Scheme for
Site Specific Compensatory Afforestation

over **7.535 Ha** of Non-forest Govt. Land Identified

in Village **Amjhola** Under Thuamul Rampur Tahasil in Kalahandi District, (Kalahandi South Division)

against **Sandul Irrigation Project** Located in Madanpur Rampur Block of Kalahandi District of Department of Water Resource, Odisha

October 2015

Prepared by

Divisional Forest Officer, Kalahandi South Division

1. Introduction

Sandul irrigation project in its present proposal is planned in Tel sub-basin of Mahanadi Basin. The major-tributaries of Tel sub-basin include Bajarinal, Sagadi, Hati, Ret, Udanti, Indra, Lanth, Uttei, Raul, Khadago and Suktel. The river Sandul is a tributary of River Uttei, which in turn joins River Tel, a tributary of River Mahanadi. It is proposed to construct a barrage on River Sandul near village Dutta in M. Rampur Block of Kalahandi District.

This barrage scheme intends to irrigate 5000 ha of CCA in kharif. Command area mainly covers Karlamunda, Kesinga and Narla block of kalahandi District. Provision towards domestic water supply requirements @ 100 lpcd for a population of 5000 has been kept in the command area. The project area comes under Karlamunda, Kesinga and Narla block of kalahandi District which is a drought prone area, chronically affected with frequent bouts of drought. The agricultural production depends on the natural rainfall which is inadequately, untimely and unevenly distributed. Consequently, the agricultural production, which is only source of income of the locality, is much more belowthe average level. As such financial status of the people in this area is low. The project is absolutely necessary to improve agricultural output and economy of the region to mitigate the misery of the sizable population mostly belonging to SC,ST and backward class. There is no displacement due to the project. Only 7.535 Ha. of forest land and 169.825 ha. of private and non-forest govt. land will be affected.

2. Selection of Site

Non-forest Govt. land to the extent of 7.535 ha in a compact patch was not available in the Jurisdiction of Kalahandi (N) Forest Division,therefore, considering the greater interest of the project and instruction of the District Collector vide letter no 1268, dated 28.07.2015, the equivalent non-forest Govt. land for the purpose of raising compensatory afforestation has been identified in the village: Amjhola, R.I Circle: Nakrundi, Tahasil: Thuamul Rampur.

The details of plot wise land schedule are furnished below.

Land schedule of the proposed compensatory afforestation area

Tahasil	village	Khata no	Plot.no	Area of the plot(Ac)	Area considered (Ac)	Kisam
Th. Rampur	Amjhola	29	201	5.50	3.92	Dangar
			211	14.70	14.70	Dangar
		Total			**18.62**	

The site is located on survey of India Topo Sheet No E44 F2 between Latitude: 19° 31′ 23.93″ -19° 31' 32.15,Longitude: 83°09'52.20″-83°10'06.54″E *(Annexure-I)* and at a distance of 35 KM from Tahasil Headquarters. The area is located west of Melaghar RF. The proposed area is free from encroachment and encumbrances and suitable for plantation.

The land details jointly verified by Forest and Revenue authorities are enclosed along with the village map showing the above land details for the proposed compensatory afforestation as *Annexure –II.*

3. Description of the existing vegetation

There are bushes spread over the area, there are also few trees exist on the north-west part of the land where a stream follows the boundary of the proposed Compensatory Afforestation Land.

4. Soil & Topography

The topography of the area is mainly foot hill with slope fairly gentle in nature. The land is sloping from south to north. A perennial nala flows in the north direction of the plots. The minimum elevation of the area is at RL. 660 m. in the north and maximum elevation is RL. 720 m. There is a good depth of soil (1ft to 3ft).

5. Rainfall & Temperature

The annual rainfall varied from 1200 mm to 1500mm. The maximum rainfall is received during the rainy season from July to September. The average temperature varied from 13.5°C minimum in December to 45° C maximum in May.

6. Objective of the scheme

The main objective of the present scheme is to (I) increase vegetation through taking up block plantation, (ii) clearly demarcating the area with posting up RCC pillars (iii) enforcing protection measures by involving people around under JFM and (iv) above all checking soil erosion and run off which will go in combination for enrichment of the vegetation and soil and building up ecosystem. The total 7.535 ha shall be covered under Block plantation (A.R) with 1600 plant/ha.

