

Scheme for 55 Ha C.A. Plantation under Dhemaji Division
Diversion of 34.32 ha forest land for shifting of 400 kV D/C HVAC Transmission Line (II) from NHPC's 2000MW Lower Subansiri Hydro Electric Project at
Gerukamukh to Biswanath Chariali in Assam by Power Grid Corporation of India Ltd., Biswanath Chariali.

Area (ha) = 55
 Spacing between plants (m x m) = 2 x 2
 Number of Saplings/ha = 2500
 Length of Fence (RM) = 3746
 Wage Rate for first year (Rs.) = 273
 Increase in wages for subsequent years by a factor = 1.1
 Appreciation of material cost by a factor = 1.1

Application of GST/ Cess etc.											Total Amount
S.N.		Particulars of works	Units	Qty./ha	Total Qty.	Rate / Unit	Amount (Rs.)	Applicable rate of GST/ Cess etc.			
A CONSTRUCTION OF CHAIN LINK FENCE											
		(i) Cost of full chain link goat proof fencing (4" hi with 10 gauge 3" dia link) with 3 strand barbed wire (one strand below the chain link and two strand above the chain link) to be filled on pre cast RCC pillars of specific specification and size as per detail specification attached at 2.5m apart, including transportation, fixing, fitting etc. for 3746 RM @ Rs. 1016/RM as per estimate	RM		3746	1,016	3,805,936				
		<i>Sub total</i>					3,805,936	266,416	38,059	0	
B INFRASTRUCTURE IN PLANTATION AREA											
		Construction of camp hut (atleast one upto 25 ha & thereafter one per every 25 ha) as per estimate	Nos.		2	150,000	300,000				
		Installation of ring/tube well (atleast one upto 10 ha & thereafter two per every 25 ha)	Nos.		3	50,000	150,000				
		Irrigation facility with diesel generator and hose pipes for watering the nursery and plantation (during dry spells)	Nos.		1	50,000	50,000				
		Cost of tools and implements (atleast one unit upto 25 ha & thereafter one unit per every 25 ha)	Nos.		2	10,000	20,000				
		Cost of RCC signboard & gate including fitting and fixing of the same (atleast one unit upto 25 ha & thereafter one unit per every 25 ha)	Nos.		2	60,000	120,000				
		Camp accessories @ Rs. 10,000/ camp	Nos.		2	10,000	20,000				
		Construction of Inspection Path (calculated at 80% of the total perimeter length) = 2997 RM @ Rs. 50/ RM	RM		2997	50	149,850				
		Construction of staff quarters as per estimate	Nos.		1	800,000	800,000				
		Provision of solar energy for staff quarters including installation	Nos.		1	70,000	70,000				
		<i>Sub total</i>					1,679,850	117,590	16,799	0	
C ADVANCE WORK											
		(i) Site selection, surveying, demarcation, jungle cutting, burning etc. @ 20 Dls/ha	Dls	20	1100	273	300,300				
					@Rs.	273/DL				1,814,238	

