610
8	CA 1000 + SM + WM + SMC		310117	0	0	471893	0	419331	0	35633	1236974

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Koraput Forest Division
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9	CA 1000 + SM + SF + SMC	310117	0	0	471893	0	0	161948	35633	979591
ANR500 + WATERING+FENCING										
1	ANR500+SD+BT+SMC	136098	202327	0	0	99967	0	0	35633	474025
2	ANR500+SD+ WM +SMC	136098	202327	0	0	0	419331	0	35633	793389
3	ANR500+SD+ SF +SMC	136098	202327	0	0	0	0	161948	35633	536006
4	ANR500+SD+BT+SMC	136098	0	478294	0	99967	0	0	35633	749992
5	ANR500+SD+ WM +SMC	136098	0	478294	0	0	419331	0	35633	1069356
6	ANR500+SD+ SF +SMC	136098	0	478294	0	0	0	161948	35633	811973
7	ANR500+SD+BT+SMC	136098	0	0	471893	99967	0	0	35633	743591
8	ANR500+SD+ WM +SMC	136098	0	0	471893	0	419331	0	35633	1062955
9	ANR500+SD+ SF +SMC	136098	0	0	471893	0	0	161948	35633	805572
ANR200 + WATERING + FENCING										
1	ANR200 +200+SD+BT+SMC	96131	202327	0	0	99967	0	0	35633	434058
2	ANR200 +200+SD+WM+SMC	96131	202327	0	0	0	419331	0	35633	753422
3	ANR200 +200+SD+SF+SMC	96131	202327	0	0	0	0	161948	35633	496039
4	ANR200 +200+SD+BT+SMC	96131	0	478294	0	99967	0	0	35633	710025
5	ANR200 +200+SD+WM+SMC	96131	0	478294	0	0	419331	0	35633	1029389
6	ANR200 +200+SD+SF+SMC	96131	0	478294	0	0	0	161948	35633	772006
7	ANR200 +200+SD+BT+SMC	96131	0	0	471893	99967	0	0	35633	703624
8	ANR200 +200+SD+WM+SMC	96131	0	0	471893	0	419331	0	35633	1022988
9	ANR200 +200+SD+SF+SMC	96131	0	0	471893	0	0	161948	35633	765605
CA - Compensatory Afforestation										
FY - Financial Year										
SD - Solar with Drip System Watering										
DP - Diesel Pump Set with Manual Watreing										



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Annexure-IV

BASE COST NORMS FORCOMPENSATORY AFFORESTATION THROUGH AIDED NATURAL REGENERATION (ANR)
@ 200 SEEDLINGS/HA. (18 months old seedlings)

Wage rate Rs. 311/- per Manday.

Sl. No.	Items of works	Preferable period of Execution	No. of Mandays	Labour cost (in Rs.)	Material cost (in Rs.)	Total (in Rs)
0th Year (Advance work) Pre-Planting Operation						
1	Survey, Demarcation and Pillar Posting	Nov/Dec	2	622	0	622
2	Preparation of Treatment Map (Digital Map)	Nov/Dec	1	311	100	411
3	Site Preparation	Nov/Dec	2	622	0	622
4	Silvicultural Operations including clearance of weed, cutting of climber, high stump cutting, singling of shoots & removal of cut out after drying from the field to blank space.	Jan/Feb	15	4665	0	4665
5	Alignment and stacking for digging of pits.	Feb/Mar	0.5	155.5	0	155.5
6	Digging of pits (45cm x 45cm x 45cm) in hard and gravelly soil	Feb/Mar	8	2488	0	2488
Total			28.5	8863.5	100	8963.5



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Sl. No.	Items of works	1st Year Operation				
		Preferable period of Execution	No. of Mandays	Labour cost (in Rs.)	Material cost (in Rs.)	Total (in Rs)
1	Refilling of pits by altering the dugout soil of the pits, application of organic compounds/CDM/FYM & Mixing the same perfectly.	June/Jul	1.5	466.5	1000	1466.5
2	Transportation of 18 months old polythene bag seedlings in hired truck/tractor from the permanent/Mega nursery to planting site including loading, unloading (Average lead of 10 Rkm) & stacking the seedling @ Rs. 6/- seedlings (220 nos.)	Jul/Aug	0	0	1320	1320
3	Watering polythene bag seedlings at stacking site of plantation	Jul/Aug	0.5	155.5	0	155.5
4	Conveyance of polypot seedlings on head load from the stacking site to individual dugout pits within the planting site, applying isecticide, fertilizers & planting after scooping the soil with other applied materials & pressing the soil perfectly around the planted seedlings.	Jul/Aug	4.5	1399.5	0	1399.5

Sl. No.	Items of works	Preferable period of Execution	No. of Mandays	Labour cost (in Rs.)	Material cost (in Rs.)	Total (in Rs)
5	Cost of Fertilizer & Insecticide : (a) NPK/Bio-fertilizer @ 50 gms/plant as basal dose = 10kg @ Rs.30/- per kg = Rs.300.00. (b) Urea/Vermicompost/Mo Khata/any other fertilizer in two subsequent doses @ Rs.150/-. (c) Insecticide/Bio-pesticide @ 5 gms/plant = 8 Kg. @ Rs. 150/- per Kg. = 1200/-. (d) Insecticide/Bio-pesticide @ 5 gms/plant = 1 kg. @ Rs. 150/- per kg. = Rs. 150/-.	Jul/Aug	0	0	600	600
6	Casualty Replacement @ 10% (160 nos.)	Jul/Aug	0.5	155.5	0	155.5
7	1st weeding & Manuring	Aug/Sep	2	622	0	622
8	2nd weeding, soil working (1mt. Diametre around the plants) and manuring.	Oct/Nov	3	933	0	933
9	Fire line tracing & inspection patch	Feb/Mar	3	933	0	933
10	Watch & Ward including watering as per requirement.	Aug-Mar	8	2488	0	2488
	Total		23	7153.0	2920	10073
2nd Year Operation						
1	Transportation of 20 seedlings from Nursery to plantation site including loading unloading & conveyance by Tractor @ Rs. 6/- per seedlings.	Jul	0	0	120	120
2	Planting for casualty replacement	Jul	0.5	155.5	0	155.5