7. Items of work to be taken up

To achieve the above objectives, the following items of work are mainly prescribed to be taken up with the full involvement and co-operation of local villagers.

7.1. Survey and Demarcation

The boundary should be surveyed clearly by the User Agency with reference to the village maps and demarcated by posting R.C.C pillars of size 1.25 m x 20 cm x 20 cm, which shall be embedded at every corner / turning points of boundary line. The RCC pillars shall be embedded 0.625 m deep in to the ground with a foundation of 50 cm x 40 cm in C.C. Top of the pillar shall have a slanting cut facing outside the area for numbering the pillars which will be done in the same sequence as done in the map. Numbering should start from North-Western Corner and proceed in a clock wise direction. The distance between the corner points forward and back ward bearing of each point, its GPS reading and the perimeter of the area to the afforested is given in *Annexure-III*.

7.2. Block Plantation

The total allotted area shall be covered by Block Plantation (A.R.). Plantation over the area shall be taken up in grid pattern at a spacing of 2.5m x 2.5m. taking care of existing forest crops, if any.

Care should be taken to select only indigenous species as far as possible keeping in view of the existing natural vegetation in and around the area and also the climatic and edaphic factors. The choices of species are as follows:

Local Name	*Scientific Name*
Amla	Emblica officinalis
Khair	Acacia catchu
Karanja	Pongomia pinnata
Teak	Tectona grandis
Sisoo	Dalbergia sisoo
Neem	Azadirachta indica
Arjun	Terminalia arjuna

In the peripheral area of the site, which is susceptible to grazing may be planted with non browsable species like Teak, Karanja etc.

The soil being eroded and lack of humus,it is proposed to take up pitting with a pit size of 30cm x30cm x 30cm at spacing of 2.5m x2.5m during February / March for allowing weathering of the soil.It is advisable to use an "A" frame for alignment of the pitting line along the contour. The planting should be taken up only with 8 month old seedlings having height more than 45 Cm..The size of P. bags will be 5inch x 9 inch x 160g with desired quantity of inputs. The seedlings will be graded and sorted at regular intervals to make those healthy and sound and avoid root coiling. Species like Kusum, Mahul, Amla, Karanj, Neem, Asan, Teak, Jack fruit and specially Mango in more number shall be planted which will help the tribal of Munderi Paroja to collect the NTFP items for their livelihood and socio-economic uplifting.

Staggered trenches of size 2 mt x 50cm x50 cm should be dug in between the planting rows at an interval of 2.0 m along the contour, and the excavated earth are piled on the downhill side to form a bound. The staggered contour bound should be stabilized with turf if necessary. The staggered contour trenches will not only arrest, soil conserve moisture and micro nutrient for the planted saplings. It will impede the velocity of runoff and will be helpful in feeding ground water to the plants below it. If necessary, half-moon shaped trenches may be created at sloppy terrain for the same purpose on or before 2nd weeding.

7.3. Development of Nursery

A good nursery is the per-requisite for a successful plantation. Therefore, all care should be taken to rise healthy and sound seeding of required sizes before they are put to the plantation site. The site being subjected to different biotic interference, it is proposed to raise 8 month old seedings for plantation. In case of Bamboo and Teak pre-sprouted seedling from rhizomes and stumps should be raised for plantation purpose. Accordingly, the nursery programme can be planned out one year in advance. The two years seedling to be raised in poly bags of 5 inch x 9 inch x 160g and one year old manual should be taken up at all stages of nursery operation so that a good stock of healthy seedling can be raised. 10% extra seedlings should be raised to cover the short fall due to casualty in nursery stage. In case of all the seedlings, shifting, grading of polythene bags should be done from time to time not allow the tap roots to strike the ground. Nursery site should be selected, preferably near to plantation site and in a well-drained locality having water sources.