Preparation and acquisition of polyplot saplings in the field nursery for planting 2500 Nos seedlings @ Rs.8/- per polyplot/stump									
	DLS	2500	137500	8	1,100,000				
Preparation of polyplot saplings in the field nursery for vacancy filling									
a) 25% mortality expected during 1st year (to be planted in the field during 2nd year) i.e. 625 seedlings @ Rs.8 per polyplot/stump	Nos.	625	34375	8	275,000				
b) 20% mortality expected during 2nd year (to be planted in the field during 3rd year) i.e. 500 seedlings @ Rs.8.5 per polyplot/stump	Nos.	500	27500	8.5	233,750				
c) 15% mortality expected during 3rd year (to be planted in the field during 4th year) i.e. 375 seedlings @ Rs.9 per polyplot/stump	Nos.	375	20625	9	185,625				
d) 10% mortality expected during 4th year (to be planted in the field during 5th year) i.e. 250 seedlings @ Rs.9.5 per polyplot/stump	Nos.	250	13750	9.5	130,625				
Cost of Bamboo, making of stacking & transportation	Nos.	625	34375	1	34,375				
Line alignment, carriage of stacking materials & fixing the stacking @ 5DLs/ha	DLS	5	275	273	75,075				
					2,334,750	280,170	23,348	233,475	2,871,743
Sub total									
			@Rs.	273 /DL					
D CREATION & 1 st YEAR MAINTENANCE									
(i) Soil working, carriage of stumps, polyplot seedlings and planting at the plantation site including dibbling of seeds wherever necessary to complete raising of plantation with all necessary operations @ 40 DLs/ha									
	DLS	40	2200	273	600,600				
5 weeding, mulching and fire protection works @ 18 DLs/ha/ weeding	DLS	90	4950	273	1,351,350				
Upkeepment of plantation, making of inspection paths, repairing of fence etc. on day to day basis @ 5DLs/ha	DLS	5	275	273	75,075				
Maintenance and protection of field nursery (1 DL for 365 days) and watch and ward for plantation area (2 DL for 365 days)	DLS	3	1095	273	298,935				
Maintenance of camp huts, implements, ring/tube well, upkeepment of plantation, signboard, documentation, upkeepment of records and other miscellaneous work (Rs.10000/ camp)	LS	3	10000		30,000				
Supervision and Monitoring	LS				20,000				
Awareness Generation	LS				10,000				
Sub total									
			@ Rs.	300 /DL	2,385,960	286,315	23,860	238,596	2,934,731
E 2 nd YEAR MAINTENANCE									
5 weeding, mulching and fire protection works @ 15 DLs/ha/ weeding	DLS	75	4125	300	1,237,500				
25% vacancy filling by 1 year old seedlings from nursery @ 10 DLs/ha	DLS	10	550	300	165,000				
Upkeepment of plantation, making of inspection paths, repairing of fence etc. on day to day basis @ 5DLs/ha	DLS	5	275	300	82,500				
Maintenance and protection of field nursery (1 DL for 365 days) and watch and ward for plantation area (2 DL for 365 days)	DLS	3	1095	300	328,500				
Maintenance of camp huts, implements, ring/tube well, upkeepment of plantation, signboard, documentation, upkeepment of records and other miscellaneous work @ 10% over previous year	LS				33,000				

Supervision and Monitoring @ 15% over previous year	LS					23,000							
Contingency	LS					10,000							
Sub total						1,879,500				225,540		18,795	187,950
3rd YEAR MAINTENANCE													
4 weeding, mulching and fire protection works @ 15 DLs/ ha/ weeding	DLs	60	3300	330		1,089,000							
20% vacancy filling by 2 year old seedlings from nursery @ 8 DLs/ha	DLs	8	440	330		145,200							
Upkeepment of plantation, making of inspection paths, repairing of fence etc. on day to day basis @ 5 DLs/ ha	DLs	5	275	330		90,750							
Maintenance and protection of field nursery (1 DL. for 365 days) and watch and ward for plantation area (2 DL. for 365 days)	DLs	3	1095	330		361,350							
Maintenance of camp huts, implements, ring/tube well, upkeepment of plantation, signboard, documentation, upkeepment of records and other miscellaneous work @ 10% over previous year	LS					36,300							
Supervision and Monitoring @ 15% over previous year	LS					26,450							
Contingency @ 15% over previous year	LS					11,500							
Sub total						1,760,550			211,266		17,606	176,055	2,165,477
4th YEAR MAINTENANCE													
4 weeding, mulching and fire protection works @ 15 DLs/ ha/ weeding	DLs	60	3300	363		1,197,900							
15% vacancy filling by 2 year old seedlings from nursery @ 6 DLs/ha	DLs	6	330	363		119,790							
Upkeepment of plantation, making of inspection paths, repairing of fence etc. on day to day basis @ 5 DLs/ ha	DLs	5	275	363		99,825							
Maintenance and protection of field nursery (1 DL. for 365 days) and watch and ward for plantation area (2 DL. for 365 days)	DLs	3	1095	363		397,485							
Maintenance of camp huts, implements, ring/tube well, upkeepment of plantation, signboard, documentation, upkeepment of records and other miscellaneous work @ 10% over previous year	LS					39,930							
Supervision and Monitoring @ 15% over previous year	LS					30,418							
Contingency @ 15% over previous year	LS					13,225							
Sub total						1,898,573			227,829		18,986	189,857	2,335,244
5th YEAR MAINTENANCE													
Climber cutting, weeding & other silvicultural works and fire protection works @ 15 DL/ha	DLs	15	825	399		329,175							
10% vacancy filling by 2 year old seedlings from nursery @ 4 DLs/ha	DLs	4	220	399		87,780							
Maintenance & fencing post replacement @ 3% initial cost of material			0.03	3,805.936		114,178							
Upkeepment of plantation, making of inspection paths, repairing of fence etc. on day to day basis @ 4 DLs/ ha	DLs	4	220	399		87,780							
Maintenance and protection of field nursery (1 DL. for 365 days) and watch and ward for plantation area (2 DL. for 365 days)	DLs	3	1095	399		436,905							
Maintenance of camp huts, implements, ring/tube well, upkeepment of plantation, signboard, documentation, upkeepment of records and other miscellaneous work @ 10% over previous year	LS					43,923							

