No. FCA/29-C/A/606-08 /2023-24
Office of the,
Principal Chief Conservator of Forests,
Aranya Bhavan, Block No.A/3,
Sector-10/A, Gandhinagar, Dt.14/07/2023

To
The Principal Secretary,
Forest & Environment Department,
New Sachivalaya, Gandhinagar

Sub:- Proposal for Diversion of 598.2427 Forest Land under Methala Bandhara Irrigation Project near village methala in Talaja Taluka in Bhavnagar District of Gujarat State.

Ref:- GoI New Delhi's letter no. 8-06-2021-FC, Dt.24/12/2021

Sir,

With reference to the above subject and letter the required information is submitted as follows:

Sr No.	Quarry	Compliance
1	AS reported by the State Government of 140.5978 ha. area proposed for CA is encroached by local people and 2.6503 ha area has pond. The area is therefore not free from all encumbrances. The Govt.may therefore provide NFL which is free from all encumbrances.	CA area has been revised and some fresh area has been identified for CA. The site suitability certificate for proposed CA area is attached herewith and uploaded on Parivesh-portal. KML file of the proposed CA area is also uploaded.
2	The site suitability mentioning that the proposed CA area is suitable for plantation and free from all encumbrances shall be submitted along with the detailed CA scheme.	The site suitability certificate and detailed CA scheme are attached herewith and uploaded on Parivesh - portal.
3	CA schemes referring to planting of 200 grass species out of 1111 plants/ha has to be revised. A minimum 1000 plants (tree species) per ha are required to be planted.	A revised CA scheme is attached herewith and uploaded on Parivesh - portal.

4	Out of the total forest area of 597.2427 ha sought for diversion, approx..417 ha forest area was found submerged as per satellite imagery dated 26.09.2018. It is further observed that dam like structure was erected at the river mouth during the year 2018, which seems to have led to this submergence. The state Govt.may therefore re-examine the matter in view of above information.	The dam like structure observed in the satellite imagery is an earthen bund constructed by the local villagers in the revenue area. The area seen as submerged has been going under submergence due to see water ingress, even before the construction of the earthen bund, as may also seen from the satellite image dt.14.01.2017. The proposed location for the Methala bandhara (Earthen bund) falls in the reserved forest area and would be about 338 m away from the existing bund. User agency has not initiated any activity on the proposed site. A map showing the proposed bund and the existing bund is submitted herewith.
5	The cost benefits analysis has not been prepared on the format as prescribed in the guidelines issued by the ministry.	The Cost benefits analysis has been prepared by the user agency in the prescribed format and is attached herewith.
6	The approved copy of CAT plan in accordance with para 9.2 of Comprehensive guidelines dated 28-03-2019 has not been submitted.	Approved CAT plan is attached here with.

(Dr. Jaipal Singh)
Addl. Pri. Chief Conservator of Forests
Land
Gujarat State, Gandhinagar.

Copy to Chief Conservator of Forests, Junagadh and Deputy Conservator of Forests, Bhavnagar for necessary information.

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)

Annexture-18

Details of non-forest land/degraded forest area identified for compensatory afforestation viz.. Survey No./Compartment No./Khasra No./Khatoni No., Village, Tehsil, District etc. along with map in appropriate scale showing the boundries of adjoining forest areas with their use in distinct colours and GPS readings.

Detail of Non Forest land for compensatory afforestation

No	District	Taluka	Village	S.No.	Area (in Ha) Brack up.
1	Bhavnagar	Vallbhipur	Monpur	515 Pt	598.2427
Total					**598.2427**

Place : Bhavnagar

(S.S.Mujawar)
Dy. Conservator of forests
Bhavnagar Forest Division
Bhavnagar
18-5-23

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	1st year three weeding soil working, Support watering will be provided if needed.
		2nd year two weeding soil working.
		3rd year one weeding soil working.
j	Maintenance	It is proposed to maintain the Plantation up to ten years.
k	Subsequent silvicualtural 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 4th year.

		(vii) Third party monitoring mechanism is also in the State and if the plantationis 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 18-5-23

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
18-8-23

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 19A)

Spacements = 3 m x 3 m (Actual Planting spacement on the earthen embankment)				
400 Plants + 10% Casuality + 10% Casuality				
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				
Nusrsery				
(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) Cieaning of unwanted weeds and prunning 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 Fencing				
(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 seedlig 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				
2nd year caltural 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 replecement 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 replecement 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
18-5-23

Annexure-19

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~~ 43479806/- 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 fenching, Seed sowing And planting of cuttings of thorny Spp. along the fence.
i	Silvicultural Operations	1st year three weeding soil working, Support watering will be provided if needed.
		2nd year two weeding soil working.
		3rd year one weeding soil working.
j	Maintenance	It is proposed to maintain the Plantation up to ten years.
k	Subsequent silvicualtural 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 4th year.
		(vii) Third party monitoring mechanism is also in the State and if the plantationis 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.Mujawar)
Dy.Conservator of Forests
Bhavnagar Forest Division
Bhavnagar 18-5-23

The Compensatory Afforestation scheme at the cost of Rs. ~~435419592~~/- 434738067 is technically and administrative approved by the undersigned

(Dr. 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

Spacements = 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, fartillizer, insecticides, implements, rent of lands. Shade, etc. (including 10 % for casuality 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 casuality replacement in one year old (20%)	500	4529	1351	5880
(d) Seedling cost for casuality 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 seediling 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) Contigency		0	3733	3733
Total for 1st year		**233963**	**155173**	**389136**
2nd Year				
(a) 2 weeding & soil working		40503	0	40503
(b) 20 % Casually replecement, 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 replecement, 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/subsequental 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//Glaricidia 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/-

~~2726100/-~~ 2044575 L

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

Grand Total ~~435419592/-~~ 434738067 L

(S.S.Mujawar)
Dy.Conservator of Forests
Bhavnagar Forest Division
Bhavnagar
18-5-23

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)

Annexture-20

Certificate from the DCF, that non forest land selected for compensatory afforestation is in a compact blocks and contiguous to forest areas or in closed proximity of forest areas and suitable from the management and protection point of view.

This is to certify, that 598.2427 Ha non forest land (Village: - Monpur Ta. Vallbhipur Dist. Bhavnagar) selected for compensatory afforestation is in a compact blocks, contiguous to forest areas and suitable from the management and protection point of view.

Place : Bhavnagar

(S.S.Mujawar)
Dy. Conservator of forests
Bhavnagar Forest Division
Bhavnagar 24/04/23

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)

Annexture-21

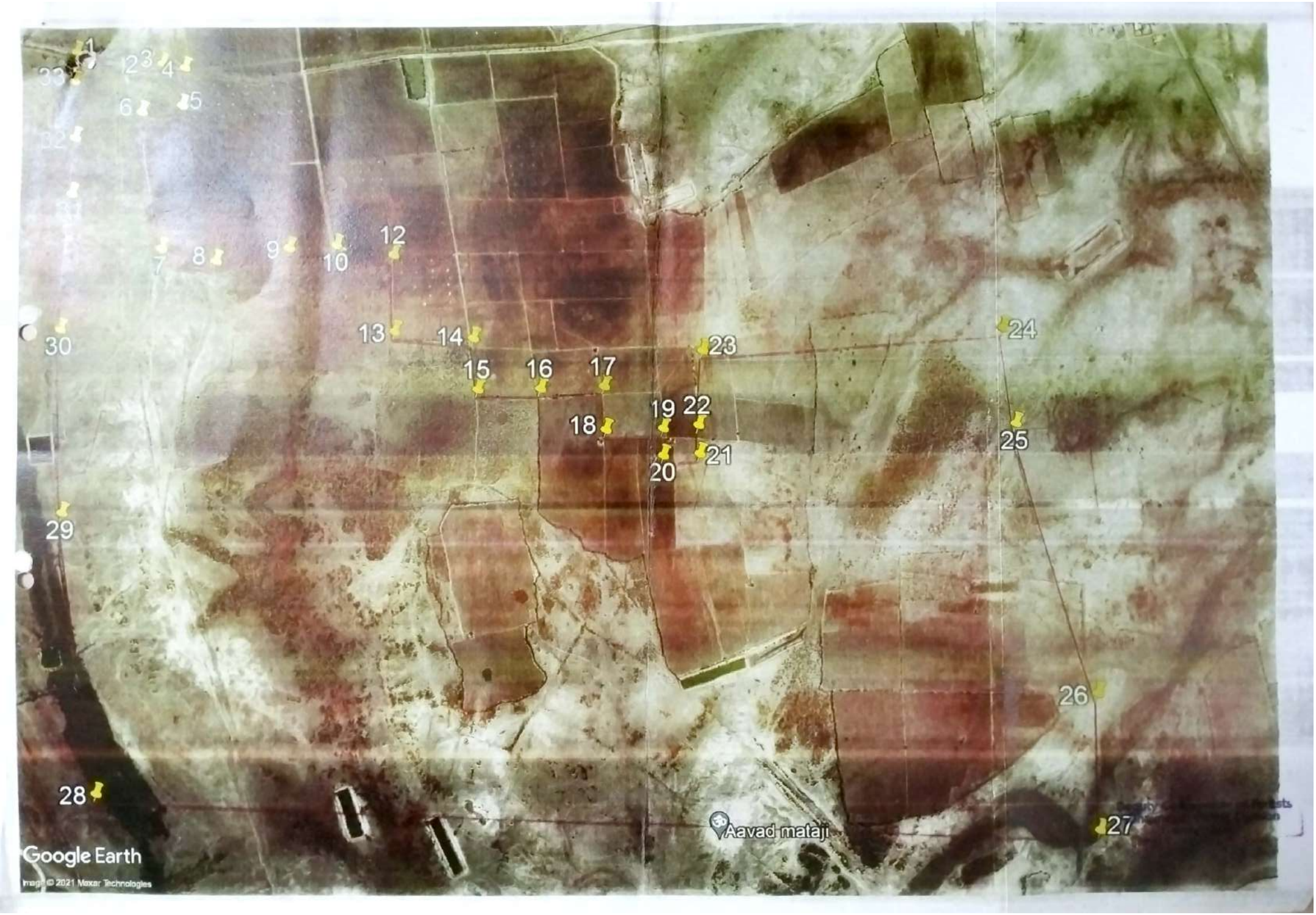
Suitability certificate from Divisional Forests Officer that the land identified for compensatory afforestation is suitable for raising plantation (in the prescribed format)

This is to certify that 598.2427 hectares of non-forest land for (Village:- Monpur Ta. Vallbhipur Dist. Bhavnagar) compensatory afforestation against diversion of 598.2427 hectares is suitable For compensatory afforestation.

This non-forest land Proposed by the user agency is Adjoin to the forest area of Blackbuck National Park, Velavadar. Also, this area is the habitat of wildlife like Indian Wolf, blackbuck etc. So this area is excellent as a non-forest land.

Place : Bhavnagar

(S.S.Mujawar)
Dy. Conservator of forests
Bhavnagar Forest Division
Bhavnagar
15-5-23



Deputy Conservator of Forests
Bhavnagar Forest Division
Bhavnagar.

ANNEXURE


Deputy Conservator of Forests
Bhavnagar Forest Division
Bhavnagar.

Deputy Conservator of Forests
Bhavnagar Forest Division
Bhavnagar.


Deputy Conservator of Forests
Bhavnagar Forest Division
Bhavnagar.


Methala Image Dt.14/04/2009
Write a description for your map.
Legend
Bhutada dada (Baru)
Fisheries Production Pvt.Ltd
Methala Bandharo
Hinglaj Temple
Google Earth
Image © 2022 Maxar Technologies
900 m
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Deputy Conservator of Forests
Bhavnagar Forest Division
Bhavnagar.

ANNEXURE - C

Table-A/B: Estimation of cost of forest diversion ANNEXURE-5

COST BENEFIT ANALYAIS

Category of proposal for which cost benefit analysis is applicable

S. No.	Parameters	Remarks
1	Ecosystem services losses due to proposed forest diversion.	Economic value of loss of eco-system services due to diversion of forests shall be the net present value (NPV) of the forest land being diverted as prescribed by the Central Government (MoEF& CC) and Amount of Rs 2620.30 Lacs considered in Project cost.
2	Loss of animal husbandry productivity, including loss of folder.	NO human resettlement So Loss of animal husbandry productivity, including loss of folder considered is NIL.
3	Cost of human resettlement	NO human resettlement So Loss considered is NIL.
4	Loss of public facilities and administrative infrastructure (Roads, Building, Schools, Dispensaries, Electric Lines, Railways etc.) on forest land, which would require forest land if these facilities were diverted due to Project.	NO Any Loss of public facilities and administrative infrastructure (Roads, Building, Schools, Dispensaries, Electric Lines, Railways etc.) on forest land, which would require forest land .
5	Possession value of Forest land diverted.	Amount of Rs 1794.72 Lacs considered in Project cost Due To Loss Of Forests Or Circle Rate Of Adjoining Area In The District.
6	Cost of Suffering to oustees.	NO any (R&R plan)
7	Habitat Fragmentation Cost	Not aplicable
8	Compensatory afforestation and soil & moisture conservation cost	Amount of Rs 1794.72 Lacs considered in Project cost.

