

**SCHEME FOR COMPENSATORY AFFORESTATION FOR DIVERSION OF FOREST
LAND FOR APPROACH ROAD FROM PWD ROAD TO HIGH LEVEL BRIDGE
(1.496KM) OVER RIVER SILERU NEAR MOTU UNDER KALIMELA TAHASIL OF
MALKANGIRI DISTRICT.**

INTRODUCTON:-

This scheme is prepared for compensatory Afforestation in Motu Reserved Forest in view of diversion of forest by Executive Engineer (R&B) Division, Malkangiri as required under section 3 of forest (Conversation) act -1980. The Executive Engineer (R&B) Division, Malkangiri a State Government for proposed the approach road from PWD Road to High Level Bridge (1.496KM) over river Sileru near Motu in Malkangiri District, Odisha vide proposal No.FP/OR/ROAD/8330/2014. The diversion is proposed over 2.994 Ha. in Motu Reserve Forest for construction of approach road. But the User Agency i.e. Executive Engineer (R&B) Division, Malkangiri has been undertaken without prior permission under Forest Conservation Act, 1980 and 2.994 ha. of forest land has been used in violation for which a Penal Compensatory Afforestation scheme for two times the forest area (5.988ha) has to bear the cost by User Agency i.e. Executive Engineer (R&B) Division, Malkangiri as per vide Letter No-3821 dt. 22.02.2017 of the Special Secretary to Government.

1. DETAILS OF FOREST LAND

District-Malkangiri

Village- Motu

G.P. -Motu

Tahasil- Kalimela

The Motu Reserved Forest has been identified for Compensatory Afforestation near Motu village over 11.70 ha under Kalimela Tahasil of Malkangiri District. The CA plantation will be taken up 5.988 ha out of 11.70 ha. The Range Officer, Motu reported that the proposed area is free from encroachment and encumbrances and suitable for plantation from management point of view is outlined as below.

Land schedule of land prepared for Compensatory Afforestation.

Tahasil	Village	Name of Forest Block	Extent of Area in Ha	Proposed area for plantation in Ha.	Status
Kalimela	Motu	Motu RF	11.70ha	5.988 ha	RF

2. Description of Area:-

i. Whether the site selected for compensatory Afforestation is a land bank or not:

This identified Reserved Forest is under the control of Forest department and classified as "RF" And it is not a land bank.

ii. If the CA Site is other than the land bank, reasons be given:-

There is no alternate suitable land is available. Therefore the Reserved Forest area has been selected for CA.

iii. In case of non-forest area identified for CA , then what is the distance of CA site from the adjoining forest boundary:-

The CA site is selected inside the Motu Reserved Forest.

iv. Soil type:- Alluvial Soil

v. Topography:- The topography configuration of the identified site is plain.

vi. Slope:- plain area (No slope).

vii. Whether the area is bearing any root stoke of vegetation: - No

viii. Temperature:- This area experiences cold weather between November to January when the temperature drops about 12°C . The summer is very severe in Malkangiri and sometimes the temperature rises from February onwards reaching 42°C to 45°C in summer.

ix. Climate and Rainfall:- The area has a tropical to sub-tropical climate with monsoon rains from 2nd week June to September and occasional rains during winter. This area also occasional gutsy wind to heavy thunderstorms during summer seasons (April to June). The rainfall is about 1509.00 mm.

3. Plantation Model:- The identified site is in Motu R.F. over 5.988 ha out of 11.70 Ha has weak soil profiles with good soil. It is proposed for taking of block plantation @1600 plants/Ha.

4. Schedule of Plantation programme:-

Details of year wise break up of requirements of funds as under:

Sl No	Year	Area in Ha	Rate / Ha	Total Amount
1	0 th year	5.988 ha	22139.00	132568.00
2	1 st year	-do-	21125.00	126497.00
3	2 nd year	-do-	12064.00	72239.00
4	3 rd year	-do-	8320.00	49820.00
5	4 th year	-do-	3600.00	21557.00
6	5 th year	-do-	3600.00	21557.00
7	6 th year	-do-	3600.00	21557.00
8	7 th year	-do-	3600.00	21557.00
9	8 th year	-do-	3600.00	21557.00
10	9 th year	-do-	3600.00	21557.00
11	10 th year	-do-	3600.00	21557.00
	Total	5.988	88848.00	532022.00
12	Cost of Barbed wire fencing over 1.0 KM @ Rs. 449600/- per Rkm			449600.00
13	15% of total Plantation cost towards EPA/Incentive to VSS			147243.00
14	Add Escalation Cost (20%)			225773.00
	Grand Total			1354638.00 Or 1354700.00

