2013-14

ANNUAL REPORT





Gujarat Ecology Commission Forests & Environment Department Government of Gujarat

Contents

INTRODUCTION	4
OUR OBJECTIVES	5
THE APPROACH ADOPTED	6
OUR WORKING AREAS	6
OUR STRENGTH	7
Human Resource of Commission	7
Scientific Team	8
Communication & Documentation Team	8
Financial Management Team	8
Social Mobilisation Team	8
MANAGEMENT OF COMMISSION	9
46 th Meeting of the Commission	10
OUR INITIATIVES	13
ENVIRONMENT CONSERVATION & ACTION PROJECTS	13
a) Grassland development through vegetation succession on the saline tract for multiple ecological benefits	14
Plantation method:	15
An Environmental Resource conservation and Management adapting Permaculture & Rural-	
Tourism through Community Participation	16
PROGRESS OF THE ON-GOING PROJECTS UNDERTAKEN DURING THE YEAR 2012-13 UNDER	EAF
	18
1.) Sabarmati Ravine Reclamation Project:	18
2) Agro waste Bio-conversation into Bio-manure project:	20
3.) Sensitizing Village Community on Waste Management through Vermi-Composting & Kito Gardening	chen 22
ECOLOGICAL RESTORATION OF DEGRADED ECOSYSTEM	26
I) Eco-restoration plan for <i>Awala-Kunda-Bor Campa</i> area of <i>Jessore</i> Wildlife Sanctuary, Banaskantha Forest Division	26
PROGRESS OF THE ON-GOING PROJECTS UNDERTAKEN DURING THE YEAR 2012-13 UNDEF	₹ 29
1) Wetland Restoration Project at Lawarpur, District: Gandhinagar	29
2) Eco-restoration of unique ecosystem of Amba Forest, District: Valsad	31
3) Eco-restoration plan for breeding ground of Great Indian Bustard (GIB) at Bhanada, Kac	hchh 33
4) Integrated Salinity Mitigation Initiative	34
MANGROVE PLANTATION UNDER PPP MODE	35
REVISED GUIDELINE FOR MANGROVE PLANTATION	36

ENVIRONMENT AWARENESS CREATION & CAPACITY BUILDING	. 39
Wetland Management Campaign	. 39
Short Summary of the Training Programme – 2013	. 42
Campaigns & Exhibition	. 42
Clean Beach Campaign	. 42
Workshops& Conferences	. 47
International Workshop on Mangrove Conservation	. 47
Poster Presentations	. 49
Orientation Workshop for NGOs	. 50
RESEARCH/STUDIES UNDERTAKEN BY GEC	.51
1) A study on environment concern, awareness and perception of stakeholders	.51
2) Ecological Status of the River	. 52
3) Environmental Sustainability Vision 2025 for the Gujarat State	. 53
4) Environment Strategies for Gujarat 2014-19	. 55
OVERVIEW OF INTEGRATED COASTAL ZONE MANAGEMENT PROJECT, GUJARAT	. 56
Initiation of Jamnagar Sewerage Treatment Plant Project	. 56
Collaboration with international experts for preparation of coastal ecosystem health report card	. 57
Innovative awareness activity with the school children of Gulf of Kachchh	. 58
Strengthening knowledge and skills of coastal villagers to combat disasters	. 59
GREEN ACTION FOR NATIONAL DANDI HERITAGE INITIATIVE (G.A.N.D.H.I) PROJECT	. 60
Preparation of Master Plan/ICZM Plan of G.A.N.D.H.I Project	. 62
CRZ WORKSHOPS:	. 63
Publications, event reports and audio-video materials	. 65
Developed during the year 2013-14	. 65
Financial Statement	. 66

INTRODUCTION

Gujarat Ecology Commission (GEC) is an institution established in 1992 by the Forest & Environment Department, Government of Gujarat to address the need of present day, covering all aspects of environment and ecology conservations and improved ecological management.

The main role of the Commission is to act as an umbrella organisation in the field of environment and design the suitable solution to restore the degraded ecosystem in the State of Gujarat. It also designs the projects, implements it as well as supervise their execution, monitoring and evaluation. It works in areas associated with direct action in ecological management and environmental protection.

GEC has also been appointed as the Nodal agency, for the Integrated Coastal Zone Management Project (ICZMP) being implemented in Gujarat, with funding from the World Bank. As the State Project Management Unit (SPMU) it has been assigned the privilege to plan and implement pilot approaches in the Gulf of Kachchh under the ICZM Project-Gujarat in coordination with six different agencies.

GEC is a platform for providing information and other inputs which are needed to develop policy and provide the right approach for ecological conservation and sustainable development. At the same time, it undertakes on its own and in collaboration with other agencies, initiatives for the protection of ecosystems under threat and restoration of ecologically degraded zones. This is done through trial and demonstrative projects, which establish benchmarks for future replication.

GEC's approach is to integrate environmental concerns with regular economic activity, even to the extent of relating conservation of biological diversity with the livelihood prospects of the present generation in addition to the concerns for future generations.

OUR OBJECTIVES

- To plan and work for restoration of ecologically degraded areas to protect the ecological health of the State of Gujarat systematically and holistically.
- To arouse a collective ecological consciousness among the people of Gujarat.
- To undertake on its own or with the support of other agencies, rehabilitation or restoration of disturbed ecosystems of the State with special emphasis on degraded lands (wastelands) including ravines (Kotars), mangroves, water bodies, river systems and degraded forests.
- To create institutions and organisations necessary for achieving the objectives of GEC.
- To act as the State's single umbrella for-
 - Accreditations of various NGOs eligible to receive funding for activities aimed at ecological up-gradation of degraded ecosystems (wastelands, mangroves, degraded forests, water bodies, river systems, etc.) and
 - Allocation of funds to various government agencies for programmes of ecological restoration including project implementation, research or extension.
 - Develop linkages with organisations working in various sectors to design and implement environment projects.

THE APPROACH ADOPTED

- The Commission views sustainable development is an ongoing cumulative process rather than an end product.
- Therefore, it implements action oriented projects for environment management and development; wherein links are established with different Government departments, scientists, experts in various disciplines, voluntary agencies and industries to work together.
- GEC forges partnerships with the best of academia for its projects through assignments and internships in which expert faculties and students from many institutions of repute like IIMA, IRMA, MICA, PDPU, CEPT and TISS are involved to bring innovativeness in project implementation as constant partners.

OUR WORKING AREAS

- GEC works in areas associated with ecological and environmental significance.
- It designs environmental projects and is involved in their execution, monitoring and evaluation.
- It has also emerged as a platform for providing information and other inputs, which are needed to develop a policy and approach for ecological conservation and sustainable development.
- CEC undertakes projects in collaboration with Government and Non-Government agencies, for protection of ecosystems under threat and restoration of ecologically degraded zones. These projects establish benchmarks as models for future replication.
- GEC works to raise ecological awareness and conservation among the community.

OUR STRENGTH

Commission Members

- The Commission is being advised by the members of the Commission. The Commission during the period of report was chaired by the Mr. H.K.Dash, IAS, Add. Chief Secretary, Forests& Environment, Government of Gujarat. Other members are Principal Chief Conservator of Forests & HoFF, Dr. Piyush Kumar Sinha, Professor, IIM, Ahmedabad and the Member Secretary, GEC.
- The executive head of the Commission is Member Secretary. Dr. A K Verma, IFS, is the Member Secretary of the Commission.
- To assist Member Secretary, a multi-disciplinary team of professionals including foresters, manager, ecologists, environment engineers, socioeconomists, environment planners, communication professionals and computer specialists etc. are working in the Commission.
- GEC's major strength is its ability to draw on the existing institutional and professional resources; local, national and international whenever required.
- It has worked with renowned institutions of the State and Country.
- GEC adopts a scientific approach in data collection and analysis.
- GEC provides ample opportunities of internships to deserving students from various institutes of national repute.
- GEC has a well-equipped conference hall with LCD projector, well maintained MIS system, computers and laptop facilities for all the executives

HUMAN RESOURCE OF COMMISSION

The Chief Executive of the Commission, Dr. A K Verma, IFS has multidisciplinary experience of the various development and technical fields. He has degree in Public Policy and Management from IIM Bangalore and a Doctorate in Tribal Development Policy. Mr. A C Sampat, GFS is Director of the Commission and he is helping to the Member Secretary in disposing and handling various activities of the Commission. He is having more than 30 years of forestry management experience which is supporting the Commission to manage various scientific projects and studies.