7.4. Planting

The best time of planting of the potted seedling is soon after the onset of regular monsoon or after a good shower of rain. Before planting, the pits are to be prepared by putting mixture of half cubic feet of alluvial soil . Basal dose of 30 gram of NPK fertilizer and 5 gram of Aldrin dust or Phorate pesticide are to be applied to the pits before planting as basal dose. The excavated earth from the pits already weathered and free from stones should be filled in the pits. Before removal of the plants from the Nursery the following precaution should be taken:

Roots escaping from the container should be trimmed.

i. Posts containing the plant are watered, if necessary.

ii. Maximum care should be taken at the time of transportation and handling of seedling so that the ball of earth of the poly pots does not get disturbed and the primary leading shoots are broken. Manual transportation should be given preference.

Planting should be taken up on rainy/cloudy days by adopting all standard techniques of plantation. As far as possible, Bamboo should be put as a fourth plant in the row and planting up other species should be mixed with poly culture design.

Casualty of seedlings occurs due to various caused like heavy rains, drought, fire, grazing etc. But in a well-managed plantation, where the planting stock consists of healthy and stout seedlings, say, about 5% may die during the period between planting and 1st weeding. Seedlings to be used for casualty replacement should be earmarked and kept reserved at the time of planting. Only healthy and stout seedlings slightly larger than those planted at the time of operation should be used. This is important because only such seedlings can catch up growth with those that have survived and are growing. Before planting for casualty replacement, the following operations are to be taken up:

a) The failure pit is to be dug again

b) Another dose of fertilizer, and insecticide should be given to the pit

c) If the casualties are due to white ant attack. Little more quantity of phorate pesticide may be applied to the pit.

d) If the casualties are due to water logging and wilting, care should be taken to drain out the pits by making small channels to downhill side.

Casualty replacement can also be taken up in the 2nd year formation and this time should not exceed 20%.

7.5. Weeding, Manuring & Soil Working

To improve and enhance the growth of plants, it is necessary to see that the plants get as much nutrients as for as possible and that no other wild plants are contesting for space, light and nutrients. Therefore, weeding and soil working must the undertaken in a newly established plantation. Weeding consist of loosening soil around the plant with a hoe oar even with a pick-axe and pulling out all unwanted growth along with their roots, rhizomes, stools etc, while doing so, care should be taken to see that the root system of the planted seedling is not damaged. Weeds within a radius of 0.5 meters around the plant should be removed. Under the prevailing conditions, two weeding are considered sufficient, the first to take place a few weeks after the main plantation is over, say, in August and the second weeding in early winter, i.e., in October or November, Strip weeding which involves cutting of weeds flush to the ground may be confined to the place in between the planted lines. The cut material may be placed along the contour between two rows of plantations, which will ultimately help in conservation of soil and moisture. Soil working is equally an important operation and it should be carried out at the time of each weeding. While loosening the soil, it is important to see that the soil is not pulverized but left in clods. This not only helps in improving soil erosion but also helps in moisture conservation by breaking soil capacity.

The best time for application of fertilizer is at the time of soil working and weeding. In organic fertilizer like NPK @50gms/plant shall be applied at the time of soil working. Chemical fertilizer should not be placed too close to the plants as it may burn the roots and kill the plants. A small dose of urea @20gm/plant may be applied by crow bar hole method before 1st weeding, if possible for root penetration and growth of seedlings.

It is advisable to apply fertilizer on a rainy day soon after the weeding has been completed.

7.6. Mulching

Mulching is an operation where cut vegetative materials are placed around planted seedling covering the soil around it. This helps soil climate to considerable extent from desiccation. Mulching affects soil temperature, helps condensation, and prevents soil erosion and loss of soil moisture through evaporation. Further, it is to be carried out at the time of 2nd weeding.

Weeds which have not lowered may be pulled out from around the planted seedlings and may be used as mulches around the seedlings.

a) They allow the plants to be healthy and stout and have knot free stems.

b) It reduces fire hazards by lessening the chance of ground fire.

c) The plants will be straight with clear bole.

The detailed cost estimate of various operations to be taken up in block plantation (1600 seedlings) mode has been detailed below.

7.7. Peoples participation

It is experienced that, no scheme shall be effective if the local villagers are not involved in the implementation of the scheme itself. The villagers who are having a right on the NTFP items in the adjoining forest area are to be associated with the implementation of the scheme at all different levels. For that, Van Samrakhyana Samittee (VSS) is proposed to the guidelines of the Government of Odisha issued on 3rd July'1993, the villagers are to be motivated and inspired and above all, explained the benefits they will be getting if plantation is protected by them.