5. Technical Details:-

Objective of the scheme:-

i) The main objective of the scheme is to take up the Block Plantation in Reserved Forest and every possible effort shall be made to successful establishment of plantation.

ii) Creation of asset for the community meets their bonafide requirements and also generates employment to improve the socio-economic status during the implementation of the scheme.

a) General Details:-

i) **Survey and demarcation of boundary:-** The identified area is to be surveyed and GPS co-ordinate of each pillar will be taken. Survey and posting of R.C.C pillars will be done by User Agency.

ii) **Spacement:-** The spacement adopted for plantation is 2.5 mtr x 2.5 mtr .

iii) **Species:-** Although indigenous species are to be preferred in the plantation, considering adverse soil and moisture conditions the following species are to be planted.

Sl no.	Common name	Scientific name	Remarks
1	Teak	Tectona grandis	Potted seedling from pre-sprouted stumps will be planted
2	Neem	Azadirachta indica	-
3	Sissoo	Dalbergia sissoo	In lower areas with good soil depth
4	Gamhar	Gmelina arborea	In lower areas with good soil depth
5	Mango	Mangifera indica	-

iv) **Method of raising plantation:-** Black plantation over 5.988 Ha shall be taken up with 1600 plants per Ha at a spacing of 2.5 mtr x 2.5 mtr. The standard size of pit 30 cm x 30 cm x 30 cm shall be dug in the entire area. The planting of polypot seedlings will be taken up after onset of monsoon. At the time of planting, insecticides and fertilizers shall be applied as a basal doze depending on the requirement.

Post planting operations shall be including causality replacement, weeding, soil working and other operations to be carried out as per calendar of operations.

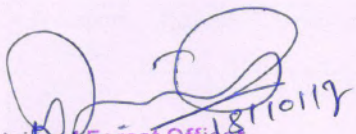
v) **Soil and moisture conservation works:-** Half-moon trenches should be constructed on down side of the plants. In the slopes staggered trenches of 2.5m x 0.5m x 0.5m should be dug in between the planting line along the contours. On the other hand Gully plugging, check dams and percolation pits to be constructed as per site specification.

vi) **Protection:-** Protection should be done by way of watch and ward and people's participation.

6. **Proposed monitoring mechanism:-** The scheme shall be executed by the department staffs through regular inspection and checking. All prescribed records are to be maintained by the department staffs.

7. **Any other information:-** Work to be carried out as per the technical advice of the concerned forestry experts such as D.F.O, ACF and Range Officer concerned .

8. **Total cost of the project:-** The total cost of the project will be Rs 1354700.00 (Rupees Thirteen lakhs fifty four thousand seven hundred) only, which shall be payable by the User Agency as per the advice of Divisional Forest Officer.


Divisional Forest Officer
Malkangiri Forest Division
Malkangiri

ESTIMATE FOR BARBED WIRE FENCE AROUND 5.988 HECTARES IN MOTU RESERVED FOREST OF MALKANGIRI DISTRICT FOR COMPENSATORY AFFORESTATION AGAINST DIVERSION OF FOREST LAND FOR APPROACH ROAD FROM PWD ROAD TO HIGH LEVEL BRIDGE (1.496KM) ON RIVER SILERU NEAR MOTU UNDER KALIMELA TAHASIL OF MALKANGIRI DISTRICT.

Total length of fence = 1.0 Km (1000 Mtr.)

7 strands (5 straight + 2 cross strands) of 1 ply barbed wire on RCC posts fixed at 2.5 mtr intervals. Two fencing posts extra, used as status at each corner point

Number of fence posts required per kilometers 500 Nos.

Fence post size 2 mtr long; 10cm x 10 cm top; 15 cm x 15 cm bottom

Minimum wage rate Rs. 200/- per day for unskilled labourer

Lead statement & Cost of materials

S.L	Item	Unit	Basic Price	Lead in Km	Transport charge	Royalty	Total price
1	4 cm hand broken granite metal	Cum	609.00	15 (Village track)	209.76	98.79	917.55
2	12 mm H.G hand broken chips	Cum	934.00	15 (Village track)	209.76	98.79	1242.55
3	Screened & washed sand	Cum	59.00	25 (Village track)	408.48	27.44	494.92
4	M.S Rod	Qunt.	4000.00	90	70.20	-	4070.20
5	Cement	Qunt.	700.00	90	70.20	-	770.20
6	Barbed wire	KG	69.00	90	0.70		69.70