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Sl. No.	Items of works	Preferable period of Execution	No. of Mandays	Labour cost (in Rs.)	Material cost (in Rs.)	Total (in Rs)
3	Cost of fertilizer & Insecticide : (a) Cost of Insecticide/Bio-pesticide @ 5 gms/Plant = 0.1 Kg. @ Rs. 150/- per Kg. = Rs. 15/- (b) Urea/NPK/Bio-fertilizer/Vermicompost/Mo/Khata/any other fertilizer @ Rs. 560/-	Jul	0	0	575	575
4	Weeding (Complete weeding), Manuring & soil working (1mt. Diameter around the plants).	Sep/Oct	4	1244	0	1244
5	Fire line tracing (2m. Wide fire line over 400 m. long) including maintenance of Inspection path.	Feb/Mar	3	933	0	933
6	Watch & Ward including watering as per requirement.	Apr/Mar	12	3732	0	3732
Total			19.5	6064.5	695	6759.5
3rd Year Operation						
1	Cost of Fertilizer : Urea/NPK/Bio-fertilizer/Vermicompost/Mo Khata/any other fertilizer =Rs. 560/-	Sep/Oct	0	0	560	560
2	Weeding (Complete weeding), Manuring & soil working (1mt. Diameter around the plants).	Aug/Sep	4	1244	0	1244
3	Fire line tracing (2m. Wide fire line over 400 m. long) & Inspection path.	Feb/Mar	3	933	0	933
4	Watch & Ward including watering as per requirement.	Apr/Mar	12	3732	0	3732
Total			19	5909	560	6469

Sl. No.	Items of works	Preferable period of Execution	No. of Mandays	Labour cost (in Rs.)	Material cost (in Rs.)	Total (in Rs)
4th Year Operation						
1	Fire line tracing (2m. Wide fire line over 400 m length) & inspection path.	Feb/Mar	3	933	0	933
2	Watch & Ward including watering as per requirement.	Apr- Mar	12	3732	0	3732
Total			15	4665	0	4665
5th Year Operation						
1	Fire line tracing (2m. Wide fire line over 400 m length) & inspection path.	Feb/Mar	3	933	0	933
2	Watch & Ward including watering as per requirement.	Apr- Mar	12	3732	0	3732
Total			15	4665	0	4665
6th Year Operation						
1	Fire line tracing (2m. Wide fire line over 400 m length) & inspection path.	Feb/Mar	3	933	0	933
2	Watch & Ward including watering as per requirement.	Apr- Mar	12	3732	0	3732
Total			15	4665	0	4665
7th Year Operation						
1	Fire line tracing (2m. Wide fire line over 400 m length) & inspection path.	Feb/Mar	3	933	0	933
2	Watch & Ward including watering as per requirement.	Apr- Mar	12	3732	0	3732
Total			15	4665	0	4665

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Sl. No.	Items of works	Preferable period of Execution	No. of Mandays	Labour cost (in Rs.)	Material cost (in Rs.)	Total (in Rs)
8th Year Operation						
1	Fire line tracing (2m. Wide fire line over 400 m length) & inspection path.	Feb/Mar	3	933	0	933
2	Watch & Ward including watering as per requirement.	Apr- Mar	12	3732	0	3732
	Total		15	4665	0	4665
9th Year Operation						
1	Fire line tracing (2m. Wide fire line over 400 m length) & inspection path.	Feb/Mar	3	933	0	933
2	Watch & Ward including watering as per requirement.	Apr- Mar	12	3732	0	3732
	Total		15	4665	0	4665
10th Year Operation						
1	Fire line tracing (2m. Wide fire line over 400 m length) & inspection path.	Feb/Mar	3	933	0	933
2	Watch & Ward including watering as per requirement.	Apr- Mar	12	3732	0	3732
	Total		15	4665	0	4665

ABSTRACT							
Sl. No.	Item of work	No. of Person days	Labour cost @ Rs. 311/- per day (Rs.)	Material cost (in Rs.)	Monitoring, evaluation, Learning, Documentation and other Contingency (5%) of (4+5+6)	Cost of seedlings @ Rs. 50.31 per seedlings	Total (Rs)
1	0th Year operation	28.5	8863.5	100	436.5	0	9400.0
2	1st Year operation	23	7153	2920	427.00	11068	21568.0
3	2nd Year operation	19.5	6064.5	695	240.5	1006	8006.0
4	3rd Year operation	10	5909	560	231	0	6700.0
5	4th Year operation	3	4665	0	135	0	4800.0
6	5th Year operation	3	4665	0	135	0	4800.0
7	6th Year operation	3	4665	0	135	0	4800.0
8	7th Year operation	3	4665	0	135	0	4800.0
9	8th Year operation	3	4665	0	135	0	4800.0
10	9th Year operation	3	4665	0	135	0	4800.0
11	10th Year operation	3	4665	0	135	0	4800.0
	TOTAL	102	60645	4275	2280	12074	79274.0

Note :

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



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MATRIX FOR ANR-200 PLANTS/HA.

Sl. No.	Component year	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	XIII	XIV	XV	XVI	XVII	XVIII	XIX	XX	XXI	Total cost (10 years)
Base Norm		9400	21568	8006	6700	4800	4800	4800	4800	4800	4800	4800											
1	2021-22	9400	22646	8826	7756	5834	6126	6432	6754	7092	7446	7819											96131
2	2022-23		9870	23778	9267	8144	6126	6432	6754	7092	7447	7818	8210										100938
3	2023-24			10364	24967	9730	8551	6432	6754	7092	7447	7819	8209	8621									105986
4	2024-25				10882	26215	10217	8979	6754	7092	7447	7819	8210	8619	9052								111286
5	2025-26					11426	27526	10728	9428	7092	7447	7819	8210	8621	9050	9505							116852
6	2026-27						11997	28902	11264	9899	7447	7819	8210	8621	9052	9503	9980						122694
7	2027-28							12597	30347	11827	10394	7819	8210	8621	9052	9505	9978	10479					128829
8	2028-29								13227	31864	12418	10914	8210	8621	9052	9505	9980	10477	11003				135271
9	2029-30									13888	33457	13039	11460	8621	9052	9505	9980	10479	11001	11553			142035
10	2030-31										14582	35130	13691	12033	9052	9505	9980	10479	11003	11551	12131		149137

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READY RECKONER FOR COMPENSATORY AFFORSTATION SCHEMES FOR 2022-23 FY

Figure in Rs.

