

Annexure-19

**Proposed Afforestation Model For Compensatory Afforestation is based on APCCF, Land, Gujarat Sate,
Gandhinagar's letter no. JMN/31/B/4638-4703, Dt. 09-01-2013
(Compensatory Afforestation For Saurashtra (Grass Land))**

Detailed scheme of Compensatory Afforestation for degraded area 300 ha. to be carried out in lieu of 598.2427 ha. of forest land to be diverted in Bhavnagar district.

1. Details of Non Forest Land :-

District	Taluka	Range	Village	Survey No.	Area
Bhavnagar	Vallabhipur	Vallabhipur	Monpur	515 Pt	300.00
Total					300.00

2. Description of Area:-

Soil type	Alluvial saline soil
Topography	Plain
Slope	Gentle
Whether the area is bearing any root stock of Vegetation	Most of the area is Degreeded

3. Name of Plantation Programme:-

Compensatory Afforestation For Saurashtra (Grass Land)

4. Schedule of Plantation Programme:-

(i)	The Compensatory Afforestation on Non Forest Area would be started by Dy.Conservator of Forest, Bhavnagar as early as possible after the proposal is formally approved.
(ii)	Compensatory Afforestation will be done in 300 ha. area. The total afforestation cost will be about Rs. 360870000 Executive Engineer, Salinity Control Division, Bhavnagar has given an undertaking to pay the cost of Compensatory Afforestation as per the prevailing wages (including the price escalation and supervision charges).

5. Technical Details:-

Technical details of Compensatory Afforestation are as Follows:

Sr. No.	Details	Specifications		
a	General Details	The C.A. will be taken under Compensatory Afforestation for Non Forest Areas. The prevailing wage rate is 441 per day.		
b	Spacement	3 m x 3 m (Actual Planting spacement on the earthen embankment)		
c	Species to be planted (No. of plants per ha.)	Pilu	175	65cm
		Unt Morad	50	65cm
		Desibaval	175	65cm
		Grass Zinzavo	11 Kg	Seeds
		Total	400	
Sr. No.	Details	Specifications		
d	Nursery Technique	Nine months old polypot raised plants will be planted at the onset of monsoon.		

e	Site Preparation	The malformed rootstock present in the area will be cutback & the site will be cleaned in the month of Nov-Dec. Alignment & pit digging 45 x 45 x 45 cms. & 1 meter high earthen embankment (Bottom width 3.50 m, Top width 1.50 m and length 1* m) will be carried out in the month of Dec-Jan.
f	Plantation Method	Polypot raised plants will be planted & Seed Sowing during monsoon.
g	Soil & Moisture Conservation Works	(i) Pucca structure like Check dam, check wall, retaining wall (ii) The loose stone available in the area will be carried out as per requirement. Seeds of Acacia and thorny Etc. will be planted during monsoon in the upper side of nala as per suitability.
h	Protection Trench	Trench / stone wall / Barbed wire fence on forest boundary
i	Silvicultural Operations	1 st year three weeding soil working, Support watering will be provided if needed. 2 nd year two weeding soil working. 3 rd year one weeding soil working.
j	Maintenance	It is proposed to maintain the Plantation up to ten years.
k	Subsequent silvicultural Operation	Cleaning, thinning etc. (as per species specific requirement) will be carried out at the age as per prescribed in the working plan.
l	Proposed monitoring mechanism	(i) A plantation register is to be maintained. (ii) Monitoring is to be done as per the following norms. Forester – 100% RFO – 100% ACF – 20% DCF – 10% (iii) The results of survival etc. are maintained in the plantation register on a periodical basis, which is updated at the end of September and March each year. (iv) The collar girth is also to be reordered at the end of each year. (v) At the end of maintenance period, the area is aimed at full stocking and pole crop girth for all the species, except bamboo. (vi) Bamboo would be of the harvestable size by the end of 4 th year.

		(vii) Third party monitoring mechanism is also in the State and if the plantation is in the sample selected, it will also be monitored by the third party selected for this purpose.
m	Regeneration cleaning	promotion of root suckers.
n	Silviculture & other activities	Only afforestation aimed plantation will be taken up, as the area falls under Non forest land.