7.8. Monitoring and execution

The scheme will be executed by the Forest Department and shall monitored from time to time by responsible officers including DFO. Nursery, plantation journal and other relevant documents shall be maintained as per the provision of the Plantation Manual. A plantation shed with drinking water facilities may be constructed at the site for execution of different works and from future protection point of view.

7.9 Total cost of the project

The total cost of the project will be Rs. **1725264.00** as detailed below, which will be deposited in an account as per the direction of the DFO in favour of State CAMPA, Odisha.

COST ESTIMATE FOR BLOCK PLANTATION OF 1600 SEEDLINGS/HECT. AT 2.5M x 2.5M SPACING

1	Name of the Plantation.	Block Plantation.
2	No. of seedlings to be planted.	1600 Nos. per hect.
3	Spacing to be adopted.	2.5m x 2.5m
4.	Size of pits.	30cm x 30cm x 30cm
5	Wage rate.	**Rs.200.00** per manday.
6.	Species to be planted.	Amla, Khair, Karanja, Teak, Sissoo, Neem and Arjun
7.	**The user agency will pay the enhanced wage rate as and when required**	

ESTIMATE FOR BARBED WIRE FENCING

Estimate for 1 Kilometer		
1	No of Pillars required 500 nos	
	Cost of 1 Pillars	Rs 568.00
	Transpiration charges	Rs 244.00
	Cost of base fixing	Rs 244.00
	Cost of fixing barbed wire @ 25.00	Rs 49.00
	Total cost for fixing 1 Pillar	Rs 1105.00
	Cost of 500 Pillars	**Rs 5,52,500.00**
	Cost of barbed wire(1 Qntls) @8000.00 cost of barbed wire(5+2) strands,7500 mtrs or 24.75 Qntls @ 0.33 kg/rmt	Rs 1,98,000.00
2	**Total cost for 1 km**	**Rs 7,50,500.00**
3	Total cost of Fencing:Perimeter of the Area =1.098 mtr cost of Fencing = 1.098 x 7,50,500.00	Rs 8,24,049.00
	Maintenance 5% of Rs 41200 per annum for 4 year	Rs 1,64,800.00
	Total barbed wire fencing of 1.098 km	**Rs 9,88,849.00**

COST NORM FOR BLOCK PLANTATION PER HA. FOR MIXED PLANTATION MODULE

Sl No.	Items of work	Person-days	Labour cost @ Rs. 200/-day	Material cost (Rs.)	Total Cost (Rs.)
1	2	3	4	5	6
0th year (Advance work) pre-planting operation					
1	Survey, demarcation & Pillar posting	2	400	0	400
2	Site preparation	8	1600	0	1600
3	Alignment & stacking of pits	2	400	0	400
4	Digging of pits (30 cm cube)	40	8000	0	8000
5	Nursery cost (eight months old seedling) part	44	8800	2939	11739
	Total	**96**	**19200**	**2939**	**22139**