Figure in Rs.										
SI No	CA Code	Core plantation	Watering			Fencing			SMC	Total Cost
			Solar & Drip system	Diesel Pump set with manual	Solar & Manual	Bamboo Twigs	Wire Mesh	SF		
CA 1000 + Watering + Fencing			CA 1000							
1	CA 1000 + SD + BT + SMC	246454	233786	0	0	104966	0	0	37415	622621
2	CA 1000 + SD + WM + SMC	246454	233786	0	0	0	440299	0	37415	957954
3	CA 1000 + SD + SF+ SMC	246454	233786	0	0	0	0	170045	37415	687700
4	CA 1000 + DP + BT + SMC	246454	0	502209	0	104966	0	0	37415	891044
5	CA 1000 + DP + WM + SMC	246454	0	502209	0	0	440299	0	37415	1226377
6	CA 1000 + DP + SF + SMC	246454	0	502209	0	0	0	170045	37415	956123
7	CA 1000 + SM + BT + SMC	246454	0	0	495487	104966	0	0	37415	884322
8	CA 1000 + SM + WM + SMC	246454	0	0	495487	0	440299	0	37415	1219655
9	CA 1000 + SM + SF + SMC	246454	0	0	495487	0	0	170045	37415	949401
CA 1600 + Watering + Fencing										
1	CA 1600 + SD + BT + SMC	325623	233786	0	0	104966	0	0	37415	701790
2	CA 1600 + SD + WM + SMC	325623	233786	0	0	0	440299	0	37415	1037123
3	CA 1600 + SD + SF+ SMC	325623	233786	0	0	0	0	170045	37415	766869
4	CA 1600 + DP + BT + SMC	325623	0	502209		104966	0	0	37415	970213
5	CA 1600 + DP + WM + SMC	325623	0	502209		0	440299	0	37415	1305546
6	CA 1600 + DP + SF + SMC	325623	0	502209		0	0	170045	37415	1035292
7	CA 1600 + SM + BT + SMC	325623	0	0	495487	104966	0	0	37415	963491
8	CA 1600 + SM + WM + SMC	325623	0	0	495487	0	440299	0	37415	1298824
9	CA 1600 + SM + SF + SMC	325623			495487	0	0	170045	37415	1028570

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ANR500 + WATERING+FENCING

1	ANR 500+SD+BT +SMC	142904	233786	0	0	104966	0	0	37415	519071
2	ANR 500+SD+ WM +SMC	142904	233786	0	0	0	440299	0	37415	854A04
3	ANR 500+SD+ SF +SMC	142904	233786	0	0	0	0	170045	37415	584150
4	ANR 500+DP+BT +SMC	142904	0	502209		104966	0	0	37415	787494
5	ANR 500+DP+ WM +SMC	142904	0	502209		0	440299	0	37415	1122827
6	ANR 500+SDP+ SF +SMC	142904	0	502209		0	0	170045	37415	852573
7	ANR 500+SM+BT +SMC	142904	0	0		104966	0	0	37415	780772
8	ANR 500+SM+ WM +SMC	142904	0	0		0	440299	0	37415	1116105
9	ANR500+SM+ SF +SMC	142904				0	0	170045	37415	845851

ANR200 + WATERING + FENCING

1	ANR 200 +SD+BT+SMC	100938	233786	0	0	104966	0	0	37415	477105
2	ANR 200 +SD+WM+SMC	100938	233786	0	0	0	440299	0	37415	812438
3	ANR 200 +SD+SF+SMC	100938	233786	0	0	0	0	170045	37415	542184
4	ANR 200 +DP+BT+SMC	100938	0	502209		104966	0	0	37415	745528
5	ANR 200 +DP+WM+SMC	100938	0	502209		0	440299	0	37415	1080861
6	ANR 200 +DP+SF+SMC	100938	0	502209		0	0	170045	37415	810607
7	ANR 200 +SM+BT+SMC	100938	0	0		104966	0	0	37415	738806
8	ANR 200+SM+WM+SMC	100938	0	0		0	440299	0	37415	1074139
9	ANR 200+SM+SF+SMC	100938				0	0	170045	37415	803885
CA - Compensatory Afforestation										
FY - Financial Year										
SD - Solar with Drip System Watering										
DP - Diesel Pump Set with Manual Watering										
SM-Solar System with Manual Watering										
BT - Bamboo Twigs Fencing										
WM - Wire Mesh Fencing										
SF - Solar Fencing										
SMC - Soil & Moisture Conservation										

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BT - Bamboo Twigs Fencing										
WM - Wire Mesh Fencing										
SF - Solar Fencing										
SMC - Soil & Moisture Conservation										