Date : 5-4-2022

Place : Bhavnagar

Deputy Executive Engineer
Salinity Control Sub Division
Talaja

Executive Engineer
Salinity Control Division
Bhavnagar

C.S

Deputy Conservator of Forests
Bhavnagar Forest Division
Bhavnagar.

ANNEXURE-5

COST BENEFIT ANALYAIS (Table-B)

Category of proposal for which cost benefit analysis is applicable

District	Taluka.	River	Damline Chain age Mt.		Catchement Area (Km.2)
			From	To	
Bhavnagar	Talaja	Bagad	0	2500	
Total					

(1)	Increase in Productivity attributable to specific project	Approximate 250000 Persons
(2)	Benefit to the Economy	A Road included in this project are existing roads. These are essential important roads in Bhavnagar District for intercity and religious place connectivity. Widening and strengthening of this road will give rise to over all development of the area. The project would be result in substantial, financial and social benefit. Increased saving shall accrue in vehicle operating and travel costs. Improved roads and good rising surface shall increase the easy flow of traffic and goods. The project will reduce existing traffic congestion. People will be provided facilities like access roads, parking bays, service road, within urban and rural settlement stretches. People will get facilities like medical, educational and agricultural easily. It will also reduce urbanization.
(3)	No. of population benefited	The District of Bhavnagar and Amreli (Approximate 4 Crore) would be benefited directly from the project.
(4)	Employment potential	250000 man days employment.
(5)	Cost of acquisition of facility on non-forest land whenever feasible.	As per actual cost of work.
(6)	Loss of • Agriculture & • Animal Husbandry production due to Diversion of Forest Land.	Nil (Land is not agricultural land. It is road side strips and declared as a protected forest.)
	Cost of rehabilitation the displaced persons as different from compensatory amounts given for displacement.	Nil
(7)	Cost of supply of free fuel, wood to workers residing in or near forest area during the period of construction.	Nil (The contractor is required to arrange for the same by procurement from the market. This has been specified in the contract documents. The contractor will be encouraged to minimize use of fire wood or timber as fuel)

Date : 05/06/2021

Place : Bhavnagar

Deputy Executive Engineer
Salinity Control Sub Division
Talaja

C.S

Executive Engineer
Salinity Control Division
Bhavnagar

Deputy Conservator of Forests
Bhavnagar Forest Division
Bhavnagar.

DH Copy.

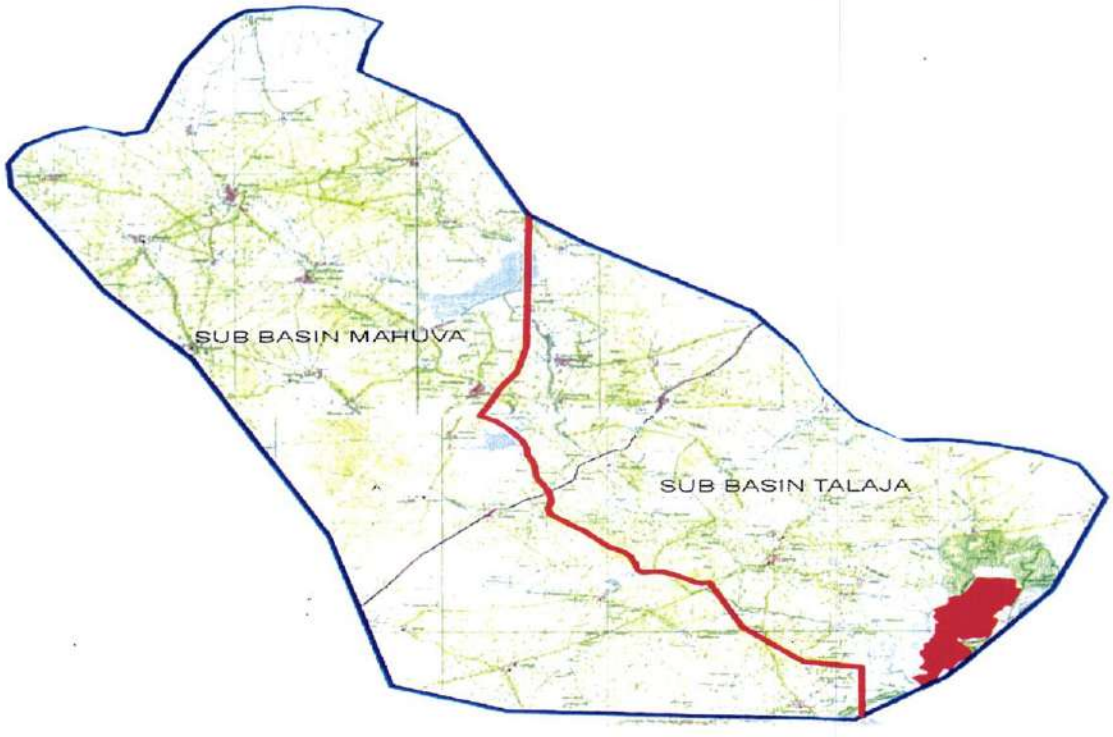
ANNEXURE :- D

WRD

GOVERNMENT OF GUJARAT
NARMADA, WATER RESOURCES, WATER SUPPLY AND KALPSAR DEPARTMENT
GANDHINAGAR (GUJARAT)

CAT Plan Report

FOREST CLEARANCE OF METHALA BANDHARA PROJECT



Rs: 1,93,02,000/-

Bhavnagar Irrigation Project Circle, Bhavnagar (Gujarat)

Salinity Control Division, Bhavnagar (Gujarat)

1 CATCHMENT AREA TREATMENT PLAN

1.1 Introduction

The study of erosion and sediment yield from catchment is of utmost importance as the deposition of sediment in reservoir reduces its capacity, thus affecting the water available for the designated use. The eroded sediment from catchment when deposited on streambeds and banks causes braiding of river reach. The removal of top fertile soil from catchment also adversely affects the agricultural production. Another important factor that adds to the sediment load and which contributes to soil degradation is grazing pressure. Many cattle, sheep, and goats graze the pastures continuously for about six months in a mountainous region.

The lack of proper vegetabel cover is a factor to cause degradation and thereby results in severe run off/soil erosion, and subsequently premature siltation of the reservoir. Thus, a well-designed Catchment Area Treatment (CAT) Plan is essential to ameliorate the above-mentioned adverse cause and process of soil erosion. The catchment area treatment involves the understanding of the erosion characteristics of the terrain and suggesting remedial measures to reduce the erosion rate. For this reason, the catchment of the directly draining rivers, streams, tributaries, etc. are treated and the cost is included in the project cost.

The pre-requisite for a watershed management is the collection of multipronged data e.g., geology, geomorphology, topography, soil, land use/land cover, climate, hydrology, drainage pattern, etc. The multi-pronged data generated from various published sources and actual data collected from these watersheds on the above-mentioned parameters forms the basis of the Action Plan for Catchment Area Treatment is presented here.

Catchment Area Treatment (CAT) plans for the free draining catchment area of the proposed project has been prepared for areas with high soil erosion intensity. The CAT Plan targets towards overall improvement in the environmental conditions of the region. All the activities are aimed at treating the degraded and potential areas with severe soil erosion. The plan provides benefits due to biological and engineering measures and its utility in maintaining the ecosystem health. The plan with objectives addresses issues such as prevention of gully erosion, enhancing the forest cover for increasing soil holding capacity; and arresting total sediment flow in the reservoir and flowing waters.

1.2 Objectives

Integrated watershed management plan minimizes the sedimentation of reservoir. The main aim of the Catchment Area Treatment Plan is to rejuvenate various potential and degraded ecosystems in the catchment area for longevity of the reservoir storage capacity. For this purpose, the action plan has been prepared with the following objectives:

1. To facilitate the hydrological functioning of the catchment and to augment the quality of water of the river and its tributaries.
2. Conservation of soil cover and to arrest the soil erosion, floods and siltation of the river alongwith its tributaries and consequent reduction of siltation in the reservoir of the project.
3. Demarcation of the priority of watersheds for treatment based on soil erosion intensity in the Catchment area.

4 Rehabilitation of degraded forest areas through afforestation and facilitating natural regenerationof plants.
5 Mitigation of landslide, landslip and rock falls.
6 Soil conservation through biological and engineering measures to reduce sediment load in riverand tributaries, incidentally improving the quality of water.
7 Ecosystem conservation resulting from increased vegetal cover and water retaining properties ofsoil.
8 To meet the fuel and fodder requirements of local people.
9 Promotion of non-conventional energy device to reduce pressure on forest.
10 Employment generation through community participation and conservation.

1.3 Catchment Area

Bagad river rises from hilly terrain near village morchupaNa of Bhavnagar district. It drains Total area of Bhavnagar blocks.The river is not seasonal and rain fed, receiving maximum discharge during monsoon in direct response to precipitation. The river drains a gross catchment of 433.87 sq km at the project site which includes the catchment drained by its tributaries

1.3.1 Free Draining Catchment

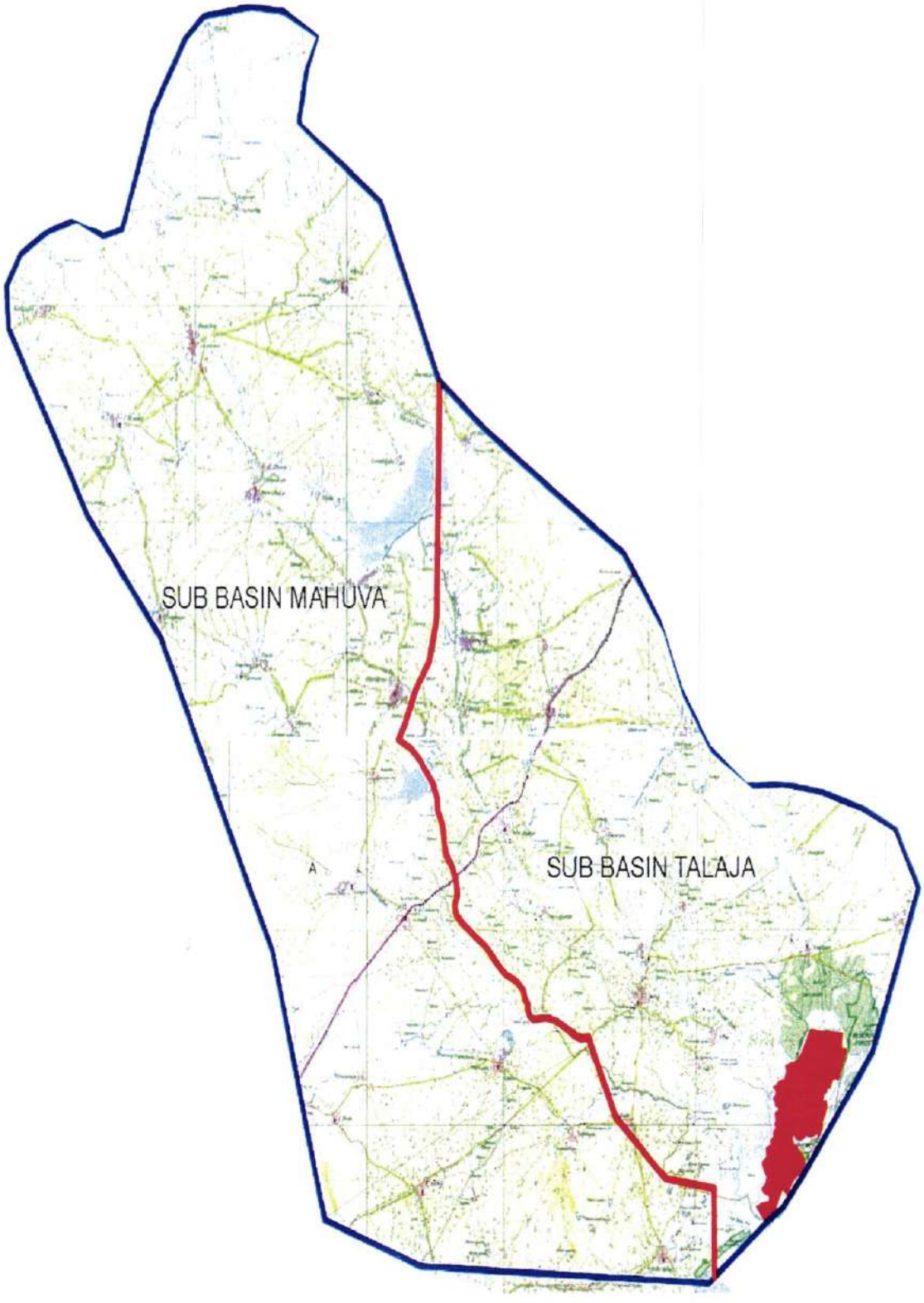
The total catchment area of Bagad river up to the proposed site is 433.87 sq km of which the intercepted catchment by 1 number completed minor irrigation scheme is 145 sq km.Since the catchment is not intercepted by any other major or medium water resource project on upstream, the Catchment Area Treatment Plan shall be formulated for entire catchment (433.87 sq km).