(S.S. Mujawar)

Dy. Conservator of Forests
Bhavnagar Forest Division
Bhavnagar

The Compensatory Afforestation scheme at the cost of Rs. 360870000/- is technically and administrative approved by the undersigned

(Dr. K. Ramesh)

Chief Conservator of Forests
Junagadh Circle, Junagadh

Check List 19A

Proposed Afforestation Model For Compensatory Afforestation is based on APCCF, Land, Gujarat

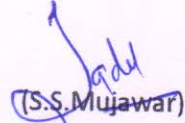
Sate, Gandhinagar's letter no. JMN/31/B/4638-4703, Dt. 09-01-2013

(Compensatory Afforestation For Saurashtra (Grass Land))

Year	Rate / Ha (191.40 DW)	Rate / Ha (441 DW)	Area (in. Ha)	With an increase of 10% per Year.
0 year	328936.00	757893.29	1	833682.62
1st Year	13885.00	31992.08	1	38390.50
2nd Year	8463.00	19499.39	1	25349.21
3rd Year	4294.00	9893.70	1	13851.18
4th Year	2851.00	6568.92	1	9853.38
5th Year	2851.00	6568.92	1	10510.27
6th Year	7820.00	18017.87	1	30630.38
7th Year	2234.00	5147.30	1	9265.15
8th Year	2234.00	5147.30	1	9779.88
9th Year	2234.00	5147.30	1	10294.61
10th Year	2234.00	5147.30	1	10809.34
Total	378036.00	871023.39		1002416.50
20 % Supervision Charge				200483.30
Grand Total				1202899.80

1202900/- Say

Cost for 300 Ha = 1202900 x 300 = Rs.360870000


(S.S. Mujawar)

Dy. Conservator of Forests
Bhavnagar Forest Division
Bhavnagar

**Proposed Afforestation Model For Compensatory Afforestation is based on APCCF, Land, Gujarat Sate,
Gandhinagar's letter no. JMN/31/B/4638-4703, Dt. 09-01-2013
(Compensatory Afforestation For Saurashtra (Grass Land))**

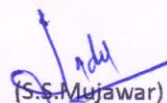
Daily wages Rs. 191.4

(To be Read with annexure 19 A)

Spacements = 3 m x 3 m (Actual Planting spacement on the earthen embankment)				
400 Plants + 10% Casualty + 10% Casualty				
1st year replacement 10% + 2nd Year replacement 10% = 80 seedling/ha. = 20 seedling /ha				
Total Seedlings = 480 seedling /ha				
Polypot size : 20 cm x 30 cm x 200g				
Item of work	Qty.	Labour (Rs.)	Material (Rs.)	Total
1	3	5	6	7
0 year				
1 Seeding cost for 1st Year plantation				
Nursery				
(a) Cost of Cost of soil, manure, seeds, water, fartillizer, insecticides, implements, rent of land shade etc.	400+40=440	1177	0	1177
(b) labour : Preparation of beds, filling and arranging of bags, showing of seeds watering shifting, weeding etc.	440	1195	0	1195
(c) maintenance of seeding, watering, shifting & grading Insecticide, Hormones etc. from april to july	440	850	149	999
(d) cost of seeds for sowing	11Kg	0	4779	4779
Total		3222	4928	8150
2. Area Development (Land Preparation)				
(a) 1 meter high earthen embankment (Bottom width 3.50 m Top width 1.50 m and length 100 m = 250 m3 Total length per hectare 1300 m = 3250 m3) Rs. 174.75/cum	1 Ha	246480	0	246480
(b) Ciening of unwanted weeds and pruning of natural Growth	L.S.	6450	0	6450
(c) Aligment and digging of pits 0.45 x 0.45 x 0.45	400 @ 5.012	2489	0	2489
(d) Compost manure or natural fertilizer	400 @ 7.37	0	3659	3659
3. SMC Works				
(a) Chekdem, vantalavdi, causeway etc.	L.S.	24825	0	24825
4. Protection / Trench Fencng				
(a) Trench / stone wall / Barbed wire fence on forest boundary	160 rmt/ha.	3440	30960	34400
(b) Const of labour shed / protection choki	ha	745	1738	2483
Sub Total		284429	36357	320786
Entry point activity	L.S.	6206	0	0
Sub Total of 0 year		293857	41285	328936
Sub Total for Advance work		293857	41285	328936