In addition to above, the Commission is having multidisciplinary technical team which includes various technical persons and other supporting experts.

SCIENTIFIC TEAM

The scientific strength of the Commission includes Environment Managers, Ecologist, Coastal Specialist, Botanist, Zoologists, Social expert, communication & documentation expert, IT expert, Environment Planner etc. All the scientific staff of the Commission is young and skilled in the relevant field.

COMMUNICATION & DOCUMENTATION TEAM

The Commission is having experienced communication personnel and documentation team which are catering the communication & documentation need of the Commission. Communication team includes the IT & documentation experts for management of Website and soft communication needs including social media.

FINANCIAL MANAGEMENT TEAM

The team includes experienced manpower with background of the accounting, tally etc. The accounting staffs of the Commission are catering to various needs of the accounting of the Commission.

SOCIAL MOBILISATION TEAM

More than 35 people are working under ICZM Project for Commission to handle its social related activities. Strengths of social mobilization team include senior level experts to junior level skilled mobilisers.

MANAGEMENT OF COMMISSION

Commission's Meetings

45th Meeting of the Commission

The 45th meeting of Gujarat Ecology Commission (GEC) was held in New Sachivalaya, Gandhinagar on 29thApril 2013. The following members of Commission remained present in the meeting:

- 1. Shri H.K. Dash, IAS, Chairman, GEC
- 2. Shri S.K.Goyal, IFS, Principal Chief Conservator of Forests
- 3. Dr. P.K. Sinha, IIM- Ahmedabad
- 4. Dr. A.K. Verma, IFS, Member Secretary, GEC

The meeting was attended by

- 5. Shri A.P.Singh, IFS, Director(I/C), GEC
- 6. Shri K.Sasikumar, IFS, Dy.Director [ICZMP]
- 7. Shri N.K. Patel, Deputy Secretary- Environment
- 8. Shri Nischal Joshi, Sr. Manager (Projects), GEC
- 9. Shri.P.G.Dave, Manager (Accounts)

Dr. A.K. Verma, IFS, Member Secretary, GEC apprised the members of the Commission regarding the activities carried out by GEC including; State of Environment (SoE) Report; Empanelment Action Fund scheme, Ecological Restoration Scheme, International Workshop on Mangroves, Clean Beach Campaign, Mangrove Plantation and Environment Awareness Activities under GEC. The following is the content of discussion and suggestions of the members regarding the activities of the GEC:

 Members were also updated about the progress of the projects undertaken in two new schemes- Environment Action Fund and Ecological Restoration Scheme- which got the approval by the Government for the year 2012-13. According to the Chairman, NGOs should be asked to prepare schemes for environmental up-gradation which may be initiated on a pilot scale and the outcome should be closely monitored. Moreover, it was explained that to ensure the proper proposals, GEC has to organize one day workshop in the month of May/June-2013 wherein scope of Environment Action Plan will be explained to the various NGOs.

- One of the agenda discussed regarding the details of the initiative of Clean the Beach Campaign activity which was put forward to the Commission members. Chairman and other members appreciated the activities carried out under the campaign and suggested to take up this kind of unique activities in future.
- The Member Secretary gave details regarding International Workshop on Mangroves in association with the International Society for Mangrove Ecosystems (ISME), Japan and Mangrove Society of India (MSI), Goa on 26-27 July, 2013.
- The Member Secretary has also given details regarding MoUs signed during the Vibrant Gujarat Summit-2013
 The members of the Commission took the note of the same

46TH MEETING OF THE COMMISSION

The 46th meeting of Gujarat Ecology Commission (GEC) was held in New Sachivalaya, Gandhinagar on 6th March, 2014. The following members of Commission remained present in the meeting:

- 1. Shri H.K. Dash, IAS Chairman
- 2. Shri Rajeeva, IFS Principal Chief Conservator of Forests
- 3. Shri. P.K. Sinha IIM, Ahmedabad
- 4. Shri A. K. Verma, IFS Member Secretary

The meeting was attended by

5.	Shri A. C. Sampat,	Director, GEC
6.	Shri Nischal Joshi	Sr. Manager (Projects), GEC

Member Secretary, GEC apprised the members of the Commission regarding the actions taken in light of decision taken in 45th meeting

including; preparation of report on Environment Strategies of Gujarat 2014-19 based on State of Environment (SoE) Report; Progress with respect to the two new schemes namely Environment Action Fund and Ecological Restoration approved by Government during last financial year; Clean Beach Campaign in partnership with local institutions; Training on wetland management in 200 villages, Bio Medical Waste management etc..The following is the content of discussion and suggestions of the members regarding the activities of the GEC:

- As desired in the 45th meeting of the Commission GEC had prepared report on Environmental Strategies of Gujarat 2014-19 based on SoE report prepared by GEC. MS, GEC added that this report was edited by GEC and after that submitted to the Government which includes priority actions required in the environmental field.
- The Chairman desired that a small committee to study the report for each of the sectors of SoERs and report on Environment Strategies for Gujarat State 2014-19 may be formed and details as well as findings of the committee may be presented to the Department
- The Member Secretary gave details regarding Clean Beach Campaign carried out at Somnath and Dwarika in partnership with local institutions. He informed that GEC has developed the institutional mechanism to take forward this initiative in future also
- MS, GEC also informed that on all above places during the campaign public leaders, important stakeholders as well as Government officials participated in the campaign. At Porbanadar Hon. Minister Shri Babubhai Bokhariya, Water Resources, Agriculture & Livestock inaugurated campaign while at Mandavi, Kachchh Hon. Minister of State Shri Govindbhai Patel, Forest & Environment inaugurated campaign.
- For Environment Action Fund scheme of the year 2013-14, Member Secretary also informed that during the current year proposals were invited through public advertisement. Against the invitation 196

applications were received by GEC, which were scrutinized by Scrutiny Committee headed by Dr. Sudrashan Iyengar, VC, Gujarat Vidhyapith and finally two proposals were proposed to be approved for the funding and three proposals were ask to make revisions in the activities for further decision. Member Secretary also explained that GEC appointed technical experts to inspect the works and guide NGOs for scientific implementation of works allotted under the scheme last year.

- For Ecological Restoration Scheme of the year 2012-13, MS, GEC added that ecological restoration works are of long duration and it requires at least two to three years to receive end results therefore ongoing projects under the scheme have been financed during the financial year 2013-14 also.
- GEC has approved the project proposal for the Ecological restoration of Jessore Wildlife habitat under the Ecological Restoration Scheme -2013-14
- Member Secretary, GEC apprised the Commission that during last year GEC has conducted various environment awareness campaigns in light of its Annual Action Plan such as wetland management training for village Panchayat and other stakeholders. He further added that total 50 trainings covering about 65 villages has been completed with total cost of Rs. 16,25,000/ which was awarded to M/s Aniket Gram Vikas Trust and another 30 trainings has been awarded to other three NGOs
- Member Secretary further informed to members that GEC will be taking up Bio-medical waste management campaign in association with Health & Family Welfare Department, Government of Gujarat for the medical & para-medical staff including private hospitals. In all total 8 locations these training workshops will be organised covering all the districts of the State

Chairman and members appreciated the efforts of GEC

OUR INITIATIVES

ENVIRONMENT CONSERVATION & ACTION PROJECTS

The State faces various environmental challenges such as salinity ingression and degradation of natural resources among others therefore a multi disciplinary programme approach is to be adopted to mitigate environment problems. In this context, GEC proposed to create the ENVIRONMENT ACTION PROJECT (EAP). The Gujarat Government accepted the proposal and approved Rs.100.0 lacs for the scheme in 2013-14 also.