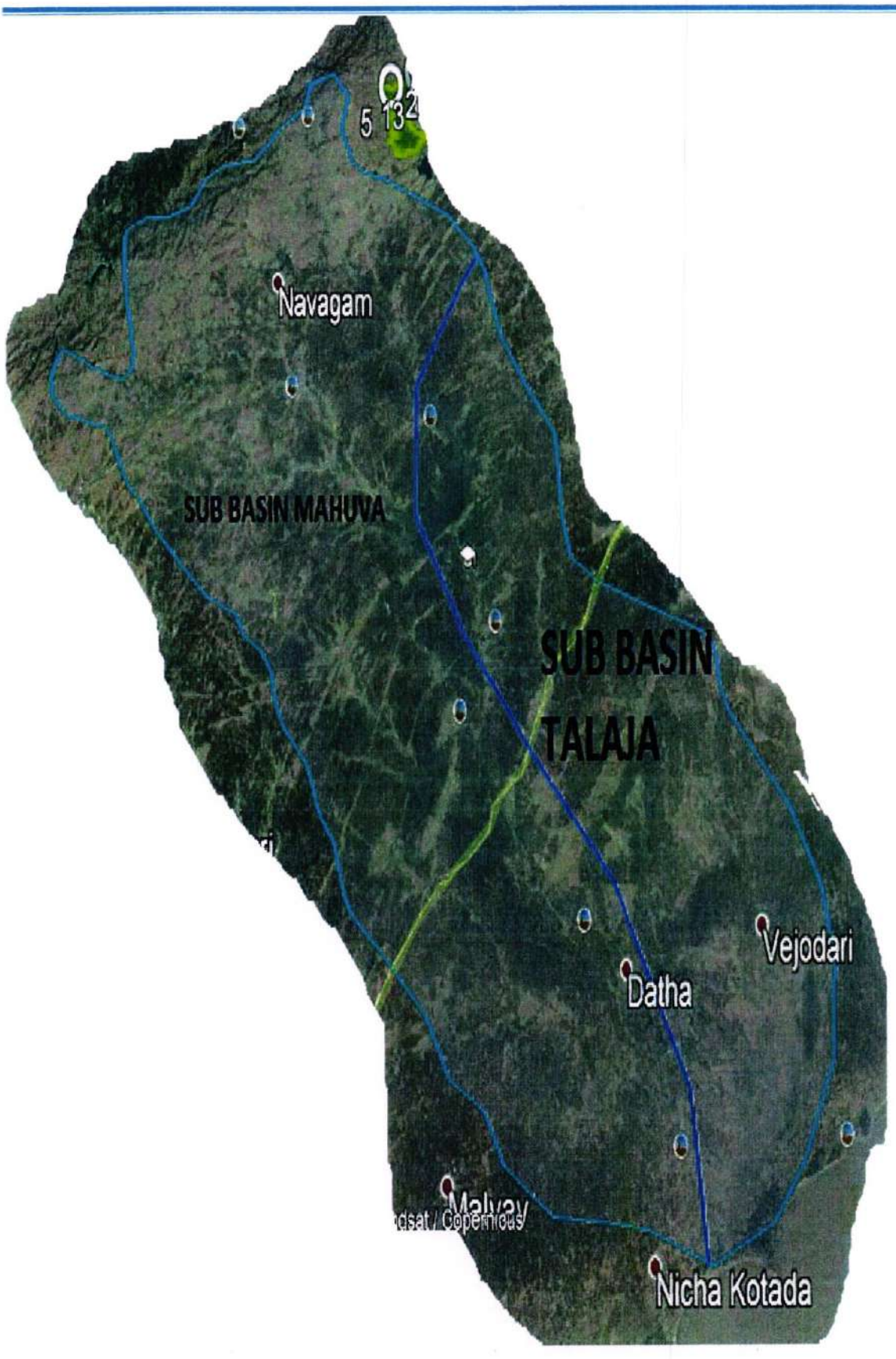
As per data collection the free draining catchment under the study area lies in Water Resource Region-3 (River flowing into Arabian Sea); The draining catchment has been further sub-divided into 2 sub-watersheds. The basin characteristics of different sub-watersheds are illustrated in **Table 1.1**, the satellite imagery of the free draining catchment is presented in **Figure 1.1**, and the mosaic map of sub-watershed location is shown in **Figure 1.2.**

Table 1.1: Basin Characteristics of Different Sub-watersheds

Sl. No.	Sub-watersheds	Total catchment area of MWS (Sqkm.)
1	Talaja	154.09
2	Mahuva	279.78
Total		**433.87**

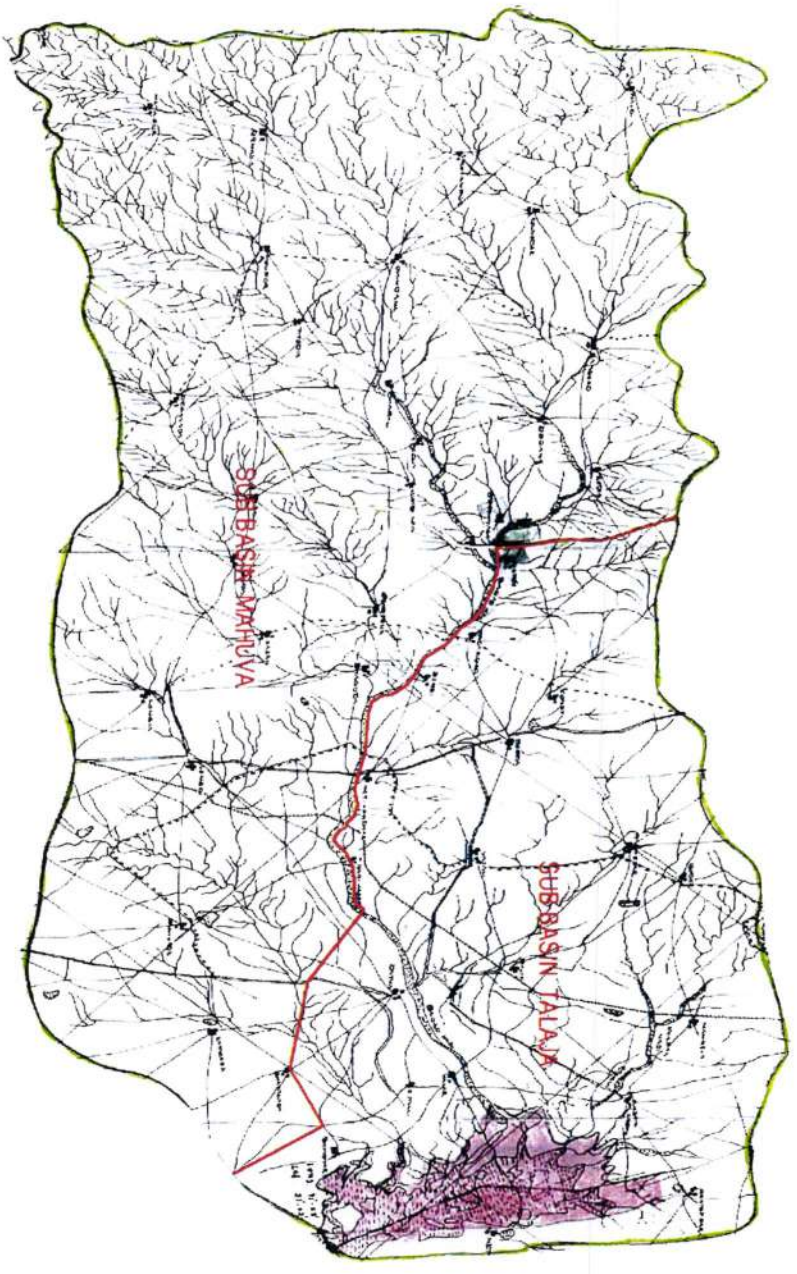
Figure 1.1




Navagam
SUB BASIN MAHUVA
SUB BASIN
TALAJA
Vejodari
Datha
Malvay
Nicha Kotada

1.4 Topography

The catchment is largely Plane terrain and has undulated topography and tracts of agriculture land and dry deciduous forest. The highest altitude in the basin is near VAVADI.The project area lies on the Mouth of arebian sea and is bounded by plain area. At the project site, the river flows in u-shaped valley. The elevation of the catchment area varies from El. 0 near riverbed at project site to El. 185 masl near Matalapar. On the both banks of Bagad river fertile agriculture terraces exists in theriver valley. The drainage map of the catchment is shown in **Figure 1.3.**



1.5 Landuse

1.5.1 Land use-Land Cover Classification

Based on satellite data and topo-sheets, a land-use map has been prepared and verified in ground surveys i.e. crosschecked with ground truths. The Land use/ Land-cover map of the catchment area is presented in **Figure 1.4** and its details are presented in **Table 1.2.**

1.5.2 Land use Categories and Erosion

The erosion acts differently in different land-use types. It is important to understand the nature of erosion in a land-use class to further plan for treatment.

1.5.2.1 Agricultural Land

Around 210.41 sq km area of the catchment constituting 48.50% of the total catchment comes under this category. Plain to Well-planned and developed terraces were seen at some places. In general, at places the sheet and rill type of soil erosion predominates with few gullies in early stage of its development. Very few or no measures are taken to conserve soil and tendency exists to interrupt the natural drainage due to faulty agricultural practices. Runoff often exceeds the safe velocity on long slope lengths. It is suggested to repair and better design the agricultural terraces, which follows the faulty agricultural practices.

Temporary and semi-permanent soil conservation structures like brushing dams, wiring woven and gabion check dams etc. shall be made for effective adaptive management.

1.5.2.2 Settlement

Under settlement category about 0 sq km area of catchment constituting 0.00% of the total catchment is present.

1.5.2.3 Open Forest Land

Under open forest category, about 16.26 sq km, constituting 3.75% of the total catchment, is present. Forest crown density ranges from 0-40% or on average 20% crown density can be assumed present in the area. Soils have relatively good water holding capacity, humus, nutrient content and moderate to slight erosion rates on steeper slopes. Therefore, rill erosion predominates which in due course leads to scrub land formation with gullies. Afforestation is suggested so as increase the crown density by 20% in whole of the area to reduce erosion.

1.5.2.4 Dense Forest

Dense forest covers about 0 sq. km area constituting 0.0% of the catchment with the forest crown density above 0%. Soils are very good in water holding capacity, humus and nutrients withno erosion but due to steeper slopes, some area requires soil conservation measures.