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Annexure-V

Geo coordinates of boundary pillars of CA land at Pipalpadar village

SL NO	POINT_ID	EASTING	NORTHING	LATITUDE	LONGITUDE
1	P-1	727107.92	2115179.425	19 07 01.341728	83 09 32.066091
2	P-2	727212.43	2115179.781	19 07 01.311338	83 09 35.640886
3	P-3	727331.495	2115180.042	19 07 01.272005	83 09 39.713485
4	P-4	727433.255	2115180.194	19 07 01.236029	83 09 43.194133
5	P-5	727434.072	2115213.279	19 07 02.311376	83 09 43.236069
6	P-6	727525.403	2115214.239	19 07 02.305869	83 09 46.360327
7	P-7	727639.587	2115216.129	19 07 02.321369	83 09 50.266668
8	P-8	727709.066	2115216.914	19 07 02.318929	83 09 52.643456
9	P-9	727709.931	2115182.468	19 07 01.198687	83 09 52.658461
10	P-10	727748.887	2115181.636	19 07 01.155969	83 09 53.990553
11	P-11	727780.153	2115077.955	19 06 57.772497	83 09 55.016039
12	P-12	727860.988	2114982.545	19 06 54.638009	83 09 57.740447
13	P-13	727831.614	2114968.139	19 06 54.181464	83 09 56.729677
14	P-14	727860.551	2114865.745	19 06 50.840786	83 09 57.676038
15	P-15	727882.066	2114780.375	19 06 48.056587	83 09 58.375737
16	P-16	727806.632	2114661.429	19 06 44.219801	83 09 55.745324
17	P-17	727718.135	2114525.7	19 06 39.842583	83 09 52.661012
18	P-18	727646.055	2114408.302	19 06 36.054759	83 09 50.146011
19	P-19	727589.694	2114513.092	19 06 39.484329	83 09 48.262682
20	P-20	727537.911	2114603.685	19 06 42.450518	83 09 46.529886
21	P-21	727489.212	2114688.403	19 06 45.224442	83 09 44.900052
22	P-22	727436.442	2114780.371	19 06 48.235712	83 09 43.134079
23	P-23	727333.994	2114779.955	19 06 48.263369	83 09 39.629867
24	P-24	727169.285	2114779.298	19 06 48.308137	83 09 33.996013
25	P-25	727053.23	2114778.86	19 06 48.340475	83 09 30.026396
26	P-26	727072.66	2114879.192	19 06 51.594679	83 09 30.733317
27	P-27	727104.185	2115041.819	19 06 56.869370	83 09 31.880232
28	P-28	727126.932	2115159.931	19 07 00.700288	83 09 32.708145



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Geo coordinates of boundary pillars of CA land at Hatimali DPF

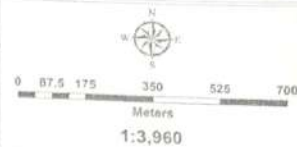
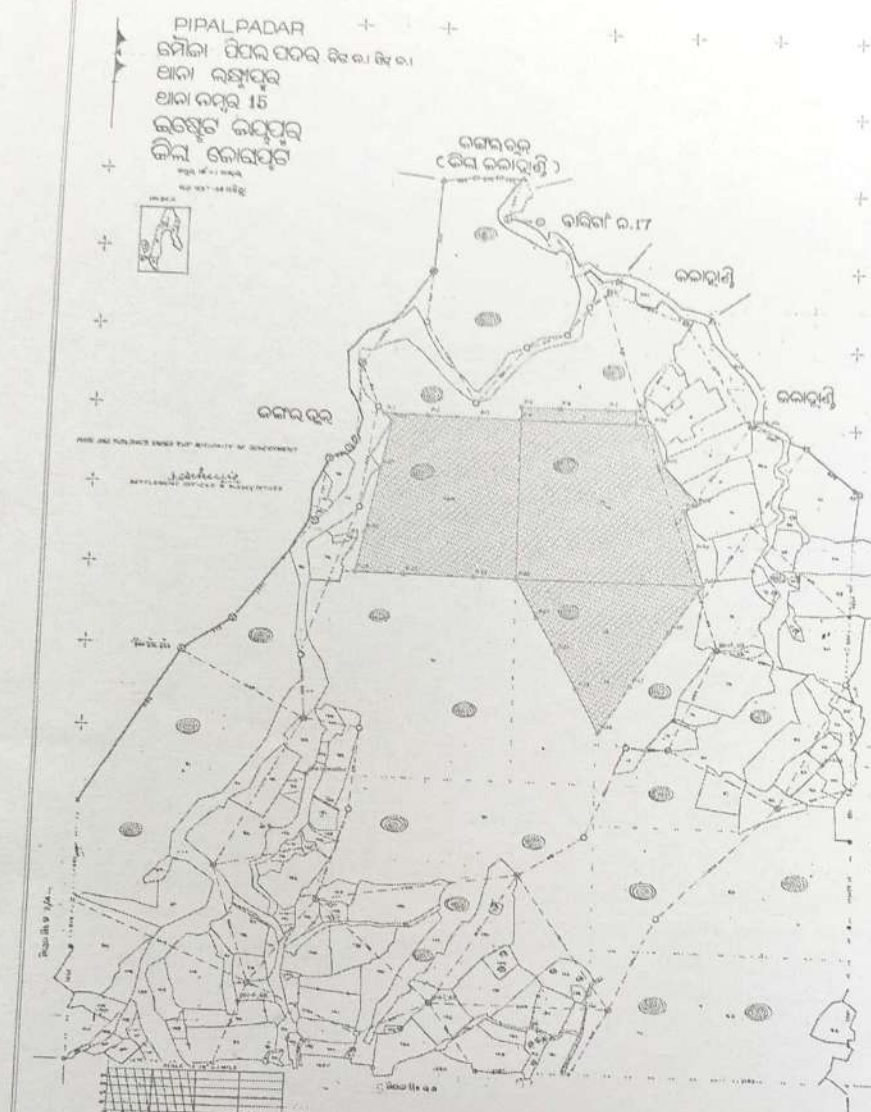
SL NO	POINT ID	EASTING	NORTHING	LATITUDE	LONGITUDE
1	P1	703733.139	2087749.998	18° 52' 18.319098"	82° 56' 02.181754"
2	P2	703619.462	2088044.267	18° 52' 27.928333"	82° 55' 58.408434"
3	P3	703792.57	2088174.043	18° 52' 32.086845"	82° 56' 04.370129"
4	P4	704121.617	2088279.711	18° 52' 35.405875"	82° 56' 15.649672"
5	P5	704341.484	2088238.939	18° 52' 34.001780"	82° 56' 23.144948"
6	P6	704314.076	2087895.221	18° 52' 22.834754"	82° 56' 22.080073"
7	P7	704229.417	2087893.302	18° 52' 22.802471"	82° 56' 19.187533"
8	P8	704157.156	2087920.158	18° 52' 23.701509"	82° 56' 16.729199"
9	P9	704144.519	2087980.491	18° 52' 25.667860"	82° 56' 16.320109"
10	P10	704057.509	2087929.18	18° 52' 24.030327"	82° 56' 11.198968"
11	P11	703994.668	2087974.152	18° 52' 25.515058"	82° 56' 11.198967"



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DGPS SURVEYED MAP SHOWING COMPENSATORY AFFORESTATION AREA ON NON-FOREST LAND OVER 18.50 Ha. IN VILLAGE PIPALPADAR UNDER LAXMIPUR TAHASIL OF KORAPUT DISTRICT FOR M/s. ADITYA BIRLA HINDALCO INDUSTRIES LTD.