GEC invited proposals through advertisements from CBOs, Village Panchayat, renowned institutions/NGOs etc to design projects that aimed at mitigating environmental challenges in and around their communities. These include:

- Industrial pollution,
- protection of coastal & marine environment,
- wildlife and natural resources conservation,
- conservation of biodiversity, prevention of pollution of water bodies,
- prevention of salinity ingression,
- Mitigation of erosion process etc.

A Review Committee headed by Dr. Sudarshan lyengar was set up to evaluate the proposals received from various organizations.

During the current year, proposals were invited through public advertisement. Against the invitation 196 applications were received by GEC which were reviewed and scrutinized by Scrutiny Committee headed by Dr. Sudrashan Iyengar, VC, Gujarat Vidhyapith. The Committee has following members:

> 1. Dr. Sudarshan Iyengar, Vice-Chancellor, Gujarat Vidyapith-Chairman

- 2. Dr. Piyush Kumar Sinha, Professor, IIM-Ahmedabad-Member
- 3. Mr. N.K. Patel, Deputy Secretary, Environment Dept., Govt. Of Gujarat
- 4. Director, Gujarat Ecology Commission, Gandhinagar
- 5. Mr. Nischal Joshi, Senior Manager (Projects), GEC

After reviewed all the proposals, finally two proposals were proposed to be approved for the funding. Projects were awarded based on scrutiny, evaluation and recommendations of the committee. The Committee also decided size of funding based on the seriousness of the problems. Glimpse of the awarded projects are:

a) Grassland development through vegetation succession on the saline tract for multiple ecological benefits

A project has been proposed by the *Shri Khambhat Taluka Anusuchit Jati Sahkari Kheti taha Utpadk Sangh*". (Locally known as Daheda *Sangh*) of Khambhat taluka of Anand district.

The project aims to develop grassland in saline land through vegetation succession that leads to multiple ecological benefits as well as economical benefits to the community. Total tenure of the project is 2 years (1 year for implementation and 1 year for maintenance) and total out lay of the project is Rs.26.50 lac. Total 100 ha area of village Tadatalav has been treated under the project and covered more than 1500 beneficiaries of the village.

Proposed Methodology:

The methodology would include following steps.

- a) Taking Grampanchayat Resolution for carrying out this works in their land.
- b) Collect baseline salinity and ecological data.
- c) Repairing of existing salinity bunds created by GLDC
- d) Generate micro drainages in the project land

- e) Collection of seeds of halophytes and grasses
- f) Preparation of seed pallets in cow dung
- g) Sawing of seed pallets in the project land
- h) Monitoring of growth and succession stages
- i) Generate mass awareness among the villagers to protect the area.

Plantation method:

The methodology is simple for vegetation and grass plantation for stimulation of ecological succession. As mentioned above, initially the Grampanchayat resolution would be taken for the proposed 100 ha area as shown in Map-1b. After that salinity bunds would be repaired in the proposed project land. The micro drainage in this area would be created using tractor i.e. creation of 1X1 feet deep channels around 50 X 50 mt plot. These micro drainageswould help wash off accumulated salt during the monsoon season and drain into Gulf of Cambey. The slope of this micro drainage shall be kept such that the tidal water does not reach to this area through them.

The vegetation species proposed to be planted are mentioned below.

- **Grasses**: Urochondra setulosa, sporobolus speceies, Aristida *sp.*, *Aeluropus lagopoides* etc.
- Halophytes: Salvadora persica, Salvadora oleoides, Suaeda maritime, Suaeda fruticosa, Suaeda nudiflora, cressa cretica, Salicornia brachiata,

Intended Output/Outcome of Project:

- Stimulation of ecological succession through plantation of halophytes and grasses in the project area.
- 100 ha. of model grassland that can be replicated in other areas.

- Improved productivity of project land that can attract array of biodiversity of the region. Increase of biodiversity in the project land.
- Decreased salinity of the project land.
- Involvement of local people in the project.

AN ENVIRONMENTAL RESOURCE CONSERVATION AND MANAGEMENT ADAPTING PERMACULTURE & RURAL-TOURISM THROUGH COMMUNITY PARTICIPATION

A project has been proposed by the Shantipura Gram Panchayat, Shantipura village is situated in the Taluka Maliya (Hatina) of Junagadh district.

Permaculture is a grass-root, ecological design movement. The word Permaculture is derived from the words "permanent agriculture." It emphasizes sustainable and regenerative agriculture practices what sets Permaculture apart from other developmental approaches is that it is not just a model; it is a comprehensive design process.

In some ways permaculture has a "post-modern" sensibility in that it borrows from ancient farming techniques and indigenous knowledge while also drawing from the most up-to-date understanding and knowledge of geology, biology, physics and systems ecology.

GEC is supporting on the financial as well as technical aspects. Total tenure of the project is two years. One of the main objectives of this project is to achieve Environment Resource Conservation and Management trough rehabilitation of waste land, water conservation, ground water recharge, soil salinity, Community Participation and simultaneously demonstrate livelihood betterment opportunities which will help achieve financial gains. 5 acre area has been proposed under the project which covered total 365 households and total population of the village (2300 beneficiaries). Total out lay of the project is Rs.36.87 lac.

The committee also recommended this project for sanction though there was lacuna in technical proposal therefore the Shantipura Gram Panchyat was asked to specify the actual activities and resubmit the proposal. The Panchyat has resubmitted the proposal as required by GEC and the project is recently sanctioned.

Intended Output/outcome of Project:

- Revival of lost agricultural practices and Rehabilitation of waste land
- Ground water recharge, and water conservation
- Improve the livelihood and living conditions of the local people;
- Building financial capital

PROGRESS OF THE ON-GOING PROJECTS UNDERTAKEN DURING THE YEAR 2012-13 UNDER EAF

I.) Sabarmati Ravine Reclamation Project:

GEC is implementing the Sabarmati Ravine Reclamation Project in association with the Samarth Organization Trust, Vijapur, The project is being implementing at Aglod Village of Vijapur Block of Mehsana district. GEC is supporting on the financial as well as technical aspects. One of the main objectives of this project is to reclaim the ravine area through adopting scientific approach by involving local community. 166ha. of area has been proposed under the project which covered total 133 beneficiaries and families covering about 600 population of village. Project is successfully completed and objectives of the project are achieved satisfactory. Details of the overall project are as follow:

The project is being monitored by Mr.P.A.Patel, Former DCF, Forests Department, GoG for better implementation by adopting scientific approach.

Action taken under the Project:

- To achieve the objective of supporting regeneration of natural vegetation, and recharging the ground water table, soil & water conservation, a total of 73 nala plugs are constructed.
- To prevent the gully erosion a total of 96 earth gully plugs are constructed across the slops to stabilize the gully formation as the ravines are a form of extensive gully erosion.
- Peripheral bunds are constructed along the bank of ravines. A total of 3131mts.bunds alongwith the dimension of average top width of 0.5mts, bottom width of 2.5 mts and height of 1.0 mts.to control the effective length of slope and thereby reduce the gain in velocity of runoff flow to avoid gully formations.
- To protect the fields from water and wind erosion, field bunds are constructed in 102 ha.area

- To stabilize field bunds as well as peripheral bunds, grass seeds have been sown on the bunds and seeds also distributed among the all 133 farmers.
- To reduce the velocity and volume of water runoff and to protest bare soil from the impact of rain as well as for preserving existing vegetation, a total of 5000 seedlings of *Neem, Desi Babool, Bordi, Amla, Ardusa* etc. have been planted around the field bunds.

Outcome of the Project:

- Reduced soil erosion due to loss of top soil in 160 ha. area.
- Top surface of agro farm will be maintained which will lead to increase in more agro-biodiversity and production.
- Drainage line treatment has controlled runoff and accumulated silt in the nala, gullies and bunds.
- Soil erosion of the farm lands has been controlled due to peripheral & field bunding, land shaping, land levelling and vegetation measures.
- Awareness for conservation for natural resources have been generated among the local community
- Local community have successfully evolved in regulation mechanism for protecting the land.
- Vegetation generation is improved in the area
- Ravine area is reclaimed and further erosion of farm will be prevented.
- Cost effective eco-restoration model.