1st year planting Year / Year of Creation					
6	Nursery cost (eight months old seedling) balance	21.5	4300	593	4893
7	Carriage & planting, CR, manuring, insecticide application	21	4200	0	4200
8	Cost of insecticide & fertilizer	0	0	3232	4200
9	1st weeding (complete weeding)	7	1400	0	1400
10	Manuring	5	1000	0	1000
11	2nd weeding (complete weeding)	5	1000	0	1000
12	Soil working (50 cms. Radius around plants)	7	1400	0	1400
13	Soil conservation measures in the form of staggered trenches of 2m.L X 50 cm. D	10	2000	0	2000
14	Fire line Tracing & Inspection path	3	600	0	600
15	Watch & ward	7	1400	0	1400
	Total	**86.5**	**17300**	**3825**	**21125**
2nd year Maintenance					
16	Casualty replacement with nursery cost	4	800	1512	2400
17	Weeding (complete weeding)	6	1200	0	1200
18	Cost of fertilizer	0	0	2752	800
19	Soil working (50 Cms. Radius around plants)	7	1400	0	2400
20	Application of Fertilizer & Insecticide	4	800	0	1400
21	Fire line Tracing (2m, Wide fire line over 400m long)	3	600	0	600
22	Watch & Ward	15	3000	0	3000
	Total	**39**	**7800**	**4264**	**12064**
3rd year maintenance					
23	Weeding & application fertilizer	7	1400	0	1400
24	Cost of fertilizer	0	0	1920	1920
25	Soil working (50 cms. Radius around plants)	7	1400	0	1400
26	Fire line Tracing (2m. Wide fire line over 400m long)	3	600	0	600
27	Watch & ward	15	3000	0	3000
Total		**32**	**6400**	**1920**	**8320**
4th year Maintenance					
28	Fire line Tracing (2m. wide fire line over 400 m long)	3	600	0	600
29	Watch & word	15	3000	0	3000
Total		**18**	**3600**	**0**	**3600**
5th year Maintenance					
30	Fire line Tracing (2m. wide fire line over 400 m long)	3	600	**0**	**600**
31	Watch & word	15	3000	**0**	**3000**
Total		**18**	**3600**	**0**	**3600**
6th year Maintenance					
32	Fire line Tracing (2m.wide fire line over 400m	3	600	**0**	**600**

	long)				
33	Watch & word	15	3000	0	3000
Total		**18**	**3600**	**0**	**3600**
7th year Maintenance					
34	Fire line Tracing (2m. wide fire line over 400 m long)	3	600	0	600
35	Watch & word	15	3000	0	3000
Total		**18**	**3600**	**0**	**3600**
8th year Maintenance					
36	Fire line Tracing (2m. wide fire line over 400 m long)	3	600	0	600
37	Watch & word	15	3000	0	3000
Total		**18**	**3600**	**0**	**3600**
9th year Maintenance					
38	Fire line Tracing (2m. wide fire line over 400 m long)	3	600	0	600
39	Watch & word	15	3000	0	3000
Total		**18**	**3600**	**0**	**3600**
10th year Maintenance					
40	Fire line Tracing (2m. wide fire line over 400 m long)	3	600	0	600
41	Watch & word	15	3000	0	3000
Total		**18**	**3600**	**0**	**3600**

ABSTRACT

Sl No.	Year	Person days	Labour Cost (wage rate @ 200/-)	Material Cost (in ')	Total /ha. (in ')	Total/7.535 ha. (in ')
1	0th Year	96	19200	8000	22139	166817.4
2	1st Year	86.5	17300	3825	21125	159176.9
3	2nd Year	39	7800	4264	12064	90902.24
4	3rd Year	32	6400	1920	8320	62691.2
5	4th Year	18	3600	0	3600	27126
6	5th Year	18	3600	0	3600	27126
7	6th Year	18	3600	0	3600	27126
8	7th Year	18	3600	0	3600	27126
9	8th Year	18	3600	0	3600	27126
10	9th Year	18	3600	0	3600	27126
11	10th Year	18	3600	0	3600	27126
Total		**379.5**	**75900**	**18009**	**88848**	**669469.70**
10% M & E						**66946.00**
Total						**736415.70**
Cost for Fencing						**988849.00**
Grand Total						**1725264.00**