Analysis of rate

S.L	Item	Quantity	Unit	Rate	Amount
1	Cement concrete (1:4:8) with 4cm HG metal				
	A. Materials				
	Hand broken granite stone 4cm size	0.96 cum	Cum	917.55	880.85
	Sand (Screened & Washed)	0.48 cum	Cum	494.92	237.56
	Cement	1.72 quintal	Quintal	770.20	1324.75
	B. Labour				
	Mason second class	0.18 no.	each	220.00	39.60
	Man mulia	1.8 nos.	each	200.00	360.00
	Women mulia	1.4 nos	each	200.00	280.00
	Man mulia for mixing stone, Sand and cement and getting water	0.70 no.	each	200.00	140.00
	c. Overhead charges 7.5% of (a+b)				244.71
	Total cost per cum				3507.47
2	C.C (1:2:4) in mm hand broken H.G chips including hoisting and laying per cum.				
	a. Materials				
	Hand broken granite chips 12 mm size	0.90 cum	Cum	1242.25	1118.30
	Sand (Screened & Washed)	0.45 cum	Cum	494.92	222.71
	Cement	3.23 quintal	Quintal	770.20	2487.74

	B. Labour				
	Mason second class	0.18no.	each	220.00	39.60
	Man mulia	1.8 nos	each	200.00	360.00
	Women mulia	1.4 nos	each	200.00	280.00
	Man mulia for mixing stone, Sand and cement and getting water	0.70 nos	each	200.00	140.00
	Mason Second Class	0.5 nos.	each	220.00	110.00
	c. Overhead charges 7.5% of (a+b)				356.88
	Total cost per cum				5115.23
3	Labour for M.S reinforcement for R.C.C work including cutting, bending and tying the grills and placing in position, including cost of binding wire (per 1 quintal)				
	Blacksmith (Special)	1	each	260.00	260.00
	Semiskilled mulia	1	each	220.00	220.00
	30% sundries, binding wires and T & P etc.				144.00
	Total charges per quintal =				624.00

Estimated cost per fence post of 2 mtr long, 15 cm x 15 cm bottom and 10 cm x 10 cm top in R.C.C (1:2:4) with 12 mm H.G chips

Work	Quantity	Rate	Unit	Amount
Cost of concrete 2.0 mtr x 0.01625 sq. mtr=	0.0325 cum	5115.23	Cum	166.25
Cost of 8 mm rod (4 x 2 mtr) + mm rod 0.6 mtr for rings	3.25 Kg	4070.20	Quinta	132.28
Labour for cutting, bending, binding & laying in position of rods including cost of binding wire	3.15 Kg	6.24	Kg	19.66
Cost of staples for holding barbed wire				20.00
2% T & P etc.				6.76
Total				3.4495 or say 345.00

Estimated cost for fixing each fence post with C.C 1:4:8 in 4 cm metal

Cost of concrete (45 cm x 45 cm x 45 cm) - 15 cm x 15 cm x 45 cm)	0.081 cum	3507.47 per cum	284.10
---	-----------	-----------------	--------

ESTIMATE PER KILOMETER OF BARBED WIRE FENCE

Sl	Work	Amount
1	Cost of fence posts R.C.C (1:2:4) with 12 mm H.G chips 2 mtr long 15 cm x 15 cm bottom and 10 cm x 10 cm top 500 nos x Rs. 345 each	172500.00
2	Digging of pits for fixing of fence posts 500 pit x Rs. 20.00 each	10000.00
3	Fixing of fence posts with CC 1:4:8 with 4 cm H.G metal 500 nos x Rs. 284.10	142050.00
4	Cost of 2 Ply barbed wire 7 strands x 1000Mtr=7000 Mtr@8 Mtr per KG=875 KG @Rs. 69.70 per KG	60988.00
5	Labour for fixing barbed wire fencing and post by means of staples and staining hooks 7000 mtr @ Rs. 2.00 per mtr	14000.00
6	Average expenditure needed for extra lead for transporting RCC fence posts in hill slopes manually 0.5 mandays per pillar (0.5xRs. 200)x500 pillars	50000.00
	Total expenditure for 1 Km of barbed wire fence Rs. 449538.00 or say Rs. 449600.00	

Total estimate expenditure for 1.0 Km barbed wire fence with RCC pillars

= Rs. 449600.00 x 1.0K = Rs. 449600/-

**COST NORM FOR BLOCK PLANTATION FOR COMPENSATORY AFFORESTATION AT MUTO OF KALIMELA C.D. BLOCK,
DIST:MALKANGIRI**

Spacing: 2.5 Mtr x 2.5 Mtr

No. of Plants to be Planted: 1600 Plants/Ha.