2) Agro waste Bio-conversation into Bio-manure project:

GEC is funding a project aimed at Agro Waste Management through Bio-conservation into Bio-manure in 5 villages of Rajula Block of Amreli district in association with the Vivekananda Research & Training institute, Bhavnagar. Agricultural productivity in the villages is continuously depleting and many farmers have lost the crops due to soil salinity.

The project aims to conserve, develop and harness land and other natural resources including rain water for improving and restoring ecological balance. It also aims to increase agriculture production, conserve soil moisture, and ensure sustainable livelihood for the small and marginal farmers by using locally available agro waste. The total cost of the project is Rs.11.78 lac and the tenure of the project is one year. Project is successfully completed by the agency. Details of the project are as follow:

The project is being monitored by Mr.P.G.Der, Former DCF, Forests Department, GoG.

Action taken under the project:

- Capacity building of the local community for preparing biomanure by approaching scientific techniques
- Generating awareness by promoting organic farming techniques
- Preparing bio manure by using cotton waste by using effective bacterial medium
- Distributing bio fertilizer among the beneficiaries on experimental basis for conserving soil nutrition of the fields

Outcome of the Project:

- 150 families covering about 500 villagers are benefited through this innovative waste management model
- Suitable and cost effective agro waste management model and technology has been established for the conservation of environment in the area.
- Crop production of the area is increasing





3.) Sensitizing Village Community on Waste Management through Vermi-Composting & Kitchen Gardening

This project aims to sensitize village communities on waste management through vermi-composting and kitchen gardening within the region in Mahuva Block of Bhavnagar district. The project's objective is to improve waste management by recycling garbage into compost manure for use in agriculture, to promote food security at village level, to motivate the community to grow kitchen gardens, to establish kitchen gardens to improve the health and nutritional status of the poor, to improve Environment Management and create livelihood opportunities for the local community. Total cost of the project is Rs. 12.72 lac and tenure of the project is one year. Project is successfully completed by the agency. Details of the project are as follow:

The project is being monitored by Mr.P.G.Der, Former DCF, Forests Department, GoG.

Action taken under the project:

Waste water reuse

Average water consumption of each household in project area is 80 litres/day, of which 40 to50 litres of water is being used for domestic need. Per month approximately 1500 litres of water is being collected at household level, which being used for irrigation in kitchen garden. In program area 30 households have adopted kitchen garden, so in total 45000 litres of domestic waste water per month is being reused for irrigation purpose.

For reusing waste water, small cement tank [Kundi] has been prepared and filled up with gravels which worked as natural filter for waste water. This cement structure is directly connected with their kachchha drainage so wasted water directly filled into the tank and filtered water released into the field through outlet.

Vermicompost

The pit is systematically filled with four layers of waste. First layer ---(Bottom of the pit) is filled up to 2 inches with coconut fibre, rice husk and sugarcane bagasse. Second layer is 2 inches thick, consisting of saw dust, chopped rice/wheat straw. Dampen the bed by sprinkling water. Third layer is the earthworm food; this includes an admixture of cow dung, green foliage, vegetable remnants, discarded parts of fruits or biogas slurry, paper or scrap of cardboards etc. Feed spreader till a height of 6 to 8 inches.

1 kg of earthworms released on the top without hurting them. These earthworms started penetrating to the bottom. Once all these earthworms disappeared, surface covered with bags and kept them wet by sprinkling water in a judicious way. Water and heat inside the tank assisting the organic matter to decay and proliferate the number of earthworms - both these took place simultaneously. By 4 to 5 weeks, production of heat inside the pit was ceased and came down to 600 to 650 Fahrenheit. In case no warmth is felt by hands, understand that the manure is almost ready for use.

Once the process of conversion is completed, the material dumped on the ground, made into a conical heap and left for few hours. The worms could be removed from the base and reintroduced into the next feed mixture while the active compost can be collected separately.

Kitchen garden

Land preparation

- 1. Firstly a through spade digging is made to a depth of 30-40 cm.
- 2. Stones, bushes and perennial weeds are removed.
- 3. 100 kg of well decomposed farmyard manure or vermicompost is applied and mixed with the soil.

4. Ridges and furrows are formed at a spacing of 45 cm or 60 cm as per the requirement.

5. Flat beds can also be formed instead of ridges and furrows.

Sowing and planting

A cropping pattern which has been followed for kitchen garden is given below

Plot no	Name of the Vegetable	Season
01.	Tomato Onion and brinjal	June - Sep. OctNov. DecFeb. MarMay
02	Cabbage, Tomato, Ridge Gourd	June - Sep. OctNov June - Sep. May
03.	Bottle Gourd, Onion	Jun-Sep. DecFeb. MarMay
04.	Bitter Gourd, Okra, Tomato	JunAug. SepDec. JanMar.

Outcome of the Project:

- Low cost waste water management model.
- Managing solid and liquid waste for improvement of environment and ecology. Liquid and solid wastes generated through domestic use by villages were earlier discharged to local water body leading to contamination of water and soil. Through this initiative now the waste generated is being used in growing vegetables and solid waste is being converted into manure
- Livelihood improvement through environment conservation.
- Gardeners feed their families first and then sell, barter or give away surplus garden foods. In certain contexts, however, income generation may become the primary objective of the home garden. In any case, it is counterproductive to impose the nutrition objective to the exclusion of the income generation objective, since in most contexts they are linked and compatible

 Total 30 kitchen gardens and 50 units of vermi-compost are established under the project. Total of 80 beneficiaries are covered under the project.





ECOLOGICAL RESTORATION OF DEGRADED ECOSYSTEM

GEC proposed to implement a new scheme entitled "Ecological Restoration" during the year 2012-13. Under this scheme various environmental issues in the State of Gujarat e.g. Desertification, Salinity Ingress, Over pumping of ground water, Regeneration & Protection of flora & fauna, different kinds of diseases, Agriculture security etc. will be addressed by establishing the model through implementation of scheme. The State of Gujarat, by virtue of its geographical location is blessed with various types of ecosystems. Various problems faced by these life support systems will be addressed through creation of models. The models will be created in the different "eco-regions" which can be replicated in the future. For the current year, GEC have got the grant of Rs.100.00 lac under this scheme.

Gujarat Ecology Commission invited proposals from the various Government Departments/Municipal Corporation etc. Proposals were evaluated at the GEC level to award the projects. GEC awarded project to the Banaskantha Division for restoring four major and unique ecosystems to improve the food security for Sloth bear at *Jessore* Wildlife Sanctuary, Banaskantha and signed MoU. Details of the currently awarded project and progress of the ongoing projects under this scheme are as follows:

I) Eco-restoration plan for *Awala-Kunda-Bor Campa* area of *Jessore* Wildlife Sanctuary, Banaskantha Forest Division

GEC has taken up this project under the Ecological Restoration scheme of the year, 2013-14. To improve food security, drinking water facility and habitat restoration for protecting Wildlife of the sanctuary is the main objective of the project. Project is being implemented by the Banaskantha Forest Division and area treated under the project is 100 ha. GEC is assisting them in financially as well as providing technically guidance for fruitful implementation. Total outlay of the project is Rs.49.75 lac and tenure of the project is 1 year. Major objectives of the project are as follows:

Objectives:

- To restore the ecology of the area for the flagship species i. e. Sloth Bear and other allied existing wildlife & other avifauna.
- To improve food security, drinking water facility and habitat restoration for protecting Wildlife of the sanctuary.
- > To improve the biodiversity through soil moisture conservation.
- To remove invaded growth for the establishment of indigenous sp. preferred by the wildlife.
- To minimize the man-animal conflict by providing better habitat in Protected Area.