(Rupees Seventeen Lakh Twenty Five Thousand Two Hundred Sixty Four) Only

Approved

21/03/16

Divisional Forest Officer

Kalahandi South Division

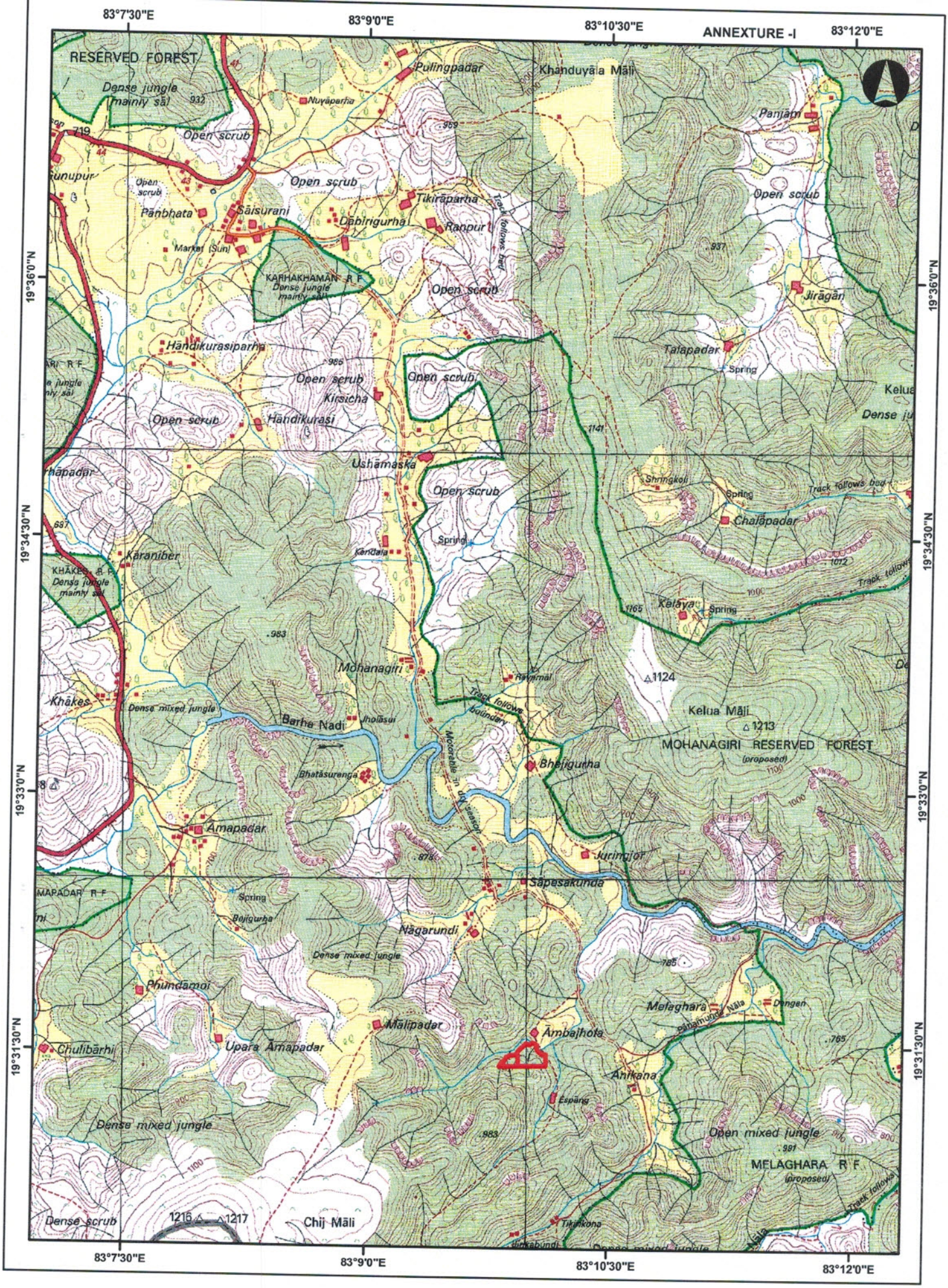
Bhawanipatna

DIVISIONAL FOREST OFFICER
KALAHANDI NORTH DIVISION

19/4/16

Executive Engineer
Kalahandi Investigation Division
Bhawanipatna

ANNEXTURE -I


83°7'30"E
83°9'0"E
83°10'30"E
83°12'0"E
19°36'0"N
19°34'30"N
19°33'0"N
19°31'30"N
RESERVED FOREST
Dense jungle (mainly sāl)
Open scrub
Pulingpadar
Khanduyāla Māli
Nuvāparha
Panjām
Gunupur
Pānbhata
Sāisurani
Dābrigurhā
Tikirāparha
Ranpur
Track follows bed
Market (Sun)
KARHAKHAMAN R F
Dense jungle mainly sāl
Jirāgāri
Talapadar
Spring
Handikurasiparha
Handikurasi
Kirsicha
Ushāmaska
Shringkoli
Chalāpadar
Karanjber
Kendala
KHĀKES R F
Kelaya
Mohanagiri
Ravamal
△1124
Khākes
Dense mixed jungle
Barhe Nadi
Jholāsui
Track follows boundary
Kelua Māli
△1213
MOHANAGIRI RESERVED FOREST
(proposed)
Bhatāsurenga
Bhejigurha
Amapadar
Jurimjor
Sāpesakunda
MAPADAR R F
Bejigurha
Nāgarundi
Dense mixed jungle
Phundamoi
Melaghara
Dengen
Mālipadar
Ambajhola
Chulibārhi
Upara Amapadar
Ahikana
Espāng
Dense mixed jungle
Open mixed jungle
MELAGHARA R F
(proposed)
Dense scrub
1216 △
△1217
Chij Māli
Tikimkona