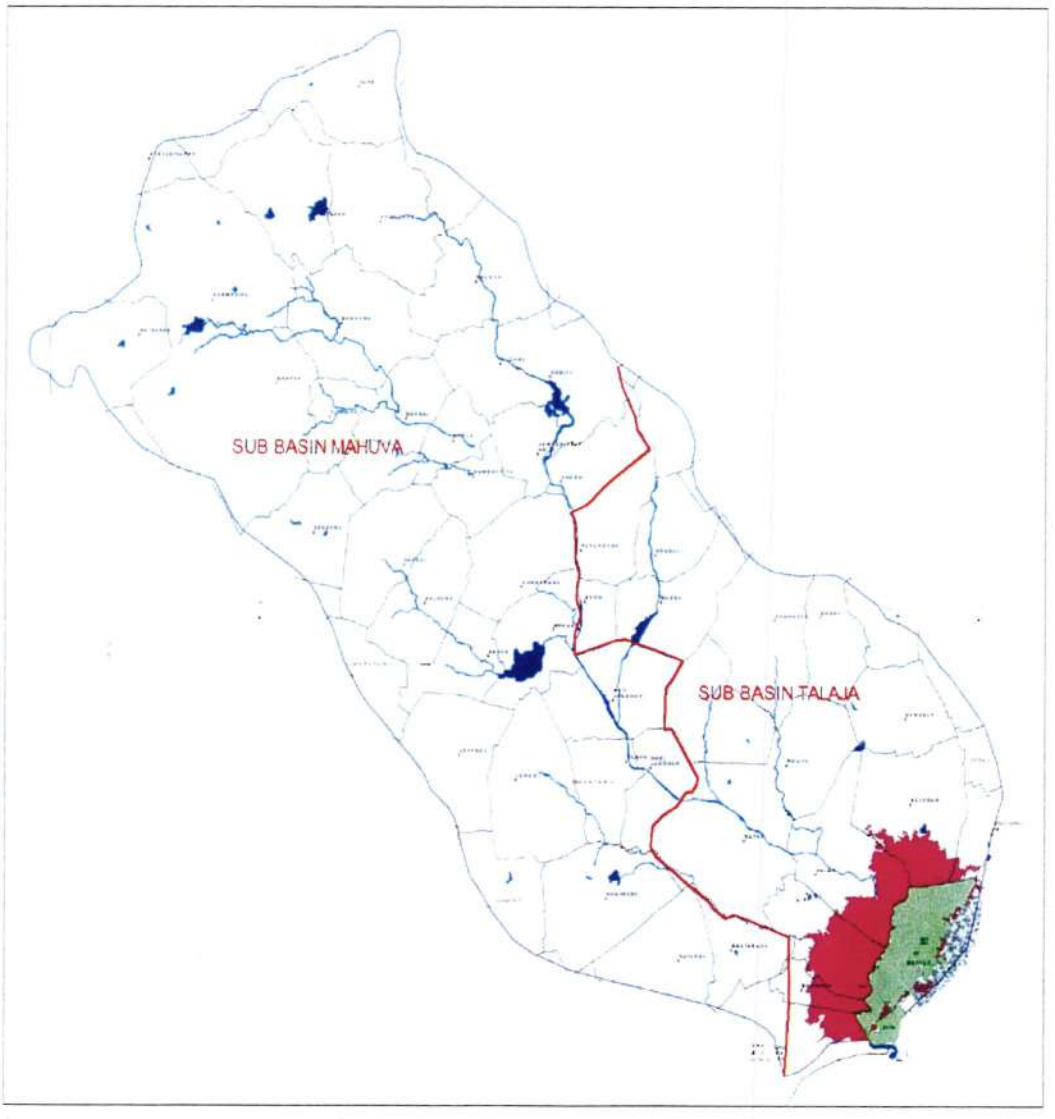
1.5.2.5 River / Water body

Around 23.75 sq km area constituting 5.47% of the catchment area is classified under water bodies. The category needs no treatment except that the unstable bank shall be provided stream bank stabilization through protection measures whenever required.

Table 1.2: Land use Details of Sub-watersheds in the Catchment

S. No.	Land use category	Area (sq km)	Land Use Area(Sq. km.)	Area (%)
1	Agriculture Land	210.41	21	10
2	Dense Forest	0	0	0
3	Open Forest	16.26	16.26	100
4	Open Scurb/BarrenLand	183.45	183.45	100
5	Waterbody	23.75	-	-
6	Settlement	0	-	-
Total		**433.87**	**220.71**	-

Figure 1.4



1.6 Slope

The slope of a watershed plays an important role in controlling the soil and water retention thereby affecting the land-use capability. The percentage of the slope in a watershed determines the soil erosion susceptibility and forms the basis for classifying different of the watershed into suitable classes for formulating effective soil erosion conservation measures. Broadly, the following slope classes and ranges (**Table 1.3**) as per norms of All India Soil & Land Use Survey were adopted to classify the slopes for the present study.

Table 1.3: Slope Ranges showing the intensity of catchment area

Sr. No	Slope Range (Degrees)	Description
1	0-2	Very Gentle Slope
2	2-5	Gentle Slope
3	5-10	Moderate Slope
4	10-35	Moderately Steep Slope

The Slope map of the free draining catchment is presented in **Figure 1.6** and slope details are as presented under **Table 1.4**. The data shows that about 48.15% area lies between very gentle to gentle slope category of slope and balance 51.85% falls from moderate slope to moderately steep slope category.

Table 1.4: Slope Classes

Sr. No	Description	Slope Range (Degrees)	Area under different class(Sq km)	Area (%)
1	Very Gentle Slope	0-2	145	33.43
2	Gentle Slope	2-5	63.87	14.72
3	Moderate Slope	5-10	75	17.28
4	Moderately Steep Slope	10-35	150	34.57
Total			**433.87**	**100**

1.7 Methodology Used for the Study

Superimposing topography, slope, soil and land use data/maps, a tentative estimation of erosion prone areas and landslides area in the catchment were made. The vulnerable and problematic areas were identified in different physiographic zones.

These data sets were used for preparation of the thematic maps, calculation of sediment yield index and Erosion Intensity Units.

1.7.1 Soil Loss Using Silt Yield Index (SYI) Method

- The Silt Yield Index Model (SYI), considering sedimentation as product of erosivity, erodibility and aerial extent was conceptualized in the All India Soil and Land Use Survey (AISLUS) as early as 1969 and has been in operational use since then to meet the requirements of prioritization of smaller hydrologic units within river valley project catchment areas.
- Methodology for the calculation of sediment yield index developed by All India Soil & Land Use Survey (Development of Agriculture, Govt. of India) was followed in this study.

(i) Erosion Intensity and Delivery Ratio

- Determination of erosion intensity unit is primarily based upon the integrated information on soil characters, physiography, slope, land-use/land-cover, litho logy and structure. This is achieved through super-imposition of different thematic map overlays. Based upon the field data collected the field survey and published data, weightage value and delivery ration were assigned to each erosion intensity unit. The composite map for delineating different erosion intensity units was prepared through superimposition of the maps showing soil types, slope and land-use/land-cover. This thematic mapping of erosion intensity for entire catchment was done using the overlay and union techniques. Based on ground truth verification conducted. fieldwork and published data, weightage and delivery ratio was assigned to each erosion intensity units. The composite erosion intensity map was then superimposed on the drainage map with sub-watershed boundaries to evolve CEIU for individual sub-watershed.

- Each element of erosion intensity unit is assigned a weightage value. The cumulative weightage values of the erosion intensity units represent approximately the relative comparative erosion intensity within the watersheds. A basic factor of K=10 was used in determining the cumulative weightage values. The value of 10 indicated an equilibrium condition between erosion and deposition. Any value of K (10+X) is suggestive of erosion intensity in an ascending orderwhereas the value of K (10-X) is suggestive of deposition intensity in descending order.

- The delivery ratios were calculated for each composite erosion intensity unit. The delivery ration suggests the percentage of eroded material that finally finds entry into the reservoir or river/stream. Total area of different erosion intensity classes (composite erosion intensity unit) in each watershed was then calculated.

- The delivery ratio is generally governed by the type of material, soil erosion, relief length ratio, cover conditions, distance from the nearest stream, etc. However, in the present study the

  Delivery rations to the erosion intensity units were assigned upon their distance from thenearest stream (being the most important factor responsible for delivery of the sediments) per the following scheme. The delivery ratio criteria adopted for the study is presented in **Table 1.5.**

Table 1.5: Delivery Ratio (DR) Criteria

Nearest Stream	Delivery Ratio (DR)
0-0.9 km	1.00
1.0-2.0 km	0.90
2.1-5.0 km	0.80
5.1-15.0 km	0.70
15.1-35.0 km	0.50

(ii) Sediment Yield Index & Prioritization of Sub-Watersheds

- The erosivity determinates are the climatic factors and soil and land attributes that have direct or reciprocal bearing on the units of the detached soil material. The relationship can be expressed as:

Soil erosivity = f (Climate, physiography, slope, soil parameters land use/land cover, soil management)

- The Silt Yield Index (SYI) is defined as the Yield per unit area and SYI value for hydrologic unit is obtained by taking the weightage arithmetic mean of the products of the weightage value and delivery ratio over the entire area of the hydrologic unit by using suitable empirical equation.

- Prioritization of smaller hydrological units within the vast catchments is based on the SYI of the smaller units. The boundary values of range of SYI values for different priority categories are arrived at by studying the frequency distribution of SYI values and locating the suitable breaking point. The watersheds/sub-watersheds is subsequently rated into various categories corresponding to their respective SYI values.

- The application of SYI model for prioritization of sub-watersheds in the catchment areasinvolves the evaluation of:
    - Climatic factors comprising total precipitation, its frequency and intensity
    - Geomorphic factors comprising land forms, physiography, slope and drainage characteristics
    - Surface cover factors governing the flow hydraulics
    - Management factors.
- The data on climatic factors can be obtained for different locations in the catchment area from the meteorological stations whereas the field investigations are required for estimating the other attributes.
- The various steps involved in the application of model are:
- Preparation of a framework of sub-watershed through systematic delineation
- Rapid reconnaissance surveys on 1:50,000 scale leading to the generation of a map indicating erosion-intensity mapping units.
- Assignment of weightage values to various mapping units based on relative silt-yield potential.
- Computing Silt Yield Index for individual watersheds/sub watersheds.
- Grading of watersheds/sub-watersheds into very high, high medium, low and very low priority categories.
- The area of each of the mapping units is computed and silt yield indices of individual sub-watersheds are calculated using the following equations:

Silt Yield Index

SYI = (Ai x Wi x Di) x 100/Aw; where I = 1 to n

Where

Ai	=	Area of ith (EIMU)
Wi	=	Weightage value of ith mapping unit
Di	=	Delivery ratio

n = No. of mapping units

Aw = Total area of sub-watershed

The SYI values for classification of various categories of erosion intensity rates were takenfor the present study as:

	Priority Category	SYI Values
1.	Very High	>1300
2.	High	1200-1299
3.	Medium	1100-1199
4.	Low	1000-1099
5.	Very low	<1000

Accordingly, the sediment Yield Index has been calculated for sub-watersheds. The computationof SYI for each SWS is presented in **Table 1.6.**

Table 1.6: SYI and Priority Rating as per Erosion Intensity

Sub-watershed code	Erosion intensity	Area*(ha)	Weightage	Area x weight-age	Deliveryratio	Gross silt yield	Sediment yield index	Priority
Talaja	Very Severe	0	18	0	0.8	0	120.46	Very low
	Severe	114	16	1824	0.8	1459.2		
	Moderate	9880	14	138320	0.9	124488		
	Slight	2104	12	25248	0.8	20198.4		
	Negligible	3310	10	33100	0.8	26480		
Total		**15408**	**14**	**39698.4**	**0.82**	**172625.6**		
Mahuva	Very Severe	11	18	198	0.8	158.4	117.34	Very low
	Severe	145	16	2320	0.8	1856		
	Moderate	9403	14	131642	0.8	105313.6		
	Slight	10665	11	117315	0.8	93852		
	Negligible	7754	10	77540	0.8	62032		
Total		**27978**	**13.8**	**65803**	**0.8**	**263212**		

1.8 Catchment Area Treatment Plan

There are mainly two categories of Land uses for which a proper treatment plan should be developed. First is the Agricultural Land, as this activity can never be eliminated, because the faulty practice results in heavy loss of fertile soil. Second, being open forestland for obvious conservation reasons. Third is scrub or degraded land, which contributes heavily to the silt load and possibilities exist to bring this area under pastures and other plantation to meet the local demand of fuel and fodder and thus decreasing the biotic pressure on the forests and leading to environment friendly approach of sustainable development. The fourth and most important category is Barren land because with practically no vegetal cover, the area produces huge amount of silt load. The fifth is dense forest land where in a few places soil conservation measures are required. For treatment of catchment area, the areas that require treatment have been delineated from the Composite Erosion Intensity Unit Map. The sum of weightageswas reclassified as per the **Table 1.7** below to further subdivide the area as per the erosion intensity classes. The weightages for Land use, Slope & Soil were summed to get the Erosion Intensity Classes.

Table 1.7: Erosion Intensity & Weightages

Erosion Intensity Class	Sum of weightages
Very low (mahuva)	13.8
Very low (talaja)	14

After exclusion of rocks and inaccessible terrain, only those areas which fall under very severe and severe erosion intensity category would be taken up for conservation treatment measures in very high priority category micro-watersheds, whereas in the rest of micro-watersheds belonging to other priority categories, the area falling under very severe erosion intensity class shall be taken for treatment with biological and engineering measures under the CAT Plan.

Considering the topographic factors, soil type, climate, land-use/land-cover in the catchment area following engineering and biological measures have been proposed to be undertaken with the aim to check the soil erosion, prevent/check siltation of reservoir and to maintain its storage capacity in the long run.

The Erosion Intensity Map of the free draining catchment has been generated based on SYI data and is presented in **Figure 1.7** and the statistics are presented in **Table 1.8**.

Table 1.8: Erosion Intensity Categories in Sub-Watersheds (sq km)

Sr. No	Sub-water-shed	Very Severe	Severe	Moderate	Slight	Negligible	Waterbodies	Total
1	Talaja(1)	0.90	0.24	98.80	21.04	15.46	17.64	154.07
2	Mahuva(2)	2.17	1.45	91.97	106.65	71.43	6.11	279.78
	Total	~~0.113.0~~	**1.69**	**190.77**	**127.69**	**86.89**	**23.75**	**433.87**

1.9 Treatment of Individual Sub-Watershed

There are mainly two categories of land uses for which a proper treatment plan should be developed. First is the agricultural land as this activity can never be eliminated. And, agriculture activities, if faulty, result in heavy loss of fertile soil. Second, is open forest land for conservation reasons Third is scrub or degraded land, which contributes heavily to silt load. Possibilities exist to bring this area under pastures

and plantation to meet local demand of fuel and fodder and thus decreasing the biotic pressure on the forests leading to environment friendly approach of sustainable development. The fourth and most important category is barren land because with practically no vegetal cover the area produces huge amount of silt load. The fifth is dense forest land where a few places soil conservation measures are required.