Protection work, cattle watching, upkeppment of plantation, making of inspection paths, repairing of fence etc. on day to day basis @ 5 DLS/ha	DLS	5	275	584	160,600				
Maintenance of camp huts, implements, ring/tube well, upkeppment of plantation, signboard, documentation, upkeppment of records and other miscellaneous work @ 10% over previous year	L.S				64,308				
Supervision and Monitoring @ 15% over previous year	L.S				61,180				
Contingency @ 15% over previous year	L.S				26,600				
Sub total					537,528	64,503	5,375	53,753	661,160
10th YEAR MAINTENANCE									
Climber cutting, weeding & other silvicultural works and fire protection works @ 6 DLS/ha	DLS	6	330	642	211,860				
Protection work, cattle watching, upkeppment of plantation, making of inspection paths, repairing of fence etc. on day to day basis @ 4 DLS/ha	DLS	4	220	642	141,240				
Maintenance of camp huts, implements, ring/tube well, upkeppment of plantation, signboard, documentation, upkeppment of records and other miscellaneous work @ 10% over previous year	L.S				70,738				
Supervision and Monitoring @ 15% over previous year	L.S				70,358				
Contingency @ 15% over previous year	L.S				30,590				
Sub total					524,786	62,974	5,248	52,479	645,487
Total C.A. Cost									23,688,824
Over Head Cost @ 50% of Total C.A. Cost									11,844,412
Grand Total									35,533,236

Note:

Cost escalation of 10% annually has been considered for wages

The norms should be revised annually based on wage rate & cost of materials

Pre-cast RCC pillar with 5"x5" cross-section of 6 ft height (1.5 ft below ground & 4.5 ft above ground) with readymade concrete base of 1 ft width for fixing

Divisional Forest Officer
 Dhemaaji Division
 Dhemaaji

Scheme for 15 Ha C.A. Plantation under Dhemaji Division
Diversion of 34.32 ha forest land for shifting of 400 KV D/C HVAC Transmission Line (II) from NHPC's 2000MW Lower Subansiri Hydro Electric Project at Gernamukh to Biswanath Chariali in Assam by Power Grid Corporation of India Ltd., Biswanath Chariali.

Area (ha)	=	15
Spacing between plants (m x m)	=	2 x 2
Number of Saplings/ha	=	2500
Length of Fence (RM)	=	1637
Wage Rate for first year (Rs.)	=	273
Increase in wages for subsequent years by a factor	=	1.1
Appreciation of material cost by a factor	=	1.1