1st Year				
(a) Transport of seedling for plantation	440	354	236	590
(b) Application of DAP 10gm / pit & insecticide before planting.	400	149	0	149
(c) Planting with khamna of Min 1m dia.	400	1061	0	1061
(d) three weeding cum soil working (1m dia & 15cm deep) in july to oct	400	1852	0	1852
(e) Seed Sowing	L.S.	1048	0	1048
b. Support watering 5 times @ 3.25	400	2681	4022	6703
Application of urea after planting @ 10gms/plant	400	62	186	248
(a) Watch and ward (1st Year)	R.A.	2234	0	2234
Total for 1st year		9441	4444	13885
2. Current year Planting				
2nd year cultural operation (1st year old operation) two weeding cum soil working (1m dia & 15 cm Deep) in july to Oct	400	1235	0	1235
Removal of weed around the germinated seed	L.S.	621	0	621
(a) Casually replacement transport and planting	40	82	21	103
(b) Support watering 3 times @ 3.25	400	1609	2413	4022
2. Application of Urea after planting @ 10 gms/plant 2 times	400	62	186	248
(a) Watch and ward (2nd year)	R.A.	2234	0	2234
Total for 2nd year		5843	2620	8463
3rd Year				
one weeding cum soil working (1m dia & 15cm deep) in july To Oct	400	617	0	617
Casually replacement transport and planting	40	82	21	103
support watering one watering @ 3.25	400	536	804	1340
a. Watch and ward (3rd year)	L.S.	2234	0	2234
Total for 3rd year		3469	825	4294
4th Year				
one weeding cum soil working (1m dia & 15cm deep) in july To Oct	400	617	0	617
a. Watch and ward	L.S.	2234	0	2234
		2851	0	2851
5th Year				
one weeding cum soil working (1m dia & 15cm deep) in july To Oct	400	617	0	617
a. Watch and ward	L.S.	2234	0	2234
		2851	0	2851
6th Year				
Fencing repair		5586	0	5586
Watch and ward	L.S.	2234	0	2234
		7820	0	7820
7th Year				

Watch and ward	L.S.	2234	0	2234
8th Year				
Watch and ward	L.S.	2234	0	2234
9th Year				
Watch and ward	L.S.	2234	0	2234
10th Year				
Watch and ward	L.S.	2234	0	2234
Grand Total		335068	49174	378036


(S.S. Mujawar)

Dy. Conservator of Forests
Bhavnagar Forest Division
Bhavnagar

**Proposed Afforestation Model For Compensatory Afforestation is based on APCCF, Land, Gujarat Sate,
Gandhinagar's letter no.CAMPA/31/B/4769-4838 Dt.27-11-2019
(Compensatory Afforestation Model-3)**

Sub :- Proposal for Diversion of 598.2427 Ha. Forest land for methala Bandhara Irrigation Project near Village Methala in Talaja Taluka in Bhavnagar District of Gujarat State. (FP/GJ/IRRIG/44298/2020)

Detailed scheme of Compensatory Afforestation for Non Forest Land 298.2427 ha. to be carried out in lieu of 598.2427 ha. of forest land to be diverted in Bhavnagar district.

1. Details of Non Forest land:-

District	Taluka	Range	Village	Survey No.	Area
Bhavnagar	Vallbhipur	Vallabhipur	Monpur	515 Pt 1	298.2427
Total					298.2427

2. Description of Area:-

Soil type	Alluvial saline soil
Topography	Plain
Slope	Gentle
Whether the area is bearing any root stock of Vegetation	Most of the area is Degreeded

3. Name of Plantation Programme:-

Compensatory Afforestation Scheme for Non Forest land.

4. Schedule of Plantation Programme:-

- (i) The Compensatory Afforestation on Non Forest land would be started by Dy.Conservator of Forests, Bhavnagar as early as possible after the proposal is formally approved.
- (ii) Compensatory Afforestation will be done in 298.2427 ha. area. The total afforestation cost will be about Rs. ~~435419592/-~~ ⁴³⁴⁷³⁸⁰⁶⁷ Executive Engineer, Salinity Control Division, Bhavnagar has given an undertaking to pay the cost of Compensatory Afforestation as per the prevailing wages (including the price escalation and supervision charges).