Legend

- DGPS SURVEYED GEO-REF POINTS
- CA LAND BOUNDARY POINTS
- COMPENSATORY AFFORESTATION LAND

DGPS SURVEYED CA LAND BOUNDARY COORDINATES

SL. NO.	POINT NO.	Easting	Northing	Latitude	Longitude
1	P-1	727102.82	211371.05	19° 01' 14.12" N	83° 00' 12.00" E
2	P-2	727112.42	211371.05	19° 01' 14.12" N	83° 00' 12.00" E
3	P-3	727122.02	211371.05	19° 01' 14.12" N	83° 00' 12.00" E
4	P-4	727131.62	211371.05	19° 01' 14.12" N	83° 00' 12.00" E
5	P-5	727141.22	211371.05	19° 01' 14.12" N	83° 00' 12.00" E
6	P-6	727150.82	211371.05	19° 01' 14.12" N	83° 00' 12.00" E
7	P-7	727160.42	211371.05	19° 01' 14.12" N	83° 00' 12.00" E
8	P-8	727170.02	211371.05	19° 01' 14.12" N	83° 00' 12.00" E
9	P-9	727179.62	211371.05	19° 01' 14.12" N	83° 00' 12.00" E
10	P-10	727189.22	211371.05	19° 01' 14.12" N	83° 00' 12.00" E
11	P-11	727198.82	211371.05	19° 01' 14.12" N	83° 00' 12.00" E
12	P-12	727208.42	211371.05	19° 01' 14.12" N	83° 00' 12.00" E
13	P-13	727218.02	211371.05	19° 01' 14.12" N	83° 00' 12.00" E
14	P-14	727227.62	211371.05	19° 01' 14.12" N	83° 00' 12.00" E
15	P-15	727237.22	211371.05	19° 01' 14.12" N	83° 00' 12.00" E
16	P-16	727246.82	211371.05	19° 01' 14.12" N	83° 00' 12.00" E
17	P-17	727256.42	211371.05	19° 01' 14.12" N	83° 00' 12.00" E
18	P-18	727266.02	211371.05	19° 01' 14.12" N	83° 00' 12.00" E
19	P-19	727275.62	211371.05	19° 01' 14.12" N	83° 00' 12.00" E
20	P-20	727285.22	211371.05	19° 01' 14.12" N	83° 00' 12.00" E
21	P-21	727294.82	211371.05	19° 01' 14.12" N	83° 00' 12.00" E
22	P-22	727304.42	211371.05	19° 01' 14.12" N	83° 00' 12.00" E
23	P-23	727314.02	211371.05	19° 01' 14.12" N	83° 00' 12.00" E
24	P-24	727323.62	211371.05	19° 01' 14.12" N	83° 00' 12.00" E
25	P-25	727333.22	211371.05	19° 01' 14.12" N	83° 00' 12.00" E
26	P-26	727342.82	211371.05	19° 01' 14.12" N	83° 00' 12.00" E
27	P-27	727352.42	211371.05	19° 01' 14.12" N	83° 00' 12.00" E
28	P-28	727362.02	211371.05	19° 01' 14.12" N	83° 00' 12.00" E

AREA STATISTICS

SL. NO.	VILLAGE	HA.	AC.	HA.	AC.	TOTAL
1	PIPALPADAR	18.50	45.50	18.50	45.50	37.00
2	PIPALPADAR	18.50	45.50	18.50	45.50	37.00
3	PIPALPADAR	18.50	45.50	18.50	45.50	37.00
4	PIPALPADAR	18.50	45.50	18.50	45.50	37.00
TOTAL		74.00	182.00	74.00	182.00	148.00

> DGPS Survey of non-forest area proposed for Compensatory Afforestation land in Pipalpadar village, Laxmipur Tahsil, Koraput District is the first step towards the establishment of 37.00 Ha. Afforestation area with the objective of 'CONSERVATION OF FOREST' by M/s. Aditya Birla Hindalco Industries Ltd. The area is situated in the village of Pipalpadar under Laxmipur Tahsil, Koraput District.

> DGPS survey co-ordinates for the proposed area of 37.00 Ha. are given in the table below. The area is situated in the village of Pipalpadar under Laxmipur Tahsil, Koraput District.

> Total area proposed for Compensatory Afforestation works is 37.00 Ha. The area is situated in the village of Pipalpadar under Laxmipur Tahsil, Koraput District.