Wage rate: @200/-Per MD

"0" the Year

Sl. No	Item of Work	Preferable Period of execution	Mandays	Amount	Material Cost (Rs)	Total(Rs)	Remarks
1	Survey, Demarcation & Pillar posting	Nov/Dec	2 MD	400.00	0.00	400.00	
2	Site Preparation	Nov/Dec	8 MD	1600.00	0.00	1600.00	
3	Alignment & Stacking of pits	Jan/Feb	2 MD	400.00	0.00	400.00	
4	Digging up pits (30x30x30 cum)	Feb/Mar	40MD	8000.00	0.00	8000.00	
5	Nursery cost (6 Month's old seedlings) @6.67/seedlings(Part) for 1760 nos	Jan-Mar	44MD	8800.00	2939.00	11739.00	
	Total		96	19200.00	2939.00	22139.00	

1st Year (Creation)

	Item of Work		Mandays	Amount	Material Cost (Rs)	Total(Rs)	
6	Nursery cost (Balance)@Rs.2.78/seedlings One year old seedlings	Apl-Jul	21.5MD	4300.00	593.00	4893.00	
7	Carriage & Planting	Jul/Aug	21 MD	4200.00	0.00	4200.00	
8	Cost of insecticides and Fertilizer		0	0.00	3232.00	3232.00	
9	1st Weeding (Complete weeding)	Aug/Sept	7 MD	1400.00	0.00	1400.00	
10	Manuring	Aug/Sept	5 MD	1000.00	0.00	1000.00	
11	2nd Weeding (Complete weeding)	Sept/Oct	5 MD	1000.00	0.00	1000.00	
12	Soil working (50cm radius around plants)	Sept/Oct	7 MD	1400.00	0.00	1400.00	
13	Soil conservation measure (SMC)	Sept/Oct	10 MD	2000.00	0.00	2000.00	
14	Fire line and inspection path (2Mtr wide fire line over 400 Mtr long)	Feb/Mar	3 MD	600.00	0.00	600.00	
15	Watch & Ward for 8 month (August to March)@ 1048/- per month	Aug-Mar	7MD	1400.00		1400.00	
	Total		86.5	17300.00	3825.00	21125.00	

2nd Year (Maintenance)

Sl. No	Item of Work		Mandays	Amount	Material Cost (Rs)	Total(Rs)	Remarks
16	Casualty Replacement with Nursery Cost	Jul/Aug	4 MD	800.00	1512.00	2312.00	
17	Weeding (Complete Weeding)	Sept/Oct	6 MD	1200.00	0.00	1200.00	
18	Application of fertilizer	Sept/Oct	4 MD	800.00	0.00	800.00	
19	Cost of fertilizer		LS	0.00	2752.00	2752.00	
20	Soil working (50cm Radius around plant)	Oct/Nov	7 MD	1400.00	0.00	1400.00	
21	Fire line tracing (2 mtr wide fire line over 400 mtr long)	Feb/Mar	3 MD	600.00	0.00	600.00	
22	Watch & Ward (12 months)@ 1497/- per month	Apr-Mar	15MD	3000.00		3000.00	
	Total		39MD	7800.00	4264.00	12064.00	

3rd Year (Maintenance)

Sl. No	Item of Work		Mandays	Amount	Material Cost (Rs)	Total(Rs)	Remarks
23	Weeding and Application of fertilizer	Aug/Sept	7 MD	1400.00	0.00	1400.00	
24	Cost of fertilizer		0	0.00	1920.00	1920.00	
25	Soil working (50cm Radius around plant)	Oct/Nov	7 MD	1400.00	0.00	1400.00	
26	Fire line tracing (2mtr wide fire line over 400 mtr long)	Feb/Mar	3 MD	600.00	0.00	600.00	
27	Watch & Ward (12 months)@ 1497/- per month	Apr-Mar	15MD	3000.00		3000.00	
	Total		32MD	6400.00	1920.00	8320.00	

0

4th Year (Maintenance)

Sl. No	Item of Work		Mandays	Amount	Material Cost (Rs)	Total(Rs)	Remarks
28	Fire line tracing (2mtr wide fire line over 400 mtr long)	Feb/Mar	3 MD	600.00	0.00	600.00	
29	Watch & Ward (12 months)@ 1497/- per ha	Apr-Mar	15MD	3000.00		3000.00	
	Total		23MD	3600.00	0.00	3600.00	