S.N.	Particulars of works	Units	Qty./ha	Total Qty.	Rate / Unit	Amount (Rs.)	Applicable rate of GST/ Cess etc.			Total Amount
							GST	Labour Cess	Contractor's Profit	
A	CONSTRUCTION OF CHAIN LINK FENCE			@Rs.	273 /DL					
	(i) Cost of full chain link goat proof fencing (4" in with 10 gauge 3" dia link) with 3 strand barbed wire (one strand below the chain link and two strand above the chain link) to be filled on pre cast RCC pillars of specific specification and size as per detail specification attached at 2.5m apart, including transportation, fixing, fitting etc. for 1637 RM @ Rs. 1016/RM as per estimate	RM		1637	1,016	1,663,192				
B	INFRASTRUCTURE IN PLANTATION AREA					1,663,192	116,423	16,632	0	1,796,247
	Construction of camp hut (atleast one upto 25 ha & thereafter one per every 25 ha) as per estimate	Nos.		1	150,000	150,000				
	Installation of ring/tube well (atleast one upto 10 ha & thereafter two per every 25 ha)	Nos.		1	50,000	50,000				
	Irrigation facility with diesel generator and hose pipes for watering the nursery and plantation (during dry spells)	Nos.		1	50,000	50,000				
	Cost of tools and implements (atleast one unit upto 25 ha & thereafter one unit per every 25 ha)	Nos.		1	10,000	10,000				
	Cost of RCC signboard & gate including fitting and fixing of the same (atleast one unit upto 25 ha & thereafter one unit per every 25 ha)	Nos.		1	60,000	60,000				
	Camp accessories @ Rs. 10,000/ camp	Nos.		1	10,000	10,000				
	Construction of Inspection Path (calculated at 80% of the total perimeter length) = 1310 RM @ Rs.50/ RM	RM		1310	50	65,500				
	Construction of staff quarters as per estimate	Nos.		1	800,000	800,000				
	Provision of solar energy for staff quarters including installation	Nos.		1	70,000	70,000				
C	ADVANCE WORK			@Rs.	273 /DL	1,265,500	88,585	12,655	0	1,366,740
	Sub total									

(1) Site selection, surveying, demarcation, jungle cutting, burning etc. @ 20 DLs/ha									
Preparation and acquisition of poly pot saplings in the field nursery for planting 2500 Nos. seedlings/ha @ Rs.8/- per poly pot/stump	DLs	20	300	273	81,900				
Preparation of poly pot saplings in the field nursery for vacancy filling									
a) 25% mortality expected during 1st year (to be planted in the field during 2nd year) i.e. 625 seedlings/ha @ Rs.8 per poly pot/stump	Nos.	625	9375	8	75,000				
b) 20% mortality expected during 2nd year (to be planted in the field during 3rd year) i.e. 500 seedlings/ha @ Rs.8.5 per poly pot/stump	Nos.	500	7500	8.5	63,750				
c) 15% mortality expected during 3rd year (to be planted in the field during the 4th year) i.e. 375 seedlings/ha @ 9 per poly pot/stump	Nos.	375	5625	9	50,625				
d) 10% mortality expected during 4th year (to be planted in the field during the 5th year) i.e. 250 seedlings/ha @ 9.5 per poly pot/stump	Nos.	250	3750	9.5	35,625				
Cost of Bamboo, making of stacking & transportation	Nos.	625	9375	1	9,375				
Line alignment, carriage of stacking materials & fixing the stacking @ 5DLs/ha	DLs	5	75	273	20,475				
Sub total					636,750	76,410	6,368	63,675	783,203
D CREATION & 1st YEAR MAINTENANCE									
(i) Soil working, carriage of stumps, poly pot seedlings and planting at the plantation site including, dibbling of seeds wherever necessary to complete raising of plantation with all necessary operations @ 40 DLs/ha	DLs	40	600	273	163,800				
5 weeding, mulching and fire protection works @ 18 DLs/ha/ weeding	DLs	90	1350	273	368,550				
Upkeepment of plantation, making of inspection paths, repairing of fence etc. on day to day basis @ 5DLs/ha	DLs	5	75	273	20,475				
Maintenance and protection of field nursery (1 DL for 365 days) and watch and ward for plantation area (1 DL for 365 days)	DLs	2	730	273	199,290				
Maintenance of camp huts, implements, ring/tube well, upkeepment of plantation, signboard, documentation, upkeepment of records and other miscellaneous work (Rs.10000/ camp)	L.S	3	10000		30,000				
Supervision and Monitoring	L.S								
Awareness Generation	L.S				20,000				
					10,000				
Sub total					812,115	97,454	8,121	81,212	998,901
E 2nd YEAR MAINTENANCE									
5 weeding, mulching and fire protection works @ 15 DLs/ha/ weeding	DLs	75	1125	300	337,500				
25% vacancy filling by 1 year old seedlings from nursery @ 10 DLs/ha	DLs	10	150	300	45,000				
Upkeepment of plantation, making of inspection paths, repairing of fence etc. on day to day basis @ 5DLs/ha	DLs	5	75	300	22,500				
Maintenance and protection of field nursery (1 DL for 365 days) and watch and ward for plantation area (1 DL for 365 days)	DLs	2	730	300	219,000				