Activities proposed under the project

Sr. No	Detail of Works	Unit	Qty.	Unit Rate (Rs.)	Total Cost (Rs.)
1.	Pollarding/Pruning/Graftin g & Weeding – Soil Working of Grafted Ziziphus sp.	No.	4000	100	400000.00
2.	Pollarding /Prooning/Grafting & Weeding – Soil working for Natural Tree sp. in & around Awala – KundalBorCampa(100 Trees/ Hectare. Rs. 15.00/Tree)	Ha.	100	1500	150000.00
3.	Pollarding /Pruning/Grafting & Weeding – Soil working for <i>Ziziphus nummularia</i> .	No.	1000	100	100000.00
4.	Drinking water facilities through Wind mill for wildlife.	No.	2	25000 0	500000.00
5.	To reduce the <i>Prosopis</i> invasion for improvement of Habitat of Wildlife.	На.	100	15000	1500000.0 0

Sr. No	Detail of Works	Unit	Qty.	Unit Rate (Rs.)	Total Cost (Rs.)
6.	Plantation of Fruit sp. within <i>Prosopis</i> removal area including support watering – weeding and soil working	Plant/Ha	1000 0	50	500000.00
7.	Construction of Check wall as a part of SMC work	No.	10	20000	200000.00
8.	Construction of Check Dam as a part of SMC work	No.	2	50000 0	1000000.0 0
9.	Van-Talav with spillway	No.	1	50000 0	500000.00
10.	Establishment of Silviculture unit.	No.	50	2500	125000.00
Grand Total					4975000.0 0

Action taken under the project:

- Removal of *Prosopis* from 100 ha.has been completed satisfactory
- Grafting and pollarding for *Ziziphus nummularia* are under progress
- Construction of Check Dam and Check Wall have been completed successfully
- Constitution of Van Talav with spillway is completed
- Plantation activity is under the progress
- Establishment of Silviculture unit is likely to be completed

PROGRESS OF THE ON-GOING PROJECTS UNDERTAKEN DURING THE YEAR 2012-13 UNDER EAF

1) Wetland Restoration Project at Lawarpur, District: Gandhinagar

Lavarpur is 8.4 km far from the State capital Gandhinagar. GEC has taken an initiative towards the Wetland Restoration through community participation in this village. GEC is carrying out this project in association with the Lawarpur Gram Panchayat under the Ecological Restoration Scheme of the year, 2012-13. Total expected cost of the project is Rs.35 lac to 40 lac and tenure of the project is 2 years. Project is ongoing and progress made under the project till date are as follows:

Formation of Lavarpur Wetland Management Samiti

The Gram panchyat of Lavarpur village has formed the Lavarpur Wetland Management Samiti to execute the Wetland Restoration work funded by Gujarat Ecology Commission through Panchayat resolution dated 11/06/2013. This samiti is an extended arm of village Panchayat and formed inline of Pani Samiti of WASMO.

Dewatering of existing water

One of the essential works of rather first step towards restoration Lavarpur wetland was to dewatering the existing water within pond to remove the contaminated soil from the wetland, which is the main root cause for the shrinking of wetland. More than 50,000 CMT water has been dewatered as off now. The Panchayat has selected another pond situated around 1.5 km away from the Village pond for dewatering the water from Lavarpur pond.

De-Silting of wetland surface

Due to deposition of liquid and solid waste, the Lavarpur wetland has started shrinking from its original size as well as it has been impacted on the quality of water. Moreover, contamination is destroyed water recharging capacity at some level of the wetland therefore it is necessary to desilt the contaminated soil from the wetland. The *samiti* awarded the work to the contractor by issued public notice. Work is likely to be completed. *Samiti*, also documented the process of all the physical activities as well as appointed consultant to advice them for proper implementation.

Establishment of STP

STP model designing and planning for establishment is completed and *samiti* is published an advertisement for inviting tenders.

Habitat improvement for migratory birds and Phsyico-Chemico Analysis of Water and Soil

Soil and Water quality samples were collected by GEC and analyzed by GEER foundation to prepare the habitat improvement plan. Planning for the same is progressing.

The Sanitation Management and Campaign

The GEC team had run the extensive campaign along with Panchayat members to stop the discharge of liquid and domestic waste in the pond through many consultation and awareness programmes. As result of this the Panchayat had made resolution that no villagers will discharge the domestic waste in to pond. The following photograph described that villagers had completely stop discharging the waste water in to pond. In addition to this it has been also decided that no solid waste will also be discharged in to pond or its surrounding areas.

Linkages with Watershed & TSC Programme

As part of this project, GEC had established the linkages with Watershed Management Project Unit, Gandhinagar and Total Sanitation Campaign. Through linkages with Watershed Management Unit, water recharging wells and protection walls well as plantation drive and beautification of the pond at surroundings will be carried out while through, TSC toilets will be created to stop the discharge of liquid waste in to pond.

2) Eco-restoration of unique ecosystem of Amba Forest, District: Valsad

GEC has undertaken an initiative for resorting hill forest ecosystem at Amba Village of Valsad District. Project is being implemented by the Valsad Forest Division and GEC is supporting them financially as well as technically. Total area covered under the project is 100 ha.

Objectives of the Project:

- To restore the unique *Amba* Hill Forest ecosystem through adopting innovative and cost effective techniques and create model for replication.
- To enhance the livelihood of the local tribal community through involving them in conservation efforts and to manage these forest on sustainable basis.

Progress of the project:

The Amba forest is a highly degraded and fragmented forest. The forest has been engulfed by human intervention and agriculture invasion. A great effort has been made by the forest department in restoring the ecosystem. Under the umbrella of Mr. Depak Pandya, RFO, Valsad Division and his team, they have made a tremendous efforts to protect the degraded forest, re-propagation of endemic and indigenous plants. Greatest achievement of the project is that they have not grown plants on the road sides but they have grown the plants on steep slopes of the mountains. The plants that are propagated under the project are Charal (Holoptelea integrifolia), Hardae (Terminalia chebula), Bheda (Terminalia chebula), Kadam (Mitragyna parvifolia), Khakhro (Butea monosperma), Kadaya (Sterculai urens), Kaju (Anacardium occidentalis), kalo sisam (Dalbergia latifolia), Aritha (Spondia acuminata), Shimado (Bombax cieba), amba (Mangifera indica - in agriculture field). All these plants are grown on slopes, with a trench that accumulate water and is highly beneficial for the growth of plants. A total of 62,500 plants were grown with 80% success. 47500 pits were made and seeds of Butea, Anacardium, satawari was simultaneously added for 100% regeneration. In addition medicinal plant like satawari 1000 saplings were propagated. 500 saplings of shimado, 500 saplings of Bamboo and 2000 saplings (Stumps) of Teak were successfully propagated. Degraded forest is divided into 15 Blocks and thousands of plants have been grown in each block. Block 11 has many rare plants which are still conserved in the area these includes Spondias acuminata (wild mango - A threatened plant for Gujarat), Trewia polycarpa, Redermerchera xylocarpa (moti singi) - a highly threatened and endangered plant. The Riverine track was surprisingly has few plants of Dolichondrone falcata (nani singi). The region has many herbaceous plants like Smithia conferata, Smithia salsuginea, and rare orchids like Heberneria digitata.

Some of the other plants that are found in wild are:

Spharenthus indicus (Gorakh mundi), Plumbago zeylanica (Chitrak), Carrisa caranda (Karamda) – good option to cultivate at peak of hillock, Butea parviflora (Palas vel) – A woody liana – only two individual were seen that too is cut by the localities – measures should be taken to conserve these plant species, Trema orientalis along rivulets, Woodfordia fruticosa (dhavati) – highly recommended to be grown on slope and on Riverine track, Spondias acuminata (Ambado) – A highly endangered plant needs protection – all together 2 saplings in this zone, Grewia tilaefolia (Dhraman) – Tall tree good source of germplasm, Clitoria biflora – seed dispersal, Flacourtia montana – Still prevailing in the forest – a threatened plant in this zone, *Cordia domestica* – tall tree could be source of germplasm, *Ehretia aspera* – few saplings were recorded on slope, *Bomabax ceiba* are infected by parasite *Dendropthoe falcate*, *Acacia catechu (Kahir)* and *Wrightia tinctoria (Dhudlo*) was recorded in forest. 80% of restoration activities and other supportive activities have been completed by the Division.