Annexture-II

(23

Joint verification report on Non-Forest Government land identified for compensatory afforestation in Amjhola village under Th.Rampur Tahasil of Kalahandi District in favour of Sandul Irrigation Project

In pursuance to letter No.1268 dated 28-07-2015 of O/O the Collector & Dist.Magistrate, Kalahandi, a joint verification was taken up with the staff of Revenue, Forest & Department of Water Resource for identification of 18.62 Acres (7.535 ha.) Non – Forest Govt. land in Amjhola village under Th.Rampur Tahasil on dated 06-08-2015.

During the course of joint verification the land so identified found free from encroachment and encumbrance. Out of 20.20 Acre of land verified in two patches, 18.62 acre (7.535 ha.) land has been taken up for raising plantation. Though it is dangar kisam the lands are suitable for raising Block plantation (A.R).

Details of the land

Village – Amjhola, P.S. Th.Rampur P.S. No.230
Tahasil: Th.Rampur Dist: Kalahandi

Sl.No	Khata No.	Plot No	Kisam	Total Area (Acre)	Land taken for plantation in acre.
1	29	201	Dangar	5.50	3.92
2	29	211	Dangar	14.70	14.70
				Total	18.62

Divisional Forest Officer
Kalahandi South Division
Bhawanipatna

11/8/2015

Executive Engineer
Kalahandi Investigation Division
Bhawanipatna

19-8-15

TAHASILDAR
Thuamul Rampur

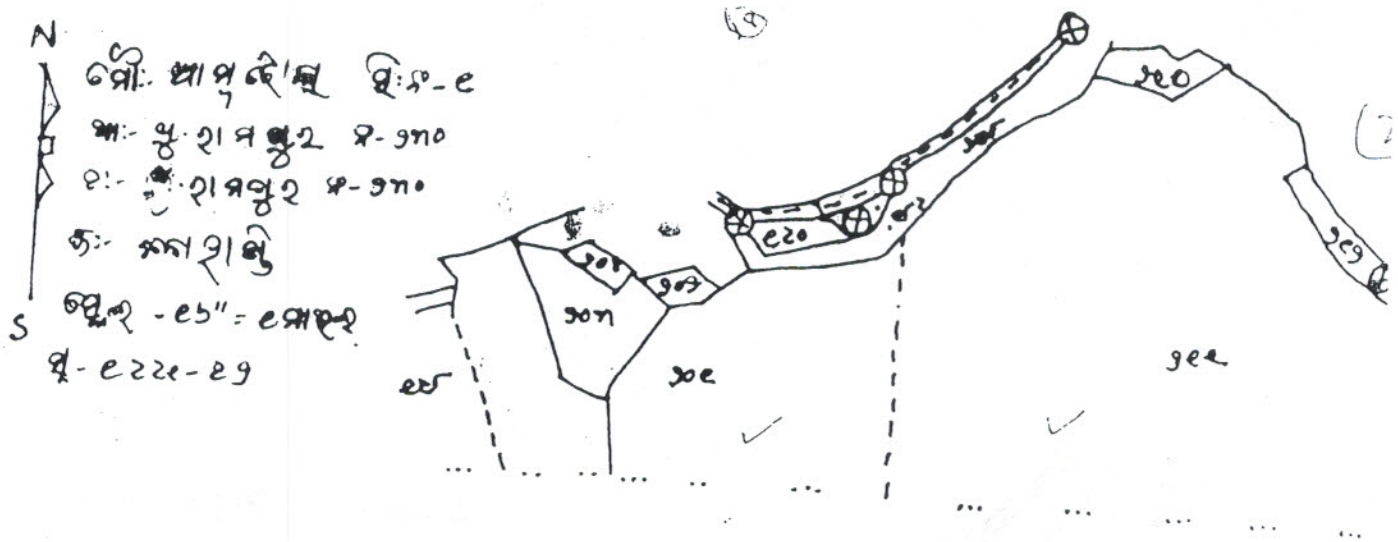
Revenue Inspector
- Nakrundi

11/08/2015

FOREST RANGE OFFICER
TH.RAMPUR 'NORTH' RANGE

Divisional Forest Officer
Kalahandi South Division
Bhawanipatna

DIVISIONAL FOREST OFFICER
KALAHANDI NORTH DIVISION



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୨୨	୭୦୧	ଜଙ୍ଗଲ	୬ ୪·୨୦	ଓ	୬ ୩.୨୨
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Range Officer
Th.Rampur (N) Range

Executive Engineer
Kalahandi Investigation Division
Bhawanipatna

TAHASILDAR
Thuamul Rampur

Divisional Forest Officer
Kalahandi South Division
Bhawanipatna

DIVISIONAL FOREST OFFICER
KALAHANDI NORTH DIVISION

ANNEXTURE-III

GPS READING OF THE AREA PROPOSED FOR COMPENSATORY AFFORESTATION