Areas falling under very severe and severe erosion intensity category would be taken up for conservation treatment measures after excluding the percentage of area above 25°slope from the area coming under very severe and severe erosion intensity class falling under rocks and inaccessible terrain where no treatment is feasible, the rest of area of very severe and severe categories is to be treated with biological, bio-engineering and engineering measures under CAT Plan. In the present case, an area of 22071 ha has been proposed to be treated under the CAT plan. This area includes 19971 ha area of catchment which shall be treated by biological / engineering measures and 2100 ha area under private land treatment within the free draining catchment.

Considering the topographic factors, soil type, climate, land-use/land-cover in the catchment area following measures have been proposed to be undertaken with aim to check soil erosion, prevent/checksiltation of reservoir and to maintain its storage capacity in the long run.

1.9.1 Activities to be Undertaken

1.9.1.1 Normal Afforestation

In critically degraded areas, plantation of locally useful diverse and indigenous plant species such as timber plantation species, fodder species, fuel wood species, grasses, shrubs and legumes, medicinal and aromatic plants would be undertaken. The forestation will include rising of multi-tier mixed vegetation of suitable local species in the steep and sensitive catchment areas of rivers/streams with the objective of keeping such areas under permanent vegetative cover. Furthermore, degraded areas would also be brought under vegetation cover. Suitable trees of economic value to local people shall be raised in the degraded forest areas near to villages with the objective of supplementing income of the villagers.

With a view to conserve and augment the state's rich medicinal plant resources in its natural habitat through adaptive and participatory management of the local people, cultivation of high priority medicinal plant species shall be undertaken. Thrust shall be given to organic cultivation of medicinal plants.

Effective fencing would also be provided for protection of saplings. Before any new area is taken up, eradication of weeds and unpalatable grass species is important. It is, therefore, recommended that some parts of the pasture should be closed for seeding purpose only.

1.9.1.2 Enrichment Plantation

There are a few locations within forest in the catchment area where the crown density is poor and plantation can be done to increase the patch density of crop. In such areas, plantation of 500 seedlings per hectare is likely to create dense forest.

1.9.1.3 High Density Energy Plantation

In order to reduce the biotic pressure on the forest areas near the villages, high-density energy plantation in forest areas and barren areas under the village can help in long way to solve the ever-increasing problem of scarcity of fodder and fuel wood in hilly areas. To overcome the problem of scarceavailability of fodder and fuel it is proposed to bring substantial area by planting 1600 trees/ha with suitable fast growing species.

1.9.1.4 Treatment of Pasture

The restoration and management of degraded pasture is a vital objective, both to provide sufficient habitat for spatial movement of the spill over species outside and within catchment area and to provide biological resources to the local populace. The pastures have their own unique significance in the geophysical, environmental and socio-economic set-up of the region. They are the prime and continual source of herbage for the wild herbivores which are prey base for carnivores, cattle, sheep and goats. These pastures are extensively grazed by the live stocks of the local people. The large scale and indiscriminate grazing of these pasture over a prolong time has left these pastures ominously degraded. The palatable grasses are no more than a few inches tall and the other related pasture species have also started showing signs of stress. Because of continuous and heavy pressure of grazing, barren patches have developed over vast areas and soil erosion is rampant in these pastures. There is an imperative need to address this abysmal and alarming situation immediately before these pastures are brought to such a condition, where, their rejuvenation becomes impossible. Owning to traditional rights of the grazers, it is difficult to restrict the number of animals grazing there. Thus, the only alternative left is to increase the productivity of these pastures to cope with the grazing pressures. The situation warrantsfor a realistic survey and allied research in context of entire grazing issues and formulation of an action plan for corrective measures within the gambit of the state policy on the subject matter. Till such time the following recommendations are made for the management of pastures.

- Assessment of the carrying capacity of the pastures through surveys so as to ascertain allowablesize of live stocks.
- Periodical field checking of the size of the herds mentioned in the permits so as to avoid misuse by some permit holders.
- Public awareness.
- Periodical closure of areas in pastures for the proliferation of seeds of desirable grass species.
- Implementation of rotational deferred grazing system to derive the advantage of early nutritivegrowth and rest period dBagadng the growing season.
- Interaction with the local people and so that a sort of social fencing could be achieved.

1.9.1.5 Nursery Support

In order the meet the huge requirement of saplings required under biological / bio-engineering measures and reservoir rim treatment new nursery has to be developed along with support to the existing nurseries which shall also augment the supply of saplings for the works proposed.

1.10 Cost Analysis of Different Works Under Biological Measures

1.10.1 Afforestation

Out of the total stock to be planted under afforestation, 20% species shall be tree species having medicinal values and 10% of fruit bearing wild species useful to wildlife shall also be planted. The cost analysis per hectare of afforestation with 400 plants/ha, with five strands barbed wire fencing stretched across RCC fence posts inclusive of maintenance for five years has been worked out as Rs. 0.64 lakh/ ha as shown in **Table-1.9**. The rate analysis is as per labour wage of Rs 289/day with 10% annual enhancement as per sanctioned schedule of CF for forestry works and for other works as per PWD schedule of rate. The cost of materials has been adopted as per prevalent market rates.

Plantation under normal afforestation component shall be carried through identified user groups in catchment area. Plantations will be maintained for five years.

The cost of works under normal afforestation component encompassing the free draining catchment area of the project has been assessed as **Rs. 25.90 lakh** and is shown in **Table-1.9.**

Table 1.9: Per Ha. Cost Norms for Model Plantation Works

Sl. No.	Particular of Work	Quantity	Rate/Mandays per unit	Total Mandays	Total Amount
First year preparation year					
A. Labour Oriented Works					
1	Survey and demarcation of plantation area	1 ha	0.45 mandays /ha	0.45	130.05
2	Weeding of obnoxious weeds except lantana	1 ha	4 mandays/ha	4	1156
3	Dag Belling with line for siting pits	400	2.5 mandays/1000 no.	1	289
4	Digging pits 45x45x45 cm	400	5 mandays/100 no.	20	5780
5	Filling pits with FYM mix with soil and Pesticides	400	1.5 mandays/100 no.	6	1734
	Total Labour cost (A)				**8959**
B. Material Component					
1	Cost of FYM including carriage @ 10% of volume of pit i.e. 400(0.45x0.45x0.45)x0.1	3.64 m3	1200 / m3	0	4368
2	Providing fertile soil including carriage @ 10% of volume of pit i.e. 400(0.45x0.45x0.45)x0.1	3.64 m3	500 Rs/m3	0	1820
3	Applying cost of Neem Cake @ 30g/pit	12 Kg	55 Rs/ Kg	0	660
4	Cost of plant	400 No.	11 Rs/Plant	0	4400
5	Cost of Service Pipe	30 RM	55 Rs/m	0	1650
	Total Material cost (B)				**12898**

Sl. No.	Particular of Work	Quantity	Rate/Mandays per unit	Total Mandays	Total Amount
	C. Chain Link Fencing Work				
1(a)	Cost of 2m high RCC pole @ 2.5m c/c (70x1.1)/2.5=62	31	296.3/no.	0	9185.3
1(b)	VAT@13%	Rs 9185.3	0.13	0	1194.08
2(a)	Cost of barbed wire in five strands (70x5)/7= 50	50 Kg	90 Rs /kg	0	4500
2(b)	VAT@5%	4500	0.5	0	225
3(a)	Cost of U-nails	5 Kg	90 Rs /kg	0	450
3(b)	VAT@13%	450	0.13	0	58.5
4(a)	Cost of GI wire	2 Kg	100 Rs /kg	0	200
4(b)	VAT@13%	200	0.13	0	26
5	Cost of labour for stretching & fixing barbed wire and other miscellaneous work	31	0.16 Mandays / RM	4.96	1433.44
6	Excavation of pit for poles	31	2.5 mandays/100 No.	0.775	224
7	Cost of fixing poles in pit with PCC 1:3:6 mix	1.16 m3	3643/m3	0	4225.9
8	Erection of poles	31	Rs 80/ Pole	0	2480
	Total Fencing cost (C)				**24202.22**
	Total Cost First year				**46059.22**
	Second Year - Plantation Work				
	A. Labour Oriented Works				
1	Carriage of plant raised in nursery over a distance of 45 Km	680 No.	170/100 No.	0	1156
2	Carriage of plants from road side to plantation site by manual labour up to 2 Km	400	0.4 Mandays/100 No	1.6	508.8
3	Planting saplings in pits	400	1.8 Mandays/100 No	7.2	2289.6
4	Carrying out first weeding, nirai operations and application of fertilizer and pesticides including replacing of dead plants of previous year	400	1.25 mandays/100 No.	5	1590
5	Carrying out second weeding, nirai operations and application of fertilizer and pesticides including replacing of dead plants of previous year	400	1 mandays/100 No.	4	1272
6	Spraying pesticides and insecticides	400	0.6 mandays/100 No.	2.4	763.2
7	Applying Irrigation	1 job	L.S.	0	1000
8	Clearing of Fire lines	180 RM	2.25 mandays/Km	0.41	128.8
	Total Labour oriented Works cost (A)				**8708.4**

Sl. No.	Particular of Work	Quantity	Rate/Mandays per unit	Total Mandays	Total Amount
	B. Material Component				
1	Cost of fertilizer (DAP/Urea) and Pesticides @ 40g and 10g / plant respectively	19 Kg	24 Rs/kg	0	456
2	Cost of Diesel for Irrigation	1 Job	L.S.	0	1000
3	Contingency	1 Job	L.S.	0	200
	Total Material Component Cost (B)				**1656**
	Total Second Year				**10364.4**
	Third Year - Maintenance				
	A. Labour Oriented Works				
1	Repair of fencing	1 ha.	2 mandays/ha.	2	700
2	Cost of replacing of dead plants(10% mortality)	37	Rs 15 /No.	0	555
3	Carriage of plant raised in nursery over a distance of 45 Km	37 No.	170/100 No.	0	187
4	Carriage of plants from road side to plantation site by manual labour upto 2 Km	37	0.4 Mandays/100 No	0.148	51.8
5	Carrying out first weeding, nirai operations and application of fertilizer and pesticides including replacing of dead plants of previous year	400	1.25 mandays/100 No.	5	1750
6	Carrying out second weeding, nirai operations and application of fertilizer and pesticides including replacing of dead plants of previous year	400	1 mandays/100 No.	4	1400
7	Spraying pesticides and insecticides	400	0.6 mandays/100 No.	2.4	840
8	Applying Irrigation	1 job	L.S.	0	1000
9	Clearing of Fire lines	180 RM	2.25 mandays/Km	0.41	143.5
	Total Labour oriented Works cost (A)				**6627.3**
	B. Material Component				
1	Cost of fertilizer (DAP/Urea) and Pesticides @ 40g and 10g / plant respectively	19 Kg	24 Rs/kg	0	456
2	Cost of Diesel for Irrigation	1 Job	L.S.	0	1000
3	Contingency	1 Job	L.S.	0	200
	Total Material Component Cost (B)				**1656**
	Total Third Year				**8283.3**

Sl. No.	Particular of Work	Quantity	Rate/Mandays per unit	Total Mandays	Total Amount
Fourth Year - Second year of Maintenance					
A. Labour oriented works					
1	Carrying out first weeding, nirai operations and application of fertilizer and pesticides including replacing of dead plants of previous year	400	1.25 mandays/ 100No.	5	1925
2	Applying Irrigation	1 job	L.S.	0	1000
3	Watch and ward	1 job	L.S.	0	1000
	Total Labour oriented Works cost (A)				**3925**
B. Material Component					
1	Cost of Diesel for Irrigation	1 Job	L.S.	0	1000
2	Contingency	1 Job	L.S.	0	200
	Total Material Component (B)				**1200**
	Total Fourth Year				**5125**
Fifth Year - Third year of Maintenance					
A. Labour oriented works					
1	Fencing repair	1 ha.	2 mandays/ha.	2	848
2	Watch and ward	1 job	L.S.	0	1000
	Total Labour oriented Works cost (A)				**1848**
B. Material Component					
1	Contingency	1 Job	L.S.	0	220
	Total Material Component Cost (B)				**220**
	Total Fifth Year				**2068**
Sixth Year - Fourth year of Maintenance					
A. Labour oriented works					
1	Watch and ward	1 job	L.S.	0	1000
	Total Labour oriented Works cost (A)				**1000**
B. Material Component					
1	Contingency	1 Job	L.S.	0	240
	Total Material Component Cost (B)				**240**
	Total Sixth Year				**1240**
Seventh Year - Fifth year of Maintenance					
A. Labour oriented works					
1	Watch and ward	1 job	L.S.	0	1000
	Total Labour oriented Works cost (A)				**1000**
B. Material Component					
1	Contingency	1 Job	L.S.	0	300
	Total Material Component (B)				**300**
	Total Seventh Year				**1300**
Abstract of Cost of Plantation and Maintenance					
First year-preparation					46059.22
Second Year-Plantation					10364.4
Third year-First year of Maintenance					8283.3
Fourth year-Second year of Maintenance					5125
Fifth year-Third year of Maintenance					2068
Sixth year-Fourth year of Maintenance					1240
Seventh year-Fifth year of Maintenance					1300
Total Cost					**74439.92**
					Say Rs 0.74 Lakh/ha.