The project is being monitored by Dr.P.S.Nagar, Professor, M.S. University, Baroda.

3) Eco-restoration plan for breeding ground of Great Indian Bustard (GIB) at Bhanada, Kachchh

GEC has undertaken a project on restoration of breeding ground for the Great Indian Bustard in association with the Kuchchh Forest Circle. The project is being implemented by the Kachchh forests circle in Bhanada Village of Abdasa block of the district. GEC signed MoU with the Kachchh Forest circle for the same. The total cost of the project is Rs.121 lacs and tenure of the project is 2 years. GEC is supporting in financial as well as technical aspects for implementing the project.

The main objective of the project is to provide suitable conditions and protection as well as restoring the grassland ecosystem for the Great Indian Bustard

Achievements under this project:

Kachchh Forest Circle is the active partner and implementing the project. Progress made under this project is as follow:

- Mapping of 200 ha area has been done and treatment map of the area has been prepared
- Removal of *Prosopis* from the area has been done
- Ploughing has been done and seeds of *Cymbopogon* have been sown before monsoon. Seeds have been sown at the

distance of 50 cm*50 cm. None of the plant species have been sown in the area except grass

• Erection of chain-link fencing along the area boundary has been done for the purpose of protection

All over efforts made by the Forest Division is appreciated and project is progressing well.



4) Integrated Salinity Mitigation Initiative

To evolve a sustainable and people centric model for enhancing the water harvesting and recharge capacities in the costal salinity ingress affected areas and thereby enhancing the agrarian economy of the region, GEC has taken up project in association with the Coastal Salinity Prevention Cell at village Ghagha of Jamnagar district. The total cost of the project is Rs.39 lac and the tenure of this project is 2 years

CSPC has successfully completed this project in August-2014 and submitted its final report to GEC. Glimpses of the project are as follow:

Action taken under this project:

With an objective to enhance salinity, farm ponds and farm bunds have been constructed to reduce the soil salinity and also prevent water logging in the Gaga village. Total 38 household were covered under this project. **Farm ponds**: Total numbers of 38 farm ponds have been made under the project. As a result of the farm ponds constructed during the project, farmers were able to irrigate their crops, which otherwise would never been irrigated.

Proper and timely irrigation improved the quality of soil and also affected the crop production. There has been an increase of nearly 30% in the production of groundnut and 62 % increase in cotton after the farm ponds were constructed.

Farm bunds: A total of 187.62 ha of farm bunds have been constructed for 142 farmers in the Gaga. Due to construction of farm bunds, farmers were able to diversify to crops such as cotton, groundnut and sesamum. Farmers are quite satisfied and pleased after witnessing the change that the farm bund construction brought in their farms. There has been a significant increase in the production level of crops.






MANGROVE PLANTATION UNDER PPP MODE

GEC is implementing mangrove plantation work in partnership of Industries, corporate houses for conservation and management of this ecosystem. GEC is signed total of 7 MoUs for mangrove plantation through Public Private Partnership during the Vibrant Gujarat Summit-2013. Based on MoUs, Gujarat Ecology Commission has undertaken restoration of Mangroves in an area covering 470 ha. along the Gulf of Kambhat with the active participation of Community Based Organization (CBO), local level NGO and Bhavnagar Forest Division. The site wise achievement of plantation is described below.

Sr. No	Plantation site	Funded by	Plantation carried out through	Achievement in Ha.
1.	Rohino island, Range: Bhavnagar, Ta. & Dis: Bhavnagar	ADANI Ports & SEZ Ltd.	FDA- Bhavnagar	250 ha.
2.	Tarasara, Range: Mahuva, Ta: Talaja, Dis: Bhavnagar	Indian Oil Corporation (IOC)	FDA- Bhavnagar	150 ha.
3.	Nada, Ta: Jambusar, Dis: Bharuch	Indian Oil Corporation (IOC)	Vikas Centre for Development (NGO)	50 ha.
4.	Ashiravandh, Ta: Naliya,Dis: Kuchchh	OPG Power	СВО	20 ha
TOTAL				470 ha.

REVISED GUIDELINE FOR MANGROVE PLANTATION

Gujarat Ecology Commission (GEC) has been engaged in mangrove plantation activities as part of its mandate to work for restoration of ecologically degraded areas to ensure the ecological health of Gujarat systematically. To fulfil this objective, the Commission is partnering with industries/corporate to carry out mangrove plantations through Public-Private-Partnership (PPP) mode. To make the conditions of partnership for mangrove plantations more transparent, GEC has decided the following guiding principles for taking up of mangrove plantation activities on PPP mode. Henceforth the working for mangrove plantations under PPP mode will be taken up on following principles only.

- 1. GEC is an extended arm of Government of Gujarat and not a Corporate party or independent Society, therefore, industries/corporate willing to associate with GEC for mangrove plantation activities need to work as a partner and should fund the project as project cost/grant. The relationship of contractorclient does not hold good.
- 2. Any industry/corporate willing to partner with GEC for mangrove plantation activities need to pay 100% payment in advance either at the beginning of the project or signing of MoU as availability of fund at right time is essential for the success of plantations as plantation is a season-based activity.
- 3. The site selection for plantation is generally done jointly, however, finally site selection depends upon availability of suitable area and therefore, site necessarily may not be in the vicinity of the partnering industry/corporate.
- 4. As GEC is an extended arm of Government of Gujarat as well as the said work is being taken up by GEC on no profit/ no loss basis for the sustainable coastal management in the State of Gujarat and contractor-client relationship does not hold good, therefore, no TDS should be deducted.
- 5. GEC will be responsible to submit progress report on a mutually agreed interval to the partnering industries/corporate and also facilitate to carry out monitoring/ visit of partner industries as well as certificate will be issued stating the completion of said work.
- 6. The cost of mangrove plantation works out to be i.e 30,000/- per ha during the year 2013-14 [the rate for Mangrove plantation has been arrived from the existing rate of Forest Department as well

as prevailing daily wage rate] and this may be subsequently revised based on the changes in daily wages rate from time to time.

7. Partnering industry/corporate can appoint any third party monitoring agency, if they wish so, at their own cost.

ENVIRONMENT AWARENESS CREATION & CAPACITY BUILDING

Wetland Management Campaign

Wetlands, natural and manmade, freshwater or brackish, provide numerous ecological services. Wetlands are effective in flood control, waste water treatment, reducing sediment loads and charging of aquifers. Moreover, they are also valuable for their educational and scientific interest (especially their high diversity or species richness) and provide habitats for fish and other flora and fauna. However, unsustainable use of wetlands without reckoning of their assimilative capacity constitutes major threat to the conservation and management of these vital biodiversity rich areas.

Communities have been using wetlands since time immemorial. The active commitment and collaboration of stakeholders are essential for the management of a wetland (e.g., when the wetland is inhabited or privately owned); access to the natural resources within the wetlands is essential for local livelihood, security and cultural heritage. These are essential as local and indigenous people express a strong interest in being involved in management. Thus, it is essential to strengthen local community and local administrations in conservation and wise use of wetlands through community participation and multi-stakeholder approach.

Community-based management recognizes that local communities can have direct control over the management, utilization and benefits of local resources in order to value and use them in a sustainable manner.