Maintenance of camp huts, implements, ring/tube well, upkeepment of plantation, signboard, documentation, upkeepment of records and other miscellaneous work @ 10% over previous year									
Supervision and Monitoring @ 15% over previous year									
Contingency									
LS									
23,000									
10,000									
690,000									
82,800									
6,900									
69,000									
848,700									
3rd YEAR MAINTENANCE									
Sub total									
4 weeding, mulching and fire protection works @ 15 DLs/ha/ weeding									
DLs									
60									
900									
330									
297,000									
Upkeepment of plantation, making of inspection paths, repairing of fence etc. on day to day basis @ 5 DLs/ha									
DLs									
8									
120									
330									
39,600									
Maintenance and protection of field nursery (1 DL for 365 days) and watch and ward for plantation area (1 DL for 365 days)									
DLs									
5									
75									
330									
24,750									
Maintenance of camp huts, implements, ring/tube well, upkeepment of plantation, signboard, documentation, upkeepment of records and other miscellaneous work @ 10% over previous year									
DLs									
2									
730									
330									
240,900									
Supervision and Monitoring @ 15% over previous year									
LS									
26,450									
11,500									
Contingency @ 15% over previous year									
LS									
676,500									
81,180									
6,765									
67,650									
832,095									
4th YEAR MAINTENANCE									
Sub total									
4 weeding, mulching and fire protection works @ 15 DLs/ha/ weeding									
DLs									
60									
900									
363									
326,700									
15% vacancy filling by 2 year old seedlings from nursery @ 6 DLs/ha									
DLs									
6									
90									
363									
32,670									
Upkeepment of plantation, making of inspection paths, repairing of fence etc. on day to day basis @ 5 DLs/ha									
DLs									
5									
75									
363									
27,225									
Maintenance and protection of field nursery (1 DL for 365 days) and watch and ward for plantation area (1 DL for 365 days)									
DLs									
2									
730									
363									
264,990									
Maintenance of camp huts, implements, ring/tube well, upkeepment of plantation, signboard, documentation, upkeepment of records and other miscellaneous work @ 10% over previous year									
LS									
39,930									
Supervision and Monitoring @ 15% over previous year									
LS									
30,418									
13,225									
Contingency @ 15% over previous year									
LS									
735,158									
88,219									
7,352									
73,516									
904,244									
5th YEAR MAINTENANCE									
Sub total									
Climber cutting, weeding & other silvicultural works and fire protection works @ 15 DL/ha									
DLs									
15									
225									
399									
89,775									
10% vacancy filling by 2 year old seedlings from nursery @ 4 DLs/ha									
DLs									
4									
60									
399									
23,940									
Maintenance & Fencing post replacement @ 3% initial cost of material									
DLs									
0.03									
1,663,192									
49,896									
Upkeepment of plantation, making of inspection paths, repairing of fence etc. on day to day basis @ 4 DLs/ha									
DLs									
4									
60									
399									
23,940									