Pillar no	Easting	Northing	Longitude	Latitude
1	727148.814	2160270.101	83°9'52.752168"	19°31'27.279588"
2	727165.110	2160271.325	83°9'53.311428"	19°31'27.312672"
3	727182.553	2160291.293	83°9'53.918172"	19°31'27.954696"
4	727208.641	2160294.200	83°9'54.81396"	19°31'28.038468"
5	727240.314	2160300.856	83°9'55.902888"	19°31'28.241868"
6	727257.647	2160308.113	83°9'56.500344"	19°31'28.470648"
7	727275.278	2160335.662	83°9'57.116844"	19°31'29.35902"
8	727309.398	2160377.132	83°9'58.304736"	19°31'30.693216"
9	727356.219	2160411.635	83°9'59.925132"	19°31'31.79568"
10	727359.203	2160419.974	83°10'0.031044"	19°31'32.065572"
11	727400.764	2160407.289	83°10'1.450632"	19°31'31.636092"
12	727410.815	2160417.093	83°10'1.799508"	19°31'31.950696"
13	727428.105	2160431.859	83°10'2.398764"	19°31'32.423592"
14	727440.346	2160424.973	83°10'2.8155"	19°31'32.194704"
15	727452.892	2160416.099	83°10'3.241884"	19°31'31.901052"
16	727467.507	2160403.993	83°10'3.737748"	19°31'31.501488"
17	727471.658	2160392.312	83°10'3.875016"	19°31'31.120032"
18	727475.079	2160384.808	83°10'3.989028"	19°31'30.874656"
19	727475.767	2160380.600	83°10'4.010844"	19°31'30.737568"
20	727468.729	2160374.862	83°10'3.767016"	19°31'30.553932"
21	727478.522	2160358.261	83°10'4.095588"	19°31'30.010188"
22	727498.336	2160332.479	83°10'4.76382"	19°31'29.163828"
23	727510.207	2160321.284	83°10'5.165976"	19°31'28.795008"
24	727523.876	2160310.981	83°10'5.630196"	19°31'28.454448"
25	727555.865	2160303.980	83°10'6.72402"	19°31'28.21368"
26	727569.269	2160302.310	83°10'7.182912"	19°31'28.153884"
27	727570.466	2160265.412	83°10'7.207932"	19°31'26.953788"
28	727571.017	2160186.071	83°10'7.19238"	19°31'24.374172"
29	727271.834	2160178.357	83°9'56.93058"	19°31'24.246408"
30	727072.710	2160174.183	83°9'50.101092"	19°31'24.19248"
31	727099.584	2160224.030	83°9'51.044184"	19°31'25.802004"
32	727118.386	2160219.405	83°9'51.686856"	19°31'25.643928"
33	727133.207	2160246.385	83°9'52.206732"	19°31'26.514948"