To achieve this objective the local community needs to be trained and made aware of the importance of this wetland prior to its restoration efforts. Keeping these views in focus, Gujarat Ecology Commission (GEC), Gandhinagar launched Wetland Management Campaign in the State of Gujarat. Under this campaign, it is planned to cover 200 small local level Wetlands including village ponds, lakes, water reservoirs etc. The present training programme was conducted with a goal to promote sustainable use and management of wetland by community participation. Out of 200 wetlands, GEC has covered 80 wetlands including village pond, lakes etc. during the year of 2013-14. Rest of 120 wetlands are proposed to be covered during the year 2014-15 which will include coastal wetlands and wetlands identified by Ramsar in the State also. Campaign is going to be run from the July-14 onwards in association with the NGOs

As a part of the campaign GEC is conducting a systematic training programme for creating awareness among local stakeholders and community towards the values and services of wetland with the support from NGOs. Details of the trainings are annexed herewith:

Out Come of the Campaign:

During the Campaign following issues and recommendation related to Wetland have been received from feedbacks of the participants

Issues:

- Willingness for the participation in wetland management and conservation is very low.
- > Runoff has increased due to erratic rain in last 10 years.
- Bird and animal species have declined: loss of forest covers and lakes has lead to declining in species.
- > Lack of technical support and lack of persistent efforts.
- Maintenance mechanism for lake management is not available, due to which regular action for lake management has not been taken
- > Solid and liquid waste from the village is discharged in lake
- > lake pollution is causing health issues for humans and cattle
- > Siltation rate to high which is reducing water storage capacity of lake
- > Quality of water has deteriorated
- Dhobi Ghat (Washing guard) has situated at lake which is causing lake pollution
- > surrounding industries are discharging untreated industrial effluent in lake
- > TDS and Fluoride content has increased in water
- Cause of pollution growth of weed and other weed species degrading water quality of lake.

Major Recommendations:

- Villagers would me more enthusiastic, if wetland program contain more information as well as implementation on the aspect of water recharge/conservation though wetland.
- Villagers strongly believe that without technical guidance it would be difficult to take active participation in conservation activity. Locals are eager to get involve if there is continuous involvement of a support agency for technical support.
- > De-silting should be done at regular interval of 3 years.
- Tree plantation should be done around lakes and road. Maintenance and monitoring mechanism also should be developed for effective implementation of tree plantation.
- Fishing practices has to be regulated and management system should be placed to maintain balance between fishing practices and biodiversity conservation
- > Training should be at regular interval of 3 to 6 months
- > Extra weed should be removed each year
- Measure should be taken up for lake pollution mitigation. Villagers should also be aware about these measures
- Use of ground water should be reduced. This can be done by constructing individual and community level water recharging structure
- > Discharge of industrial effluent should be restricted and regulated
- Buffer zone should be provided around lakes to regulate new development
- Sewerage and drainage line should be constructed and primary sewerage treatment plant should be installed with appropriate maintenance mechanism
- > Solid waste management should be done in village.
- Awareness training about best practices should be conducted. At the same time this training should provide substantial information on technical and costing for implementation of best practices

Sr. No.	Name of Organization	Trainings Awarded	Total Villages Covered	Total Talukas Covered	Total Districts Covered	Total Participants
1	Aniket Gram Vikas Trust	50	60	23	09	3418
2	JivanVikasParivar	10	34	05	02	788
3	Sandipani Education Trust	10	27	06	04	744
4	Nature Heritage Conservation Society	10	23	05	02	736
	Total	80	144	39	17	5686

Short Summary of the Training Programme-2013

CAMPAIGNS & EXHIBITION

Clean Beach Campaign

Considering the importance of beaches and requirement to initiate the campaign to generate mass awareness among the all stakeholders, Forest & Environment Department, Government of Gujarat has approved the project on clean beach campaign over the coastline of Gujarat with total outlay of Rs.37.50 lac. Main aim of the project is to establish new initiatives towards awareness creation among the local stakeholders on the importance of beach cleanliness to maintain its aesthetic value. The Forests & Environment Department, Government of Gujarat and Gujarat Ecology Commission have taken measures to reduce ecological and anthropogenic threats to coastal environment. 'Clean Beach Campaign' comprises of various action oriented programmes and awareness activities like a cleanliness drive, displaying hoardings over the beaches with effective messages, distribution of leaflets etc by involving visitors/tourists, NGOs, eco-clubs, schools etc. Objective of this campaign are as following:

- Promote the importance of having clean, healthy and well-managed beaches.
- Improve the living environment of Gujarat coast through greater public awareness towards beach cleanliness.
- Develop beach/coast based tourism activities
- Conserve and preserve marine life
- Engage in activities to remove litter on beaches

 Identify the source of the debris and initiate activities/campaign to bring behaviour changes

To achieve the objectives, GEC team identified and surveyed 20 potential beaches along the Gujarat Coast namely; Umargaon, Nargol, Tithal (Valsad), Dandi (Navsari), Ubharat, Kuda,Koliya, Gopnath, Zanjhmer,



Mahua, Madhavpur, Porbandar, Mandavi (Kutch), Shivrajpur, Dwarka, Beyt-Dwarka, Somnath, Narara, Harshad, Veraval and Ahmedpur (Mandavi).

Based on survey, GEC published comprehensive report namely "Coastline of Gujarat" gives a holistic view of 20 beaches of Gujarat. It includes information regarding administrative details, history, social angle and livelihood activities, presence of flora and fauna, its potential to become a notable tourist destination, anthropogenic and natural threats, responses, recommended management practices and key output of the consultation. Based on the report, GEC selected 6 major beaches for conducting Clean Beach Campaign as shown in below table.

Sr.No.	Beach Selected for Campaign	District
1	Tithal	Valsad
2	Ubharat	Surat
3	Porbandar	Porbandar
4	Dwarka	Jamnagar
5	Somnath	Veraval
6	Mandavi	Kutch

Campaign included:

Cleanliness Drive through involvement of eco-clubs, NGOs, local vendors, National Social Service etc.

• Hoardings and Display Boards: GEC put up hoardings at all the 20 surveyed beaches having messages of Do's and Dont's. Size of the hoarding is 15 ft x 8 ft.



Hoardings and Display Boards



Do's	Don'ts	
	Avoid using plastics, as it is non -	
Put all the waste in the dusthin	biodegradable and causes	
	pollution. Instead use materials like	
	clay, paper, cloth etc.	
Carry bags to put the trash	Avoid feeding marine creatures;	
Carry bags to put the trash	your food may harm them.	
Carry drinking water along, save	Dumping waste on the heach or in	
your money and help reduce	the Sea	
literacy.		
It is home to a variety of marine	Offerings made to God should be	
flora and fauna	at the place of worship not at the	
	beach or in the Sea.	
Walk an inch more but make sure		
you find a dustbin for dumping		
Make use of "Pay and Use"		
facilities.		

- Preparation of thematic T-shirts for promoting the campaign: Total 1000 nos. of T-shirts prepared for promoting the campaign and disseminated among the participants who took part in the campaign.
- **Dissemination of leaflets/posters/brochures:** GEC has prepared and distributed 10,000 leaflets to all possible stakeholders.

Mascot of 'Clean Beach Campaign':

The green sea turtle was chosen as the mascot for 'Clean Beach Campaign' as our beaches have to be preserved, and catered to just like the Green Sea Turtles. Green Sea Turtle is listed as an endangered species, and hence, is an asset to the beaches of Gujarat. Mascot was reviled by the then Minister, Forests & Environment Department, Shri Mangubhai Patel in Tithal, Valsad on 16th September, 2012.



About the Campaign:

To promote the Campaign and to run the campaign at least for the 3 to 4 months after lunching, GEC undertook all the campaigns in association with local partners for ensuring the involvement of local stakeholders, colleges and local civic authorities. Motive of the campaign is to instil a sense of keeping the beaches clean. During the current year, GEC launched the campaign at Devbhumi Dwaraka in association with the Marine National Park & Sanctuary, Jamnagar. Details of the campaign are as follow:

DEVBHUMI DWARIKA

Campaign was launched in association with the Marine National Park & Sanctuary, Jamnagar on 21st September, 2013.Campaign launched by the Chief Conservator of Forests, MNP & S and Commanding Officer, Indian Coast Guard. TATA Chemicals LTD.also associated in the campaign and actively participated. The campaign runs for 3 days at Dwarka, Beyt-Dwarka, Mithapur and Narara. School students, employees of MNP & S, Employees of TATA Chemicals LTD, Coast Guards were enthusiastically in cleanliness drive. Drive conducted at the Ghomati Ghat, Bhadkeshwar Temple, the beach of Dwarka, Narara and Mithapur beach. Activities like Rally by school students, T-shirt and dust bins distributions among vendors and school students, distributions of leaflets had been conducted.