Maintenance and protection of field nursery (1 DL for 365 days) and watch and ward for plantation area (1 DL for 365 days)	DLs	2	730	399	291,270					
Maintenance of camp huts, implements, ring/tube well, upkeepment of plantation, signboard, documentation, upkeepment of records and other miscellaneous work @ 10% over previous year	LS				43,923					
Supervision and Monitoring @ 15% over previous year	LS				34,980					
Contingency @ 15% over previous year	LS				15,209					
Sub total					572,933	68,752	5,729	57,293	704,707	
6th YEAR MAINTENANCE			@ Rs.	439	/DL					
Climber cutting, weeding & other silvicultural works and fire protection works @ 15 DL/ha	DLs	15	225	439	98,775					
Upkeepment of plantation, making of inspection paths, repairing of fence etc. on day to day basis @ 4 DL/s/ha	DLs	4	60	439	26,340					
Watch and ward for plantation area (1 DL for 365 days)	DLs	1	365	439	160,235					
Maintenance of camp huts, implements, ring/tube well, upkeepment of plantation, signboard, documentation, upkeepment of records and other miscellaneous work @ 10% over previous year	LS				48,315					
Supervision and Monitoring @ 15% over previous year	LS				40,227					
Contingency @ 15% over previous year	LS				17,490					
Sub total			@ Rs.	483	/DL	391,383	46,966	3,914	39,138	481,400
7th YEAR MAINTENANCE										
Climber cutting, weeding & other silvicultural works and fire protection works @ 12 DL/ha	DLs	12	180	483	86,940					
Protection work, cattle watching, upkeepment of plantation, making of inspection paths, repairing of fence etc. on day to day basis @ 5 DL/s/ha	DLs	5	75	483	36,225					
Maintenance of camp huts, implements, ring/tube well, upkeepment of plantation, signboard, documentation, upkeepment of records and other miscellaneous work @ 10% over previous year	LS				53,147					
Supervision and Monitoring @ 15% over previous year	LS				46,261					
Contingency @ 15% over previous year	LS				20,114					
Sub total			@ Rs.	531	/DL	242,687	29,122	2,427	24,269	298,505
8th YEAR MAINTENANCE										
Climber cutting, weeding & other silvicultural works and fire protection works @ 8 DL/ha	DLs	8	120	531	63,720					
Protection work, cattle watching, upkeepment of plantation, making of inspection paths, repairing of fence etc. on day to day basis @ 5 DL/s/ha	DLs	5	75	531	39,825					
Maintenance of camp huts, implements, ring/tube well, upkeepment of plantation, signboard, documentation, upkeepment of records and other miscellaneous work @ 10% over previous year	LS				58,462					
Supervision and Monitoring @ 15% over previous year	LS				53,200					

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Contingency @ 15% over previous year									
9th YEAR MAINTENANCE									
Sub total									
L									
Climber cutting, weeding & other silvicultural works and fire protection works @ 7 DL/ha									
			@ Rs.						
				584	/DL				
	DLs	7	105	584		61.320			
Protection work, cattle watching upkeppment of plantation, making of inspection paths, repairing of fence etc. on day to day basis @ 5 DLs/ha									
	DLs	5	75	584		43.800			
Maintenance of camp huts, implements, ring/tube well, upkeppment of plantation, signboard, documentation, upkeppment of records and other miscellaneous work @ 10% over previous year									
	LS					64.308			
Supervision and Monitoring @ 15% over previous year									
	LS					61.180			
Contingency @ 15% over previous year									
	LS					26.600			
						257,208	30,865	2,572	25,721
									316,366
Sub total									
			@ Rs.		642	/DL			
10th YEAR MAINTENANCE									
Climber cutting, weeding & other silvicultural works and fire protection works @ 6 DL/ha									
	DLs	6	90	642		57,780			
Protection work, cattle watching upkeppment of plantation, making of inspection paths, repairing of fence etc. on day to day basis @ 4 DLs/ha									
	DLs	4	60	642		38,520			
Maintenance of camp huts, implements, ring/tube well, upkeppment of plantation, signboard, documentation, upkeppment of records and other miscellaneous work @ 10% over previous year									
	LS					70,738			
Supervision and Monitoring @ 15% over previous year									
	LS					70,358			
Contingency @ 15% over previous year									
	LS					30,590			
						267,986	32,158	2,680	26,799
									329,623
Sub total									
									9,953,887
Total C.A. Cost									
Over Head Cost @ 50% of Total C.A. Cost									
Grand Total									
									4,976,943
									14,930,830

Note:

Cost escalation of 10% annually has been considered for wages

The norms should be revised annually based on wage rate & cost of materials

Pre-cast RCC pillar with 5"x5" cross-section of 6 ft height (1.5 ft below ground & 4.5 ft above ground) with readymade concrete base of 1 ft width for fixing

Divisional Forest Officer
Dhemaji Division
Dhemaji

anem