Table 1.10: Cost Estimate for Afforestation Measures

SWS No.	Name of SWS	Area under Afforestation (Ha.)	Cost @ Rs. 0.74 lakh/- ha. (Rs. in lakh)
(1)	Talaja	12	8.88
5(2)	Mahuva	23	17.02
Total			**25.90**

1.10.2 Enrichment Plantation

The cost analysis of enrichment plantation per hectare with 100 plants and protection of thorny bushes / twigs for individual plant, with maintenance cost has been assessed as Rs. 0.36 lakh/ha as shown in **Table-1.11.** The cost of works under enrichment plantation for the SWS encompassing the free draining catchment area of the project has been assessed as **Rs. 90.72 lakh** and is shown in **Table-1.12**. The rate analysis is as per labour wage of Rs 289/day with 10% annual enhancement as per sanctioned schedule of CF for forestry works and for other works as per PWD schedule of rate. The cost of material is as per prevalent market rates.

Table 1.11: Cost Analysis per ha. of Enrichment Plantation

Sl. No.	Particular of Work	Quantity	Rate/Mandays per unit	Total Mandays	Total Amount (Rs)
First year preparation year					
A. Labour oriented works					
1	Survey and demarcation of plantation area	1 ha	0.45 mandays /ha	0.45	130.05
2	Weeding of obnoxious weeds except lantena	1 ha	4 mandays/ha	2	578
3	Dag Belling with line for siting pits	100	2.5 mandays/1000 no.	0.25	72.25
4	Digging pits 45x45x45 cm	100	5 mandays/100 no.	5	1445
5	Filling pits with FYM mix with soil and Pesticides	100	1.5 mandays/100 no.	1.5	433.5
	Total Labour cost (A)				**2658.8**
B. Material Component					
1	Cost of FYM including carriage @ 10% of volume of pit i.e. 100(0.45x0.45x0.45)x0.1	0.91 m3	1200 / m3	0	1092
2	Providing fertile soil including carriage @ 10% of volume of pit i.e. 100(0.45x0.45x0.45)x0.1	0.91 m3	500 Rs/m3	0	455
3	Applying cost of Neem Cake @ 30g/pit	3 Kg	55 Rs/ Kg	0	165
4	Cost of plant	110 No.	11 Rs/Plant	0	1210
5	Cost of Service Pipe	20 RM	55 Rs/m	0	1100
	Total Material cost (B)				**4022**

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Sl. No.	Particular of Work	Quantity	Rate/Mandays per unit	Total Mandays	Total Amount (Rs)
	C. Chain Link Fencing Work				
1(a)	Cost of 2m high RCC pole @ 2.5m c/c (35x1.1)/2.5 = 16	16	296.3/no.	0	4740.8
1(b)	VAT@13%	Rs 4740.8	0.13	0	616.30
2(a)	Cost of barbed wire in five strands (35x5)/7 = 25	25 Kg	90 Rs /kg	0	2250
2(b)	VAT@5%	2250	0.5	0	112.5
3(a)	Cost of U-nails	2.5 Kg	90 Rs /kg	0	225
3(b)	VAT@13%	225	0.13	0	29.25
4(a)	Cost of GI wire	2 Kg	100 Rs /kg	0	200
4(b)	VAT@13%	200	0.13	0	26
5	Cost of labour for stretching & fixing barbed wire and other miscellaneous work	20	0.16 Mandays / RM	6.56	947.95
6	Excavation of pit for poles	16	2.5 mandays/100 No.	0.4	115.6
7	Cost of fixing poles in pit with PCC 1:3:6 mix	0.91 m3	3643/m3	0	3315.13
8	Erection of poles	16	Rs 80/ Pole	0	1280
	Total Fencing cost (C)				**13858.53**
	Total Cost First year				**20539.33**
	Second Year - Plantation Work				
	A. Labour oriented works				
1	Carriage of plant raised in nursery over a distance of 45 Km	110 No.	170/100 No.	0	187
2	Carriage of plants from road side to plantation site by manual labour upto 2 Km	100	0.4 Mandays /100No	0.4	127.2
3	Planting saplings in pits	100	1.8 Mandays/100 No	1.8	572.4
4	Carrying out first weeding, nirai operations and application of fertilizer and pesticides including replacing of dead plants of previous year	100	1.25 mandays/100 No.	1.25	397.5
5	Carrying out second weeding, nirai operations and application of fertilizer and pesticides including replacing of dead plants of previous year	100	1 mandays/100 No.	1	318
6	Spraying pesticides and insecticides	100	0.6 mandays/100 No.	0.6	190.8
7	Applying Irrigation	1 job	L.S.	0	1000
8	Clearing of Fire lines	90 RM	2.25 mandays/Km	0.2	64.4
	Total Labour oriented Works cost (A)				**2857.3**

Sl. No.	Particular of Work	Quantity	Rate/Mandays per unit	Total Mandays	Total Amount (Rs)
	B. Material Component				
1	Cost of fertilizer (DAP/Urea) and Pesticides @ 40g and 10g / plant respectively	12.5 Kg	24 Rs/kg	0	300
2	Cost of Diesel for Irrigation	1 Job	L.S.	0	1000
3	Contingency	1 Job	L.S.	0	200
	Total Material Component Cost (B)				**1500**
	Total Second Year				**4357.3**
	Third Year - Maintenance				
	A. Labour oriented works				
1	Repair of fencing	1 ha.	2 mandays/ha.	2	700
2	Cost of replacing of dead plants(10% motatlity)	10	Rs 15 /No.	0	150
3	Carriage of plant raised in nursery over a distance of 45 Km	10 No.	170/100 No.	0	40
4	Carriage of plants from road side to plantation site by manual labour upto 2 Km	50	0.4 Mandays/100 No	0.2	70
5	Carrying out first weeding, nirai operations and application of fertilizer and pesticides including replacing of dead plants of previous year	100	1.25 mandays/100 No.	1.25	437.5
6	Carrying out second weeding, nirai operations and application of fertilizer and pesticides including replacing of dead plants of previous year	100	1 mandays/100 No.	1	350
7	Spraying pesticides and insecticides	100	0.6 mandays/100 No.	0.6	210
8	Applying Irrigation	1 job	L.S.	0	1000
9	Clearing of Fire lines	180 RM	2.25 mandays/Km	0.41	143.5
	Total Labour oriented Works cost (A)				**3101**
	B. Material Component				
1	Cost of fertilizer (DAP/Urea) and Pesticides @ 40g and 10g / plant respectively	12.5 Kg	24 Rs/kg	0	300
2	Cost of Diesel for Irrigation	1 Job	L.S.	0	1000
3	Contingency	1 Job	L.S.	0	200
	Total Material Component Cost (B)				**1500**
	Total Third Year				**2801**
	Fourth Year - Second year of Maintenance				
	A. Labour oriented works				
1	Carrying out first weeding, nirai operations and application of fertilizer and pesticides including replacing of dead plants of previous year	100	1.25 mandays/100 No.	1.25	481.25
2	Applying Irrigation	1 job	L.S.	0	1000
3	Watch and ward	1 job	L.S.	0	1000
	Total Labour oriented Works cost (A)				**2481.25**

Sl. No.	Particular of Work	Quantity	Rate/Mandays per unit	Total Mandays	Total Amount (Rs)
	B. Material Component				
1	Cost of Diesel for Irrigation	1 Job	L.S.	0	1000
2	Contingency	1 Job	L.S.	0	200
	Total Material Component Cost (B)				**1200**
	Total Fourth Year				**3681.25**
	Fifth Year - Third year of Maintenance				
	A. Labour oriented works				
1	Fencing repair	1 ha.	2 mandays/ha.	2	848
2	Watch and ward	1 job	L.S.	0	1000
	Total Labour oriented Works cost (A)				**1848**
	B. Material Component				
1	Contingency	1 Job	L.S.	0	220
	Total Material Component Cost (B)				**220**
	Total Fifth Year				**2068**
	Sixth Year - Fourth year of Maintenance				
	A. Labour oriented works				
1	Watch and ward	1 job	L.S.	0	1000
	Total Labour oriented Works cost (A)				**1000**
	B. Material Component				
1	Contingency	1 Job	L.S.	0	240
	Total Material Component Cost (B)				**240**
	Total Sixth Year				**1240**
	Seventh Year - Fifth year of Maintenance				
	A. Labour oriented works				
1	Watch and ward	1 job	L.S.	0	1000
	Total Labour oriented Works cost (A)				**1000**
	B. Material Component				
1	Contingency	1 Job	L.S.	0	300
	Total Material Component Cost (B)				**300**
	Total Seventh Year				**1300**
	Abstract of Cost of Plantation and Maintenance				
	First year-preparation				20539.33
	Second Year-Plantation				4357.3
	Third year-First year of Maintenance				2801
	Fourth year-Second year of Maintenance				3681.25
	Fifth year-Third year of Maintenance				2068
	Sixth year-Fourth year of Maintenance				1240
	Seventh year-Fifth year of Maintenance				1300
	Total Cost				**35986.88**
					Say Rs 0.36 lakh

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Table 1.12: Cost Estimate for Enrichment Plantation

SWS No.	Name of SWS	Area under Enrichment Plantation (Ha.)	Cost @ Rs. 0.36 lakh /ha. (Rs. in lakh)
(1)	Talaja	80	28.80
(2)	Mahuva	172	61.92
Total		**252**	**90.72**

1.10.3 High Density Energy Plantation

The cost analysis of high density energy plantation per hectare with plantation of 400 plants /ha, with five strand barbed wire fencing stretched across RCC fence posts, has been assessed as Rs. 0.76 lakh/hasshown in **Table-1.13**. The cost of works under high-density energy plantation for each of the SWS forest, encompassing the free draining catchment area of the project, has been assessed as **Rs. 11.40 lakh** andis shown in **Table-1.14**.

Table 1.13: Cost Analysis per ha. of High Density Energy Plantation

Sl. No.	Particular of Work	Quantity	Rate/Mandays per unit	Total Mandays	Total Amount
First year preparation year					
A. Labour oriented works					
1	Survey and demarcation of plantation area	1 ha	0.45 mandays /ha	0.45	130.05
2	Weeding of obnoxious weeds except lantena	1 ha	4 mandays/ha	4	1156
3	Dag Belling with line for siting pits	400	2.5 mandays/1000 no.	1	289
4	Digging pits 45x45x45 cm	400	5 mandays/100 no.	20	5780
5	Filling pits with FYM mix with soil and Pesticides	400	1.5 mandays/100 no.	6	1734
	Total Labour cost (A)				**9089.05**
B. Material Component					
1	Cost of FYM including carriage @ 10% of volume of pit i.e. 400(0.45x0.45x0.45)x0.1	3.64 m3	1200 / m3	0	4368
2	Providing fertile soil including carriage @ 10% of volume of pit i.e. 400(0.45x0.45x0.45)x0.1	3.64 m3	500 Rs/m3	0	1820
3	Applying cost of Neem Cake @ 30g/pit	12 Kg	55 Rs/ Kg	0	660
4	Cost of plant	440 no.	11 Rs/Plant	0	4840
5	Cost of Service Pipe	50 RM	55 Rs/m	0	2750
	Total Material cost (B)				**14438**
C. Chain Link Fencing Work					
1(a)	Cost of 2m high RCC pole @ 2.5m c/c (70x1.1)/2.5 = 31	31	296.3/no.	0	9185.3
1(b)	VAT@13%	Rs 9185.3	0.13	0	1194.08
2(a)	Cost of barbed wire in five strands (70x5)/7= 50	50 Kg	90 Rs /kg	0	4500
2(b)	VAT@5%	4500	0.5	0	225
3(a)	Cost of U-nails	5 Kg	90 Rs /kg	0	450
3(b)	VAT@13%	450	0.13	0	58.5
4(a)	Cost of GI wire	2 Kg	100 Rs /kg	0	200
4(b)	VAT@13%	200	0.13	0	26