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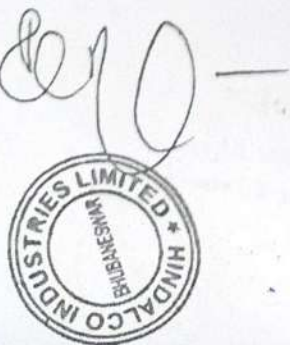
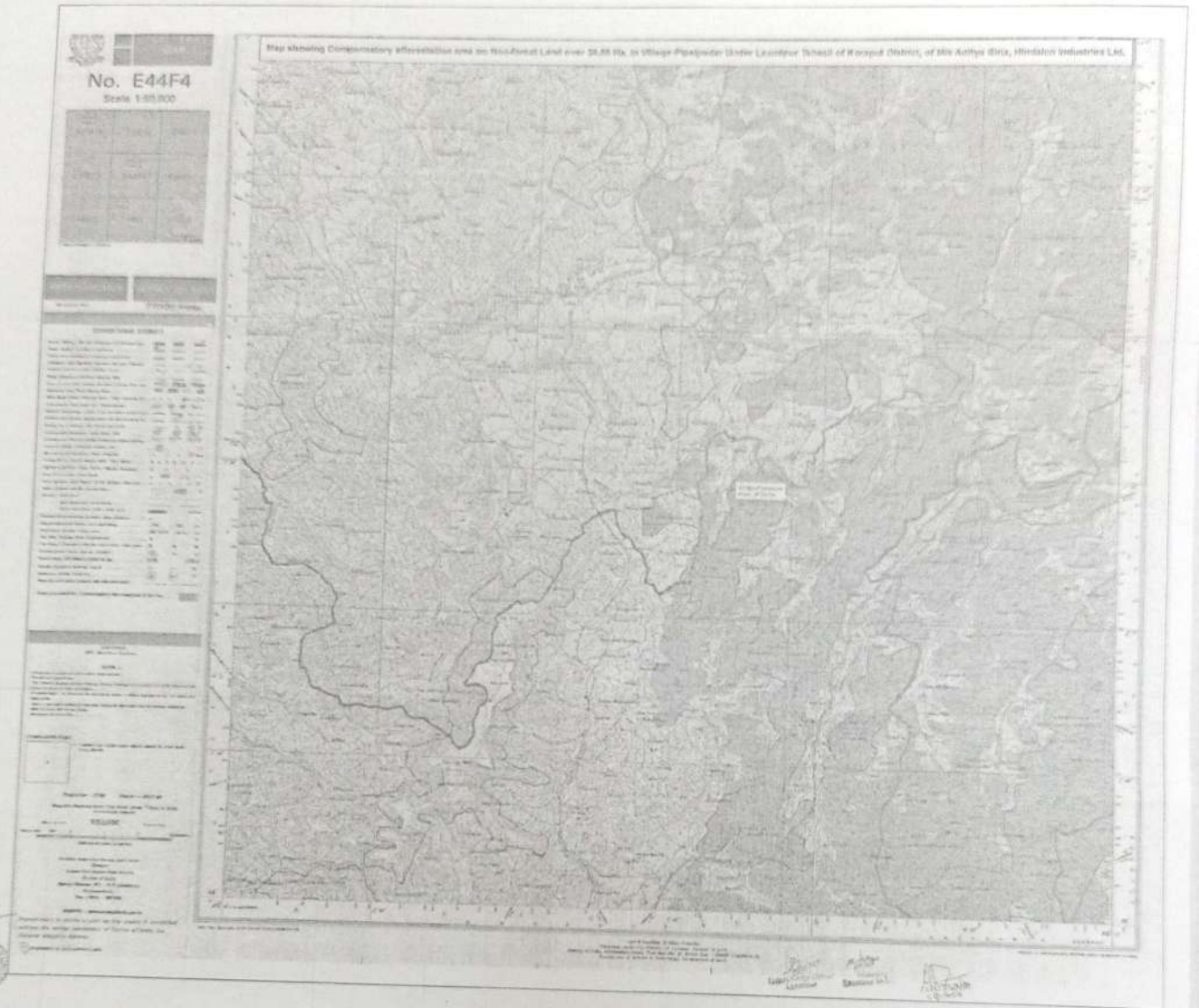
> The area is situated in the village of Pipalpadar under Laxmipur Tahsil, Koraput District.



Asst. Conservator of Forests
Koraput Forest Division
KORAPUT

Divisional Forest Officer
Koraput Forest Division

Plate No. II



Asst. Conservator of Forests
Koraput Forest Division
KORAPUT

Divisional Forest Officer
Koraput Forest Division

DGPS MAP SHOWING PLANTATION SITE OF BALANCE 36,950 MGS OF SEEDLING OVER AN AREA OF 21,978 HA, IN NATURAL DFP UNDER LAXMIPUR RANGE OF KORAPUT DIVISION FOR COMPENSATORY AFForestation(CA)RELATING TO FOREST DIVERSION PROPOSAL OF M/s HINDALCO INDUSTRIES ADITYA BIRLA GROUP.



Legend

- CA LAND BOUNDARY CO-ORDINATES
- CA LAND BOUNDARY

DGPS SURVEYED CO-ORDINATES OF CA LAND BOUNDARY POINTS

SL. NO.	POINT NO.	Easting	Northing	Remarks
1	1	487150.00	191100.00	Intersection of road to the left
2	2	487150.00	191100.00	Intersection of road to the left
3	3	487150.00	191100.00	Intersection of road to the left
4	4	487150.00	191100.00	Intersection of road to the left
5	5	487150.00	191100.00	Intersection of road to the left
6	6	487150.00	191100.00	Intersection of road to the left
7	7	487150.00	191100.00	Intersection of road to the left
8	8	487150.00	191100.00	Intersection of road to the left
9	9	487150.00	191100.00	Intersection of road to the left
10	10	487150.00	191100.00	Intersection of road to the left
11	11	487150.00	191100.00	Intersection of road to the left
12	12	487150.00	191100.00	Intersection of road to the left
13	13	487150.00	191100.00	Intersection of road to the left
14	14	487150.00	191100.00	Intersection of road to the left
15	15	487150.00	191100.00	Intersection of road to the left
16	16	487150.00	191100.00	Intersection of road to the left
17	17	487150.00	191100.00	Intersection of road to the left
18	18	487150.00	191100.00	Intersection of road to the left
19	19	487150.00	191100.00	Intersection of road to the left
20	20	487150.00	191100.00	Intersection of road to the left

AREA STATISTICS

SL. NO.	NAME OF AREAS	AREA, AC	AREA, HA
1	NATURAL DFP	54.87	23.078
TOTAL		54.87	23.078



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SURVEYED & PREPARED BY
[Signature]
GEOMATICS CONSULTANTS PVT. LTD.