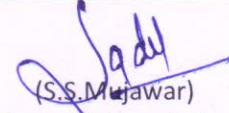
5. Technical Details:-

Technical details of Compensatory Afforestation are as Follows:

Sr. No.	Details	Specifications		
a	General Details	The C.A. will be taken under Compensatory Afforestation for Non Forest land. The prevailing wage rate is 441 per day.		
b	Spacement	2 X 2 mtr., 2500 plants per ha.		
c	Species to be planted (No. of plants per ha.)	Pilu	800	65 cm
		Unt Morad	800	65 cm
		Desi Baval	900	65 cm
		Total	2500	


Sr. No.	Details	Specifications
d	Nursery Technique	Nine months old polypot raised plants will be planted at the onset of monsoon if possible. or Nine to twelve months old polypot raised plants will be planted at the during of monsoon season.
e	Site Preparation	The malformed rootstock present in the area will be cutback & the site will be cleaned in the month of Nov-Dec. Alignment & pit digging 45 x 45 x 45 cms. will be carried out in the month of Dec-Jan.
f	Plantation Method	Polypot raised plants will be planted during monsoon.
g	Soil & Moisture Conservation Works	(i) Pucca structure like Check dam, check wall, retaining wall
h	Protection Trench	Barbed wire fencing, Seed sowing And planting of cuttings of thorny Spp. along the fence.
i	Silvicultural Operations	1 st year three weeding soil working, Support watering will be provided if needed.
		2 nd year two weeding soil working.
		3 rd year one weeding soil working.
j	Maintenance	It is proposed to maintain the Plantation up to ten years.
k	Subsequent silvicultural Operation	Cleaning, thinning etc. (as per species specific requirement) will be carried out at the age as per prescribed in the working plan.
l	Proposed monitoring mechanism	(i) A plantation register is to be maintained.
		(ii) Monitoring is to be done as per the following norms.
		Forester – 100%
		RFO – 100%
		ACF – 20%
		DCF – 10%
		(iii) The results of survival etc. are maintained in the plantation register on a periodical basis, which is updated at the end of September and March each year.
		(iv) The collar girth is also to be reordered at the end of each year.
		(v) At the end of maintenance period, the area is aimed at full stocking and pole crop girth for all the species, except bamboo.
		(vi) Bamboo would be of the harvestable size by the end of 4 th year.
		(vii) Third party monitoring mechanism is also in the State and if the plantation is in the sample selected, it will also be monitored by the third party selected for this purpose.
m	Regeneration cleaning	promotion of root suckers.

Sr. No.	Details	Specifications
n	Silviculture & other activities	Only afforestation aimed plantation will be taken up, as the area falls under Non forest land.


(S.S. Mejawar)

Dy. Conservator of Forests
Bhavnagar Forest Division
Bhavnagar

The Compensatory Afforestation scheme at the cost of Rs. 435419592/- is technically and administrative approved by the undersigned


4347380671


(D. K. Ramesh)
Chief Conservator of Forests
Junagadh Circle, Junagadh

**Proposed Afforestation Model For Compensatory Afforestation is based on APCCF, Land, Gujarat
Sate, Gandhinagar's letter no.CAMPA/31/B/4769-4838 Dt.27-11-2019
(Compensatory Afforestation Model-3)**

**Sub :- Proposal for Diversion of 598.2427 Ha. Forest land for methala Bandhara Irrigation Project near Village
Methala in Talaja Taluka in Bhavnagar District of Gujarat State. (FP/GJ/IRRIG/44298/2020)**