Sl. No.	Particular of Work	Quantity	Rate/Mandays per unit	Total Mandays	Total Amount
5	Cost of labour for stretching & fixing barbed wire and other miscellaneous work	41	0.16 Mandays / RM	6.56	1895.9
6	Excavation of pit for poles	31	2.5 mandays/100 No.	0.78	225.42
7	Cost of fixing poles in pit with PCC 1:3:6 mix	1.16 m3	3643/m3	0	4225.88
8	Erection of poles	31	Rs 80/ Pole	0	2480
	Total Fencing cost (C)				**24666.08**
	Total Cost First year				**48193.13**

Sl. No.	Particular of Work	Quantity	Rate/Mandays per unit	Total Mandays	Total Amount
Second Year - Plantation Work					
A. Labour oriented works					
1	Carriage of plant raised in nursery over a distance of 45 Km	440 No.	170/100 No.	0	748
2	Carriage of plants from road side to plantation site by manual labour upto 2 Km	400	0.4 Mandays/100 No	1.6	508.8
3	Planting saplings in pits	400	1.8 Mandays/100 No	7.2	2289.6
4	Carrying out first weeding, nirai operations and application of fertilizer and pesticides including replacing of dead plants of previous year	400	1.25 mandays/100 No.	5	1590
5	Carrying out second weeding, nirai operations and application of fertilizer and pesticides including replacing of dead plants of previous year	400	1 mandays/100 No.	4	1272
6	Spraying pesticides and insecticides	400	0.6 mandays/100 No.	2.4	858.6
7	Applying Irrigation	1 job	L.S.	0	1000
8	Clearing of Fire lines	180 RM	2.25 mandays/Km	0.41	128.8
	Total Labour oriented Works cost (A)				**8395.8**
B. Material Component					
1	Cost of fertilizer (DAP/Urea) and Pesticides @ 40g and 10g / plant respectively	20 Kg	24 Rs/kg	0	480
2	Cost of Diesel for Irrigation	1 Job	L.S.	0	1000
3	Contingency	1 Job	L.S.	0	200
	Total Material Component Cost (B)				**1680**
	Total Second Year				**10075.8**
Third Year - Maintenance					
A. Labour oriented works					
1	Repair of fencing	1 ha.	2 mandays/ha.	2	700
2	Cost of replacing of dead plants(10% motatlity)	40	Rs 15 /No.	0	600
3	Carriage of plant raised in nursery over a distance of 45 Km	40 No.	170/100 No.	0	68
4	Carriage of plants from road side to plantation site by manual labour upto 2 Km	40	0.4 Mandays/100 No	0.16	56

Sl. No.	Particular of Work	Quantity	Rate/Mandays per unit	Total Mandays	Total Amount
5	Carrying out first weeding, nirai operations and application of fertilizer and pesticides including replacing of dead plants of previous year	400	1.25 mandays/100 No.	5	1750
6	Carrying out second weeding, nirai operations and application of fertilizer and pesticides including replacing of dead plants of previous year	400	1 mandays/100 No.	4	1400
7	Spraying pesticides and insecticides	400	0.6 mandays/100 No.	2.4	840
8	Applying Irrigation	1 job	L.S.	0	1000
9	Clearing of Fire lines	180 RM	2.25 mandays/Km	0.41	143.5
	Total Labour oriented Works cost (A)				**6557.5**
	B. Material Component				
1	Cost of fertilizer (DAP/Urea) and Pesticides @ 40g and 10g / plant respectively	20 Kg	24 Rs/kg	0	480
2	Cost of Diesel for Irrigation	1 Job	L.S.	0	1000
3	Contingency	1 Job	L.S.	0	200
	Total Material Component Cost (B)				**1680**
	Total Third Year				**8237.5**
	Fourth Year - Second year of Maintenance				
	A. Labour oriented works				
1	Carrying out first weeding, nirai operations and application of fertilizer and pesticides including replacing of dead plants of previous year	400	1.25 mandays/100 No.	5	1925
2	Applying Irrigation	1 job	L.S.	0	1000
3	Watch and ward	1 job	L.S.	0	1000
	Total Labour oriented Works cost (A)				**3925**
	B. Material Component				
1	Cost of Diesel for Irrigation	1 Job	L.S.	0	1000
2	Contingency	1 Job	L.S.	0	200
	Total Material Component Cost (B)				**1200**
	Total Fourth Year				**5125**
	Fifth Year - Third year of Maintenance				
	A. Labour oriented works				
1	Fencing repair	1 ha.	2 mandays/ha.	2	770
2	Watch and ward	1 job	L.S.	0	1000
	Total Labour oriented Works cost (A)				**1770**
	B. Material Component				
1	Contingency	1 Job	L.S.	0	220
	Total Material Component Cost (B)				**220**
	Total Fifth Year				**1970**
	Sixth Year - Fourth year of Maintenance				
	A. Labour oriented works				
1	Watch and ward	1 job	L.S.	0	1000
	Total Labour oriented Works cost (A)				**1000**
	B. Material Component				
1	Contingency	1 Job	L.S.	0	240
	Total Material Component Cost (B)				**240**
	Total Sixth Year				**1240**

Sl. No.	Particular of Work	Quantity	Rate/Mandays per unit	Total Mandays	Total Amount
	Seventh Year - Fifth year of Maintenance				
	A. Labour oriented works				
1	Watch and ward	1 job	L.S.	0	1000
	Total Labour oriented Works cost (A)				**1000**
	B. Material Component				
1	Contingency	1 Job	L.S.	0	300
	Total Material Component Cost (B)				**300**
	Total Seventh Year				**1300**
	Abstract of Cost of Plantation and Maintenance				
	First year-preparation				48193.13
	Second Year-Plantation				10075.8
	Third year-First year of Maintenance				8237.5
	Fourth year-Second year of Maintenance				5125
	Fifth year-Third year of Maintenance				1970
	Sixth year-Fourth year of Maintenance				1240
	Seventh year-Fifth year of Maintenance				1300
	Total cost				**76141.43**
					Say Rs 0.76 lakh/ha.

Table 1.14: Cost Estimate for High Density Energy Plantation

SWS No.	Name of SWS	Area under High Density energy plantation (Ha.)	Cost @ Rs. 0..76 lakh/ha. (Rs. in lakh)
(1)	talaja	04	3.04
(2)	mahuva	11	8.36
Total		**15**	**11.40**

1.10.4 Pasture Reclamation

The pasture reclamation by rotational closure with live hedge fencing, sodding with local grass and legume plants inclusive of maintenance shall be carried out. The cost of works under treatment of pastures for the SWS encompassing the free draining catchment area of the project has been assessedas **Rs. 15.00 lakh** and is shown in **Table-1.15.**

Table 1.15: Cost Estimate for Treatment of Pastures

SWS No.	Name of SWS	Area under Treatment of Pastures (Ha.)	Cost @ Rs. 1.00,000/- Ha. (Rs. in lac)
(1)	Talaja	04	4.00
(2)	Mahuva	11	11.00
Total		**15**	**15.00**

Approved

Addl. Pri. Chief Conservator of Forests
Land
Gujarat State, Gandhinagar.

1.10.5 Nursery Support

In the light of the fact that the CAT plan entails plantation over approximately 1775 ha area, a huge requirement of saplings / plants is comprehended. Such requirement shall have to be met out from the existing nurseries which are too inadequate to meet the requirement. Being a mountainous area the suitable sites for developing new nurseries are not too many. Besides, the free of cost saplings shall be distributed to the JFM group for raising horticulture crops and private pasture development.

Availability of quality planting material well in time and near the areas where afforestation is to be undertaken, remains a major constraint in implementation of large scale afforestation. The proposed large scale afforestation in the area due to establishing of various hydroelectric projects, will certainly lead to establishment of decentralized nurseries through credit support.

The Cost Estimates for Implementing Nursery Support is given in **Table-1.16.** The overall cost under nursery support is reckoned as **Rs. 21.0 lakh.**

Table 1.16: Cost Estimates for Implementing Nursery Support

S. No.	Item	Amount (Rs. in Lakh)
1.	Nursery equipment's/ tools	1.00
2.	Barbed wire fencing with RCC post/ repair of barbed-wire fencing in existing nurseries.	2.00
3.	Preparation of additional beds in existing nurseries, soil layering in nurseries, establishment of Poly-house/ Poly-tunnels, soil working, establishment of compost and vermin-compost units, strengthening of irrigation facilities, providing insecticides, etc.	3.00
4.	Establishment of one new nurseries @ Rs. 25.00 lacs/ha	15.00
5.	Miscellaneous	1.00
Total		**21.00**

1.10.6 Fuel Wood Saving Devices

In order to reduce the pressure in the forest particularly for fuel wood exerted by villagers living near forest areas under the catchment, who are totally dependent upon the fuel wood for cooking purpose some alternate source of energy, is to be provided. It is proposed to provide LPG gas connection with cylinder at subsidized cost. Beneficiary under this component shall be the weaker section of society; families headed by women and scheduled caste/tribe households. The Principle for providing subsidy and cost sharing by the beneficiaries shall be as follows;

(i) For Women Headed Households: 100% subsidy
(ii) For Schedule Cast/tribe Households: 90% subsidy and 10% cost sharing

Identification of women headed households and Schedule Cast households should be backed by data available with Panchayat Secretary and with local NGOs. Besides LPG, the stakeholders in the catchment shall be provided solar pressure cooker and electricity saving device like LED. The break-up of cost underdifferent non-conventional and fuel saving devices is shown in **Table-1.22.** An amount of **Rs. 9.10 lakh** is earmarked for this activity under the CAT Plan.

Table 1.17: The Break-up of Cost under Different Non-conventional and Fuel Saving Devicesfor Stake-holders

S. No.	Item	Quantity	Rate (Rs.)	Amount (Rs. in lakh)
1.	LPG Gas connection			
	a. At 100% subsidy	100	3000.00	3.00
	b. At 90% subsidy	100	2500.00	2.50
2.	Solar cooker @ 50% subsidy	200	1000.00	2.00
3.	LED bulbs@ 80% subsidy (500x2x2)	2000	80.00	1.60
			Total	**9.10**
			Say Rs.	**9.10**

1.11 Cost of Other Components of Cat Plan

Apart from the forestry works and drainage line treatment in the catchment area there are other aspects of the CAT Plan to be addressed and their cost included in the overall cost estimate of the plan. The eco-restoration works, livelihood support works, social mobilization, documentation and publication, monitoring and evaluation and providing environmental services are some of the integral ingredients, which have to be considered and included while formulating the CAT plans.

1.11.1 Training and Extension Programme

There is a need to keep all members of the existing registered VFDCs and committees to be constituted in other villages and NGOs involved in programme implementation so that they can play an active role in implementation of the CAT plan by associating with the development work in their areas. For this purpose, people need to be trained in respect of different measures for habitat improvement by afforestation techniques, nursery development, pasture development, soil conservation and moisture retention works, horticulture development and agriculture practices in respect of land under the CAT plan with special thrust to local technique with the use of indigenous material without deteriorating ecology of the area. The technique of river-training work needs to be explained properly so that desired results are achieved. For this purpose, a training programme has to be properly devised and carried out at range office for which a provision of **Rs. 2.00 lakh** is being made.

1.11.2 Provision for Mobilizing User Groups

Based on the ground truth reality in each of the Village Forest Development Committee or Society fallingunder the different sub-watersheds, mobilizing the user groups will be of utmost importance to involve them in afforestation and other agreed activities of the CAT Plan. For this purpose, a provision of **Rs. 2.00 lakh** is being made.

1.11.3 Funds for Educational Activities related to Medicinal Plant Sector

A provision of **Rs. 3.00 lakh** is earmarked for various conservation and educational activities related to medicinal plant sector.

1.11.4 Development of Eco-to Bagad River

Trekking routes with camping facilities can help to boost eco-toBagadsm in the area. Concept of "Homesteads" can be promoted. Such host families who are enterprising and having reasonable

traditional accommodation in the village en-route to good eco-treks can accommodate toBagadsts on payment basis. Such financial support to rural people can boost the activity. Involvement of local youths can provide self-employment services like guides, porters, and making arrangements for boarding and lodging of eco-toBagadsts. The poor families can earn wages by portering or other small works. Eco-toBagadsm societies can be formulated under the overall control of the special purpose vehicle (SPV) arrangement for anchoring the eco-toBagadsm activities. There exists scope for eco-toBagadsm in the area where toBagadsts can see its wild virgin and pristine glory and catching the everlasting enthralling momentsin their mind while enjoying and learning the nature. Therefore, a provision of **Rs 8.00 lac** is made on this.

1.11.5 Provision for Floristic Survey and Forestry Research

Though a provision has been made in environment monitoring plan for ecosystem monitoring including environmental studies dBagadng construction and post constructional stages respectively, an additional provision of **Rs 3.00 lakh** is made for carrying out floristic survey of the area after complete implementation of CAT Plan, i.e., immediately after the fifth year of maintenance.