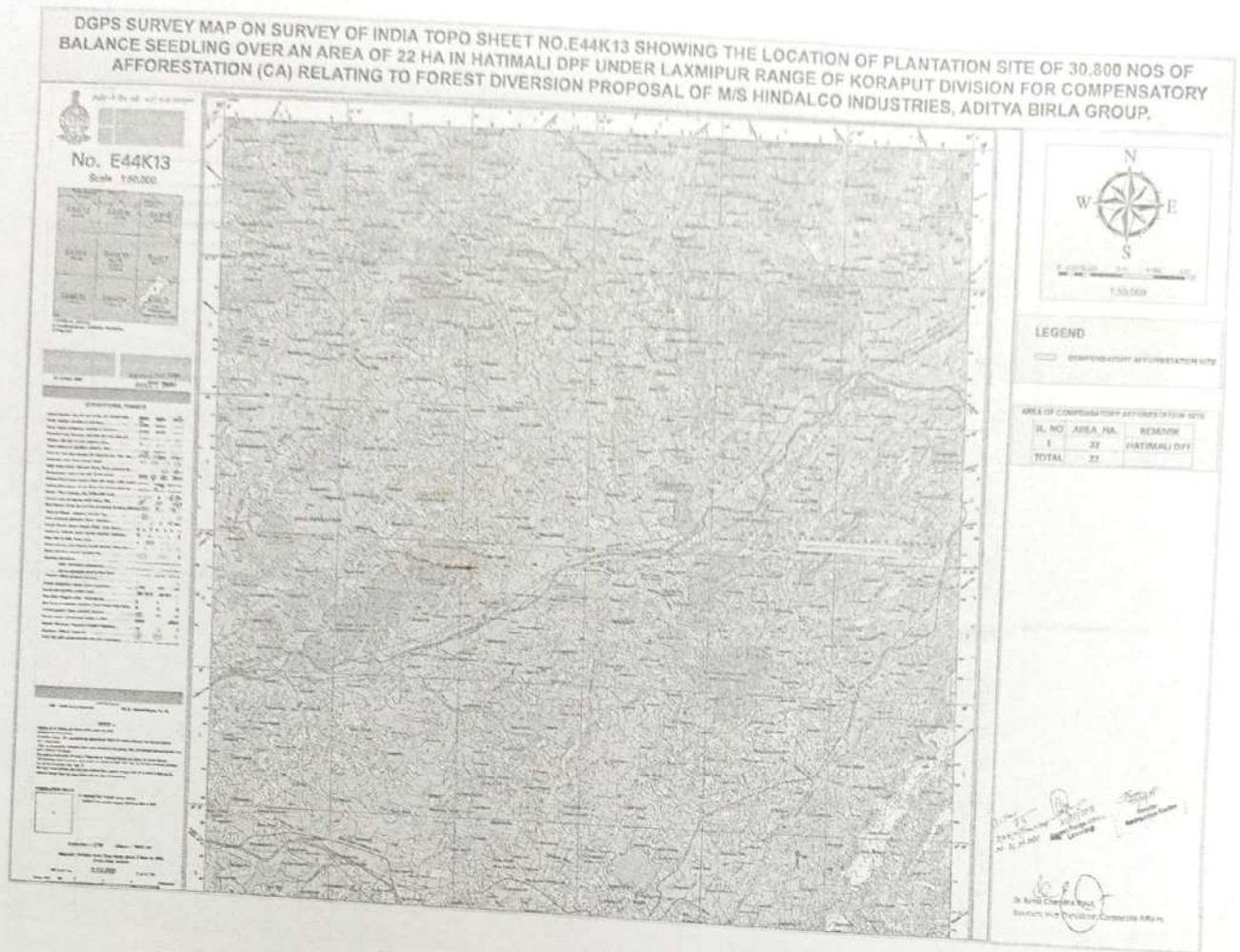
- DGPS Survey of the said degraded forest land for Compensatory Afforestation had been carried out by the user agency through M/s Green Geomatics Pvt. Ltd., Bhubaneswar.
- Detailed DGPS survey co-ordinates of Compensatory Afforestation patches have been verified by CRDAC, Aizawl, maps showing degraded forest land proposed for Compensatory Afforestation are verified with DGPS surveyed data and Corroborated by the user agency and found that map is correct to a confidence level of 95%.
- Total area proposed for Compensatory Afforestation comes in one patch of the said DFP works out to 21,978 Ha. from the submitted map files and detailed survey area.



[Signature]
Asst. Conservator of Forests
Koraput Forest Division
KORAPUT

[Signature]
Divisional Forest Officer
Koraput Forest Division

Plate No. IV



Asst. Conservator of Forests
Koraput Forest Division
KORAPUT

Divisional Forest Officer
Koraput Forest Division

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

CERTIFICATE ON DSS ANALYSIS FOR CA/ACA/PCA

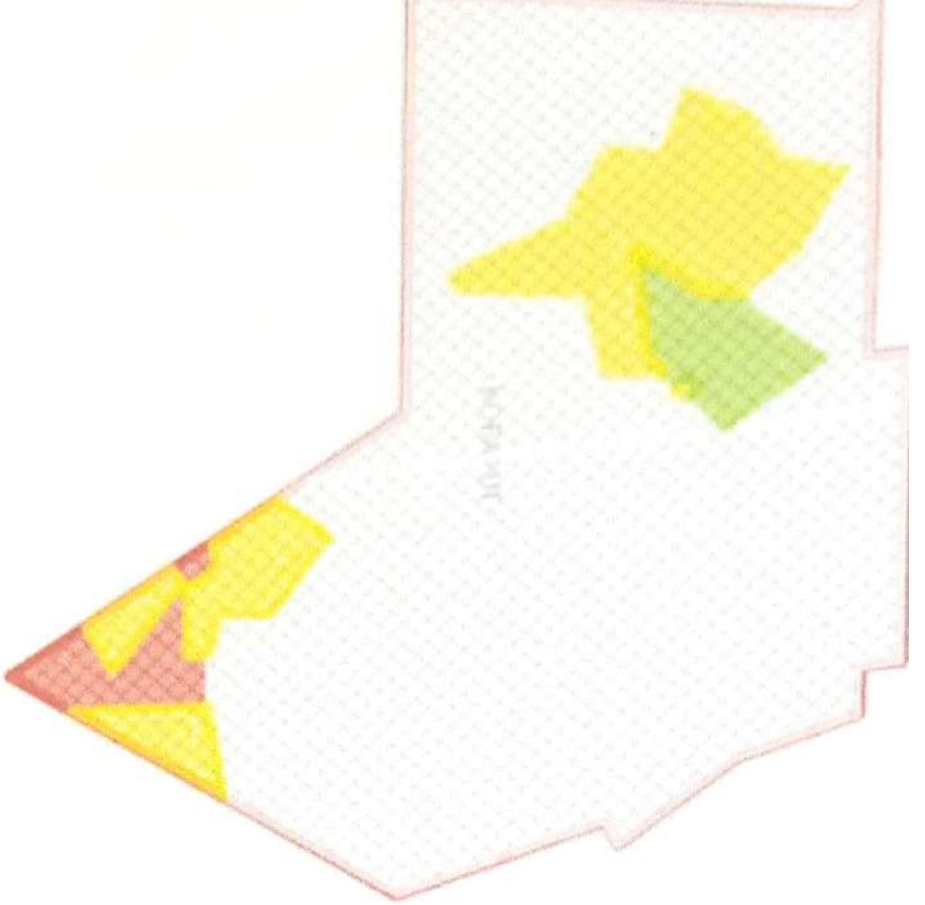
Sl. No.	Name of Range	Name of the Forest Block (PRF/PF/DPF/Revenue Forest)	Area identified for CA/ACA/PCA (in Ha.)	Classification of identified land (in Ha.)							Area suitable for plantation (in Ha.)				Plantation Model (AR/ANR)	Remarks
				Very Dense Forest	Moderately Dense Forest	Open Forest	Non-Forest	Scrub	Water	Total	Open Forest	Non-Forest	Scrub	Total		
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1	Laxmipur Range		38.5 ha. non-forest land in village pipalpadar for CA	-	1 ha.	6 ha.	30 ha.	1 ha.	-	38 ha.	6 ha.	30 ha.	1 ha.	37 ha.	ANR	@ 200 nos. seedlings per ha. considering the openness of area and spacing & all total 7,700 nos. to be planted.
2	Laxmipur Range	Hatimali DPF	22 ha. Hatimali DPF forest land for ACA	-	-		22 ha.	-	-	22 ha.		22 ha.		22 ha.	AR	@ 1600 nos. seedlings per ha. to be planted totaling to 30,800 nos.