5th Year (Maintenance)

Sl. No	Item of Work		Mandays	Amount	Material Cost (Rs)	Total(Rs)	Remarks
30	Fire line tracing (2mtr wide fire line over 400 mtr long)	Feb/Mar	3 MD	600.00	0.00	600.00	
31	Watch & Ward (12 months)@ 1497/- per ha	Apr-Mar	15MD	3000.00		3000.00	
	Total		18MD	3600.00	0.00	3600.00	

6th Year (Maintenance)

Sl. No	Item of Work		Mandays	Amount	Material Cost (Rs)	Total(Rs)	Remarks
32	Fire line tracing (2mtr wide fire line over 400 mtr long)	Feb/Mar	3 MD	600.00	0.00	600.00	
33	Watch & Ward (12 months)@ 1497/- per ha	Apr-Mar	15MD	3000.00		3000.00	
	Total		18MD	3600.00	0.00	3600.00	

7th Year (Maintenance)

Sl. No	Item of Work		Mandays	Amount	Material Cost (Rs)	Total(Rs)	Remarks
34	Fire line tracing (2mtr wide fire line over 400 mtr long)	Feb/Mar	3 MD	600.00	0.00	600.00	
35	Watch & Ward (12 months)@ 1497/- per ha	Apr-Mar	15MD	3000.00		3000.00	
	Total		18MD	3600.00	0.00	3600.00	

8th Year (Maintenance)

Sl. No	Item of Work		Mandays	Amount	Material Cost (Rs)	Total(Rs)	Remarks
36	Fire line tracing (2mtr wide fire line over 400 mtr long)	Feb/Mar	3 MD	600.00	0.00	600.00	
37	Watch & Ward (12 months)@ 1497/- per ha	Apr-Mar	15MD	3000.00		3000.00	
	Total		18MD	3000.00	0.00	3600.00	

9th Year (Maintenance)

Sl. No	Item of Work		Mandays	Amount	Material Cost (Rs)	Total(Rs)	Remarks
38	Fire line tracing (2mtr wide fire line over 400 mtr long)	Feb/Mar	3 MD	600.00	0.00	600.00	
39	Watch & Ward (12 months)@ 1497/- per ha	Apr-Mar	15MD	3000.00		3000.00	
	Total		3MD	3600.00	0.00	3600.00	

10th Year (Maintenance)

Sl. No	Item of Work		Mandays	Amount	Material Cost (Rs)	Total(Rs)	Remarks
40	Fire line tracing (2mtr wide fire line over 400 mtr long)	Feb/Mar	3 MD	600.00	0.00	600.00	
41	Watch & Ward (12 months)@ 1497/- per ha	Apr-Mar	15MD	3000.00		3000.00	
	Total		3MD	3600.00	0.00	3600.00	


 Divisional Forest Officer
 Malkangiri Forest Division
 Malkangiri

18/10/17

ABSTRACT

Sl.No.	Name of the Project	Area to be afforested	Year of plantation	Cost norm per Ha (Rs)	Cost for 5.060Ha
1	2	3	4	5	6
1	DIVERSION OF FOREST LAND FOR APPROACH ROAD FROM PWD ROAD TO HIGH LEVEL BRIDGE (1.496KM) OVER RIVER SILERU NEAR MOTU UNDER KALIMELA TAHASIL OF MALKANGIRI DISTRICT.	5.988 ha.	"0"th Year(Adv.)	22139.00	132568.00
2			1st Year	21125.00	126496.00
3			2nd year	12064.00	72239.00
4			3rd Year	8320.00	49820.00
5			4th Year	3600.00	21557.00
6			5th Year	3600.00	21557.00
7			6th	3600.00	21557.00
8			7th year	3600.00	21557.00
9			8th year	3600.00	21557.00
10			9th year	3600.00	21557.00
11			10th year	3600.00	21557.00
	Total			88848.00	532022.00
12	Cost of Barbed wire fencing over 1.0 KM @ Rs. 449600/- per Rkm				449600.00
	Total				981622.00
13	15% of total Plantation cost towards EPA/Incentive to VSS				147243.00
	Total				1128865.00
14	Add Escalation Cost (20%)				225773.00
	Grand Total				1354638.00

Or Say **1354700.00**

(Rupees Thirteen lakhs fifty four thousand seven hundred)only


 Divisional Forest Officer
 Malkangiri Forest Division
 Malkangiri