Daily wages Rs. 441.00

Spacemnts = 2 m x 2 m				
2500 seedling / Ha				
1st year replacement 10 % = 250 seedling /ha				
2nd year replacement 20 % = 250+250 seedling /ha				
3rd year replacement 10 % = 250 seedling /ha				
Total Seedlings = 3000 seedling /ha				
Polypot size : 15 cm x 25 cm x 200				
Item of work	Qty.	Labour	Material	Total
1	2	3	4	5
0 year				
Nursery				
(a) Cost of soil, ,manure, seeds, water, fatillizer, insecticides, implements, rent of lands. Shade, etc. (including 10 % for casualty replacement)	2750	0	5850	5850
(b) labour : Preparation of beds, filling and arranging of bags,showing of seeds, watering shifting, weeding etc.	2750	14317	741	15058
(c) Seedling cost for casualty replacement in one year old (20%)	500	4529	1351	5880
(d) Seedling cost for casualty replacement in two year old (10%)	250	2268	674	2942
Total		21114	8616	29730
2. Area Development (Land Preparation)				
(a) Survey, cutback and promotion of root suckers		10757	0	10757
(b) Alignment	Ha	350	0	350
(b) digging of pits 0.45 X 0.45 X 0.45	2500@11.90	29750	0	29750
Total		40857	0	40857
(a) Natural fertilizer (Neem cake/ Castor cake)	2500 @ 16	0	40000	40000
Total		0	40000	40000
3. SMC Works				
(a) Check wall/ retaining wall /check dam etc.	L.S.	38214	75858	114072
Total		38214	75858	114072
4. Protection				
(a) Barbed wire fencing	Rmt. 160	6400	57600	64000
(b) Seed sowing and planting of cuttings of Ipomea/ Glaricidia along the fence		3546	1523	5069
Total		9946	59123	69069
Sub Total of 0 year		110131	183597	293728
1st Year				
(a) Maintenance of nursery (April to June)	2750	10981	1094	12075
(b) Transport of seedling for plantation	2500	6024	1244	7268
(c) Planting with khamna of Min 1 m dia	2500	18513	0	18513

Item of work	Qty.	Labour	Material	Total
1	2	3	4	5
(d)Transport of seedling for casualty replacement	250	642	142	784
(e) 3 weeding cum soil working	2500	75395	0	75395
(f) Support watering 5 times @ 3.25		103810	148960	252770
(g) Protection / tending operation		14865	0	14865
(h) Tending to natural vegetation		3733	0	3733
(i) Contingency		0	3733	3733
Total for 1st year		233963	155173	389136
2nd Year				
(a) 2 weeding & soil working		40503	0	40503
(b) 20 % Casually replcement, transport and planting	250+250	674	3358	4032
(c) Natural fertilizer (neem cake / caster cake) etc.	Rs.16/ plant	0	40000	40000
(d) Support watering 3 times @ 3.25		29977	43029	73006
(e) Protection / tending operation		16177	0	16177
Total for 2nd year		87331	86387	173718
3rd Year				
(a) 2 weeding & soil working		43167	0	43167
(b) 10 % Casually replcement, transport and planting	250	362	1809	2171
(c) Natural fertilizer, neem cake etc.	Rs.16/ plant	0	40000	40000
(d) Support watering 1 times @ 3.25		10763	15445	26208
(e) Protection & maintenance of fencing / tending operation	L.S.	21776	0	21776
Total for 3rd year		76068	57254	133322
4thYear				
(a) 1 weeding & soil working		23123	0	23123
(b) Protection & Maintenance of fencing/ Tending operation	L.S.	23331	0	23331
Total for 4th year		46454	0	46454
5thYear				
Protection & maintenance of fencing/ tending operation	L.S.	24888	0	24888
Total for 5th year		24888	0	24888
6thYear				
Protection & maintenance of fencing/ tending operation	L.S.	26442	0	26442
Total for 6th year		26442	0	26442
7thYear				
Protection & maintenance of fencing/ tending operation	L.S.	27997	0	27997
Total for 7th year		27997	0	27997
8thYear				
Protection & maintenance of fencing/ tending operation	L.S.	29552	0	29552
Total for 8th year		29552	0	29552
9thYear				
Protection & maintenance of fencing/ tending operation	L.S.	31107	0	31107
Total for 9th year		31107	0	31107

Item of work	Qty.	Labour	Material	Total
1	2	3	4	5
10thYear				
Protection & maintenance of fencing/ tending operation	L.S.	32664	0	32664
Total for 10th year		32664	0	32664
SUB TOTAL :		726597	482411	1209008
The Cost of Supervision/subsequential silvicultureal Operations	20%	145319	96482	241802
Grand Total		871916	578893	1450810

Note :-

- (1) Seed sowing along fencing towards the inner side, and also in the plot.
- (2) Planting of cutting of ipomea//Glarcidia along the fencing towards outer side.

Compensatory afforestation will be done in 1.00 ha. Area.

1 Ha cost, Rs. 1450810 X 298.2427 Ha. = Total Cost Rs. :432693492/-

Cost of 3900 Meter long Earthen Embankment with
Patch work (2h x 2w x 1l* m)

Grand Total

~~2726100/-~~

20,44,576/-

~~435419592/-~~

434738067/-

(S.S. Mujawar)

Dy. Conservator of Forests
Bhavnagar Forest Division
Bhavnagar