Countersigned



Regional Chief Conservator of Forest,
Koraput Circle

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



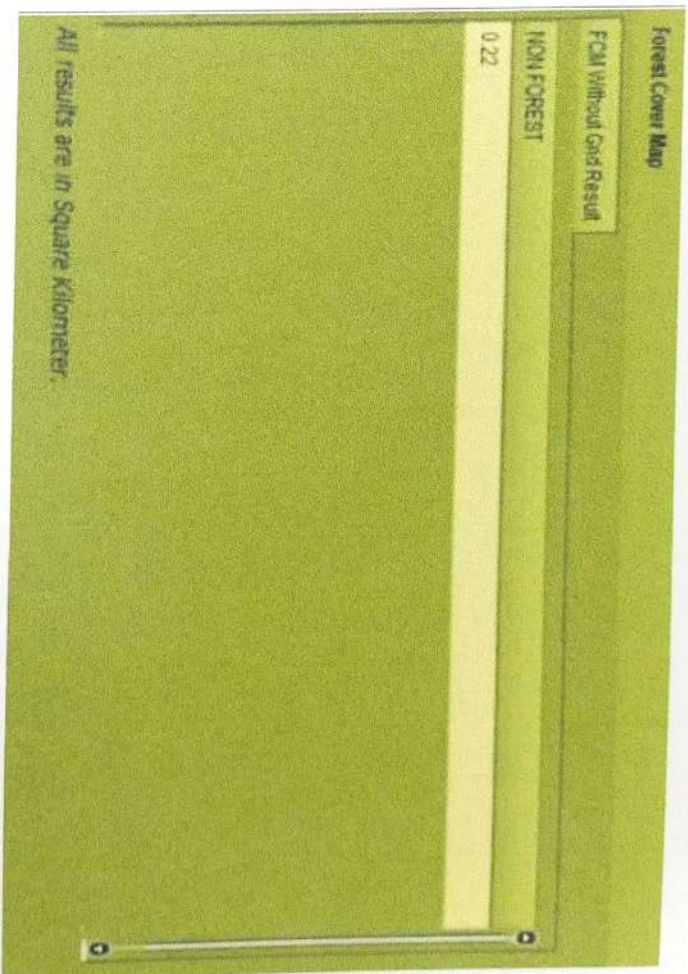
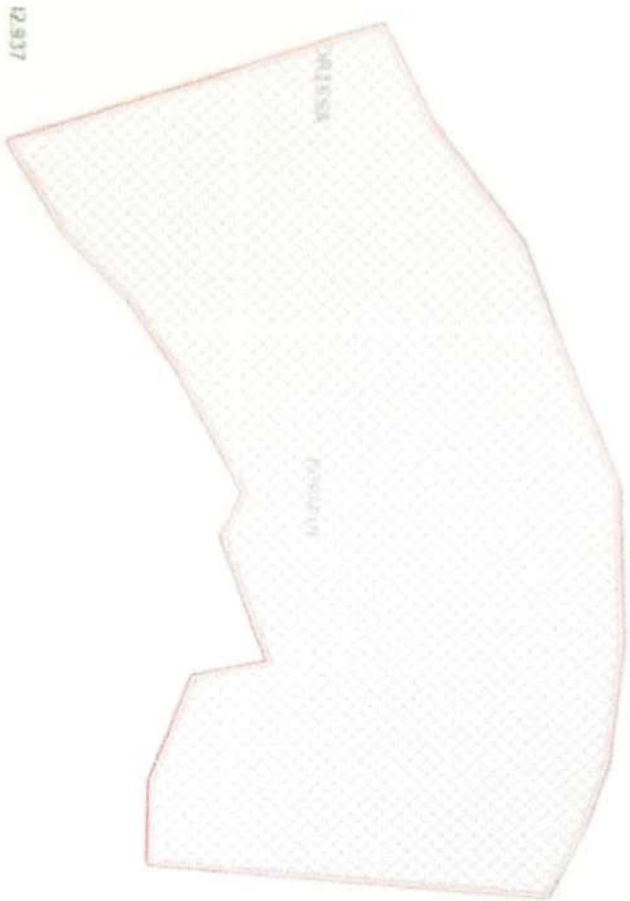
[Signature]
 Asst. Conservator of Forests
 Koraput Forest Division
 KORAPUT

Forest Cover Map			
FCM Without Gnd Resul			
MDF	NON FOREST	OPEN FOREST	SCRUB
0.01	0.30	0.05	0.01

All results are in Square Kilometer.

[Signature]
 Divisional Forest Officer
 Koraput Forest Division

HATIMALI DPE




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


Divisional Forest Officer
Koraput Forest Division