1.11.6 Provision for Forest Protection

The need for rigorous watch and ward of the forest covered under the catchment area becomes more imperative in view of proposed new plantation under the CAT plan and due to increased human activity in the form of labour, who shall be engaged for forestry works. Thus, fire protection measures including construction and maintenance of fire lines, construction of check-posts, watch towers have to be undertaken. Besides these construction / repair of forest boundary pillars shall also be carried out. The forest staff shall have to be properly equipped with modern utility gadgets like walky-talky, GPS and fire-fighting equipment's. For these a provision of **Rs. 4.00 lacs** are being earmarked.

1.11.7 Capacity Building

Since the effectiveness of the biological and engineering measures and their proper implementation will depend on the understanding and preparedness of the forest staff. It is important that the Forest Department makes efforts to sensitize the staff on implementation and management of plantation issues, soil conservation, flood protection works and also provide guidance and encourage them to build requisite capacities. Capacity building can be achieved through training programmes for which a provision of **Rs. 1.50 lakh** has been made in the plan.

1.12 Institutional Mechanism

1.12.1 Role of Project Proponent

The forest department would implement the Catchment Area Treatment Plan. A joint inspection groupis suggested that would include officers drawn from State Forest Department of and officials from the NWRD. The management will have liaison with the forest officials. As far as the financial disbursement to undertake activity involvement of various stake holders and collaborative public participation should be encouraged to have transparency in the system.

1.12.2 CAT Implementation

The designated Environmental Officer of NWRD would coordinate with the forest department for the implementation of the proposed Plan. The Environment Officer would evaluate/monitor financial aspects. The modalities of financial disbursement need to be worked out. The implementing agency shall submit completion certificate in the light of guidelines fixed by the Gujarat Forest Department. The implementation of CAT Plan should have enough flexibility and should be subject to changes as per requirements of specific ecosystem and periodic gains. A monitoring committee as per the MoEF guidelines such as Methala Bandhara CAT Plan Society with its headquarters at Bhavnagar may be constituted for the project for administrative guidance and smooth realization of targets.

1.12.3 Project Monitoring and Reporting Procedures

Meetings would be held every three months to resolve problems arising in plan implementation. A Joint committee may be formed with the Environment Cell of Project Proponent and State Forest Department; the team members must ensure implementation and monitoring of the CAT works and review the progress from time to time. Quarterly progress reports and completion certificates would be submitted to Project Proponent for evaluation and disbursement of finance. In addition, the work done should be published through public awareness campaigns. Visual and print media may be used to gain maximum benefit by beneficiaries. Such efforts would resolve conflicts which otherwise are potential sources for project delays.

SALINITY CONTROL DIVISION, BHAVNAGAR

Name of work : Construction of Methala Bandhara across river Bagad near village Methala in Talaja Taluka of Bhavnagar District.

RECAPITULATION SHEET FOR AA.

Sr. No.	Particulars		Amount
1.	A-PRELIMINARY		3500000.00
2.	B-Land		984506000.00
3	C-WORS		
	1. WASTE WEIR	246200000.00	
	2. EARTHEN DAM	63614500.00	309814500.00
		309814500.00	
4.	K-BUILDING		1000000.00
5.	M-PLANTATION		150000.00
6.	O-MISCELLANEOUS		1500000.00
7.	P-MAINTENANCE		774600.00
8.	R-COMMUNICATION		18100000.00
9.	q-t&p		1500000.00
	TOTAL RS.		1320845100.00
	Add. 12.85% for centage charges Excluding cost of B-LandRs.:-		43219570.00
	Grand Total Rs. :-		1364064670.00
	Say Rs		1364065000.00

Deputy Executive Engineer
Salinity Control Sub Division
Talaja

Executive Engineer
Salinity Control Division
Bhavnagar

Superintending Engineer
Salinity Ingress Prevention Circle
Rajkot

Admistrative Approved for Rs 136,40,65,000.00 vige govt letter no sip/2018/1913/134/k-2/dt 30-1-19

Approved

Addl. Pri. Chief Conservator of Forests
Land
Gujarat State, Gandhinagar.

Sd/-

Chief Engineer(saurashtra) & Add Secratory

Naramada, Water Resources, Water supply & Kalapsar Dept.

Gandhinagar

SALINITY CONTROL DIVISION, BHAVNAGAR

Name of work : Construction of Methala Bandhara across river Bagad near village Methala in Talaja Taluka of Bhavnagar District.

C-WORKS

FACE SHEET

Name of Division	:	Salinity Control Division, Bhavnagar
Name of Sub Division	:	Salinity Control Sub Division, Talaja.
Major Head	:	4701 - C.O. on medium Irrigation.
Sub Major Head	:	75 - S.I.P.Schemes& back water, flood protective, sea erosion work.
Minor Head	:	800 - Other expenditure.
Sub Head	:	06-Other Works
Departmental Head	:	Methala Bandhara

C-works Rs. 278439000.00

GENERAL DESCRIPTION

As per General Note appended with the estimate.

The rates in the estimate are adopted from the Regional SOR (Saurashtra-Kutchh Region) for the year 2015-16

Deputy Executive Engineer
Salinity Control Sub Division
Talaja

Executive Engineer
Salinity Control Division
Bhavnagar

SALINITY CONTROL DIVISION, BHAVNAGAR

Name of work : Construction of Methala Bandhara across river Bagad near village Methala in Talaja Taluka of Bhavnagar District.

C-WORKS

RECAPITULATION SHEET DTS

Sub-Estimate	Description	Amount Rs.
1.	Part-I Waste Weir	218202000.00
2.	Part-II Earthen Bund	60237000.00
	Total Rs.	278439000.00

Deputy Executive Engineer
Salinity Control Sub Division
Talaja

Executive Engineer
Salinity Control Division
Bhavnagar

Sd/-

Superintending Engineer
Bhavnagar Irrigation Project Circle
Bhavnagar

DTS Approved for Rs 278439000.00 vige govt letter no Bip/1913/60/k-2/dt 27-8-20

Sd/-

Chief Engineer(saurashtra) & Add Secratory

Naramada, Water Resources, Water supply & Kalapsar Dept.

Gandhinagar

SALINITY CONTROL DIVISION, BHAVNAGAR

Name of work : Construction of Methala Bandhara across river Bagad near village Methala in Talaja Taluka of Bhavnagar District.

RECAPITULATION SHEET CAT PLAN

Sub-Estimate	Description	Amount Rs.
1.	CAT PLAN FOR METHALA BANDHARA	19302000.00
	Total Rs.	19302000.00

Deputy Executive Engineer
Salinity Control Sub Division
Talaja

Executive Engineer
Salinity Control Division
Bhavnagar

Superintending Engineer
Bhavnagar Irrigation Project Circle
Bhavnagar

C.S

Approved

Addl. Pri. Chief Conservator of Forests
Land
Gujarat State, Gandhinagar.

Deputy Conservator of Forests
Bhavnagar Forest Division
Bhavnagar.

SALINITY CONTROL DIVISION BHAVNAGAR

CAT Plan for Methala Bandhara Ta:Talaja Dist: Bhavnagar

ABSTRACT

Talaja	Mahuva	QTY	Description	Rate	Per	Amount
12	23	35.00	Item No.1 Afforestation	74000.00	Ha	2590000.00
			table 1.10			
70	172	242.00	Item No.2 Enrichment Plantation	36000.00	Ha	8712000.00
			table 1.12			
4	11	15.00	Item No.3 High Density Energy Plantation	76000.00	Ha	1140000.00
			table 1.14			
4	11	15.00	Item no 4 Pasture Reclamation	100000.00	Ha	1500000.00
			table 1.15			
		1.00	Item no 5 Nursery Support	2100000.00	no	2100000.00
			table 1.16			
		1.00	Item no 6 Fuel Wood Saving Devices	910000.00	no	910000.00
			table 1.17			
		1.00	Item No.7 Training and Extension Programme	200000.00	no	200000.00
			Para no 1.11.1			
		1.00	Item No.8 Provision for Mobilizing User Groups	200000.00	no	200000.00
			Para no 1.11.2			
		1.00	Item No.9 Funds for Educational Activities related to Medicinal Plant Sector	300000.00	no	300000.00
			Para no 1.11.3			
		1.00	Item No.10 Development of Eco-to Bagad River	800000.00	no	800000.00
			Para no 1.11.4			
		1.00	Item No.11 Provision for Floristic Survey and Forestry Research	300000.00	no	300000.00
			Para no 1.11.5			
		1.00	Item No12 Provision for Forest Protection	400000.00	no	400000.00
			1.11.6			
		1.00	Item No.13 1.11.7 Capacity Building	150000.00	no	150000.00
90	217		1.11.7			
307					**Total**	**19302000.00**
					Say Rs.	**19302000.00**

Deputy Executive Engineer
Salinity Control Sub Division
Talaja

Executive Engineer
Salinity Control Division
Bhavnagar

Approved

C.S

Addl. Pri. Chief Conservator of Forests
Land
Gujarat State, Gandhinagar.

Deputy Conservator of Forests
Bhavnagar Forest Division
Bhavnagar.

Government of India
Ministry of Environment, Forest and Climate Change
(Forest Conservation Division)
****

Indira Paryavaran Bhawan,
Jor Bagh Road, Aliganj
New Delhi - 110003.
Dated: 10th May, 2021

To,
The Principal Secretary (Forests),
Department of Forests,
Government of Gujarat,
Gandhinagar.

Subject: 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 (Online proposal No. FP/GJ/IRRIG/44298/2020) - reg.

Madam/Sir,

I am directed to refer to the Government of Gujarat letter No. FCA-1020/8-01/20/SF-237/F dated 23.02.2021 on the above cited subject seeking prior approval of the Central Government in accordance with Section-2 (ii) of the Forest (Conservation) Act, 1980, and intimate that the following shortcomings have been observed in the proposal:

1. The satellite imagery dated 26.09.2018 shows that out of total 598.2427 ha forest area sought for diversion, approx. 417 ha forest area is already submerged under water. The state govt. to submit justification as why the impounding has taken place without prior approval of the Central Government. State Govt. shall submit the details of the officers who has permitted the violation of the Forest (Conservation) Act, 1980 and what action has been taken against them.
2. The Cost benefit analysis as per the MoEF&CC guideline issued vide letter No. 7-69/2011-FC(Pt.) dated 01.08.2017 has not been submitted.
3. The approved Copy of CAT plan has to be submitted/uploaded on PARIVESH portal.
4. A legible copy of Geo-referenced maps of areas proposed for Compensatory Afforestation (CA) is to be uploaded on PARIVESH portal.
5. It has been observed on the DSS analysis, that the proposed CA area is being used for some commercial purposes. The state govt. shall therefore verify the present status of the proposed CA land and submit a site suitability certificate

mentioning that the proposed area is suitable for planting and free from all encumbrances.

6. There is no mention of the density of vegetation in the site inspection report of the DFO/CF. It has been mentioned that there are no trees involved, however as per DSS analysis of the available files, 89 ha of land is characterized with Moderately Dense Forest and 77ha. of land as Open forest. The state govt. shall therefore submit the complete enumeration list of trees and also submit the correct density of vegetation.
7. It has been mentioned in Part-1 of the application form, that In-principle approval has been received for the 2.25 ha of project area on 29.09.2016. The proposal no. given is FP/GJ/IRRIG/20853/2016. The state govt. may provide the complete details of the above proposal and its link with the current proposal.

DCF

In view of the above, it is requested to submit the above information at the earliest for further consideration of the proposal in the Ministry.

Yours faithfully,

(Shrawan Kumar Verma)
Dy. Inspector General of Forests

Copy to:

1. The Pr.CCF (HoFF), Department of Forests, Government of Gujarat, Gandhinagar;
2. The Regional Officer, Integrated Regional Office, Gandhinagar;
3. The Nodal Officer, FCA, O/o the PCCF, Government of Gujarat, Gandhinagar;
4. User Agency;
5. Monitoring Cell, FC Division, MoEF & CC, New Delhi for uploading on PARIVESH portal.

ક્રમાંક:- બ/જમન/ટે.૧૧/542-43/૨૧-૨૨
ભાવનગર તા. 2/05/૨૧.

નકલ સવિનય રવાના:- કલેકટરશ્રી, ભાવનગર જીલ્લો, ભાવનગર તરફ જાણ તથા પત્રના મુદાનં-૦૫ માં જણાવ્યા મુજબ વળતર વનીકરણ માટે ફાળવેલ જમીન બાબતે સ્પષ્ટતા થઈ આવવા વિનંતી છે.

નકલ સવિનય રવાના:- કાર્યપાલક ઈજનેરશ્રી, ક્ષાર અંકુશ વિભાગ, ભાવનગર તરફ જાણ તથા પત્રમાં જણાવ્યા આપને લગત પુર્તતા તાત્કાલીક થઈ આવવા વિનંતી છે.

નાયબ વન સંરક્ષક
ભાવનગર વન વિભાગ
ભાવનગર.