Campaign ran for 3 to 4 months at all the places in association with the local level partners and they all have been successfully completed the campaign.

Establishment of Institutional Mechanism

The suitable institutional mechanism has also been established at each place. In Ubhrat the Gram Panchayat has formed the sub-committee [this committee is having members from Panchayat, vendors etc] for beach management, they are collecting the entry fees and from the income the vendor is being cleaning the beach. Similarly at Porbandar the Science collage is partner they have collaborated with Municipality, District revenue office and Forest Department to carry forward this activity on regular basis. At Mandavi the forest department has tied up with Municipality for taking up these activities further. At Somnath the Temple Trust is taking forward this initiative. At Dwarika Marine National Park & Sanctuary is taking up this initiative further with the help of Tata Chemical, Dwarika Temple Trust and Dwarika Municipality and other voluntary organisation.

A comprehensive report on the Clean Beach Campaign was submitted to the Government of Gujarat.

WORKSHOPS& CONFERENCES

International Workshop on Mangrove Conservation

In order to exchange knowledge on best practices of mangrove restoration, protection, community participation, management and research among the



mangrove range States, Gujarat Ecology Commission (GEC) in association with Mangrove Society of India (MSI) and International Society for Mangrove Ecosystems (ISME), Japan organized two days International workshop at Mahatma Mandir, Gandhinagar. The workshop was

supported by the Ministry of Environment & Forests, Government of India.

The major aim of the workshop was to bridge the knowledge gaps and enable learning through exchange of best practices/ideas in the field of mangrove conservation. Following were the main objectives of the workshop. The workshop was held on 26th- 27th July 2013 to



commemorate International Mangrove Day. The main themes of the Workshop are as follows:

- 1. Mangrove Conservation and Management
- 2. Climate Change and role of Mangroves

- 3. Community Participation in Mangrove Conservation
- 4. Gaps and Needs of Research in Mangrove Conservation

The workshop brought together national and international representatives of government authorities, diplomats, academicians, scientists, environmental experts, activists and students to discuss and debate mangrove conservation in India and globally. More than 200 participants took part in the workshop.

The workshop was inaugurated by Shri GanpatsinhVasava, Hon'ble Minister, Forests and Environment, Government of Gujarat; Shri H. K. Dash, IAS, Additional Chief Secretary, Forests & Environment, Government; Shri Tapas Paul, Task Team Leader, World Bank; Shri S. K. Goyal, IFS, PCCF & HoFF; Prof. Sanit Aksornkoke, President, ISME, Japan; Dr. A. K. Verma, IFS, Member Secretary, Gujarat Ecology Commission and Dr. A. G. Untawale, Mangrove Society of India, Goa.



H.E. the High Commissioner of Bangladesh, Shri. Tariq A.Karim participated in the workshop on 27th July, 2013 and delivered a speech on Ecological Security in South Asia and the Sunderbans Mangroves – A Bangladesh Perspective

During the workshop, a special area was created for the poster presentation.



There was a special and dedicated poster gallery was created for the researchers and students for posters display to encourage the young researcher. A total 32 entries were received by organised by the young researchers. However, only 24

researchers were participated and made poster presentations on mangrove ecology. To encourage participation organiser had set up voting system to rank the best poster out of total received entries. The voting was done by the all participants during the workshop days. Based on the computerised voting, Three [3] posters was identified on First, Second & Third rank as per the following table. All three winners were awarded the certificate from the organiser. Results of the poster presentation are as under:

Poster Presentations

Rank	Title of the Poster	Name of Winner
1	Floral Composition and Species status of	Mr.Pandisamy
	Mangroves of Andaman and Nicobar islands	Raghvan
2.	Preliminary conservation effort on <i>Rhizophora</i>	Mr. Ravinder Singh
	annamalayama Kathir through in vitro	Chinnappan
	method, the only endemic mangrove to	
	India	
3.	Participatory Mangrove Restoration in Palk	Mr.V.Balaji
	Вау	

Exhibition

In addition to poster presentation, dedicated area was also created for the exhibitions to showcase the mangrove conservation activities. The exhibitions were visited by the all participates and delegates. Exhibition was divided in three major themes as described as below.

(1) Public Private Partnership efforts in mangrove conservation in Gujarat

- (2) Mangrove Diversity in India and
- (3) Community participation in mangrove conservation.

Total Seven different stalls have been set up by the various agencies like corporate houses, Government Agencies and details of the participants for exhibition are as following:

Sr.No.	Name of Exhibitors	Theme of Exhibition	
1.	Gujarat Ecology	Community Participation in Mangrove	
	Commission	Conservation	
2.	Forest Department,	Mangrove Diversity in Gujarat &	
	Government of Gujarat	Community participation in Mangrove	
		Conservation	
3.	Mangrove Society for	Mangrove Diversity of India	
	India		
4.	Hazira LNG Private Ltd.	Public Private Partnership efforts in	
		mangrove conservation in Gujarat	
5.	Reliance Industries Ltd.	Public Private Partnership efforts in	
		mangrove conservation in Gujarat	
6.	Adani Ports & SEZ Ltd.	Public Private Partnership efforts in	
		mangrove conservation in Gujarat	
7.	Mangrove For Future	Public Private Partnership efforts in	
		mangrove conservation in Gujarat	

Gujarat Ecology Commission has also prepared a detail proceeding of the Workshop

Orientation Workshop for NGOs

GEC has received grant from the State budget for Environment Action Plan for the year 2013-14 also. The scheme was started in the year 2012-13. To act as the State's single umbrella for accreditation of various NGOs eligible to receive funding for activities aimed at ecological up-gradation of degraded ecosystems is one of the objectives of GEC. Keeping this thought in a view, GEC has invited proposals from various NGOs on environmental issues under this scheme. In the first year, GEC has received only three credible proposals to fund among 96 proposals from the various NGOs.

GEC has also constituted a scrutinizing committee to recommend proposals to the GEC chaired by Dr.Sudarshan lyengar, Vice Chancellor, Gujarat Vidhyapith, Ahmedabad. After reviewed all the proposals, a Committee suggested that GEC should conduct a half day orientation workshop for the NGOs. The Chairman of the Commission has also proposed the same during the 45th Commission meeting.

Before invited the proposals for the year 2013-14, GEC has conducted a half day orientation workshop on 9th October, 2013 at the conference hall of Van Chetna Kendra, Gandhinagar. More than 200 NGOs have been invited and 135 NGOs have been participated in the workshop. During the workshop, power point presentation was made to explain the scheme, hoe to apply, which kind of proposals will be considered, criteria of selection, guideline of submitting proposals etc.

Workshop helped NGOs to understand the scheme and given an innovative thoughts on find out grass root level environmental issues. Due to workshop, GEC has received 196 proposals during this year from NGOs as well as Gram-Panchayat also. Workshop becomes fruitful for NGOs and for GEC also.

RESEARCH/STUDIES UNDERTAKEN BY GEC

1) A study on environment concern, awareness and perception of stakeholders GEC assigned a study on 'Environment Concern, Awareness and Perception of Stakeholders in Gujarat: A Communication Study for Strategy





Development' to Taleem Research Foundation. Total cost of the study is Rs. 3, 63,000/-. The main objectives of the study are as follows:

- To assess the level of environmental awareness and perception of environment among the general public particularly from coastal areas of Gujarat.
- 2. To assess the level of involvement of Forest official's environment related actions.
- 3. To understand/study/ assess people's perception of the means to control environmental degradation.
- 4. To increase inter sectoral involvement for sustainable environment in the light of environmental and ecological degradation.
- 5. Evolve a communication strategy for adopting a sustainable environment.

The study is on-going and is expected to be completed by September 2014.

2) Ecological Status of the River

GEC has identified the six rivers [Meshwo, Banas, Kim, Kolak, Khari and Shetrunji] of the State covering different ecological and geographical zones of the State as part of this study to assess the Ecological Status. To carry out this study a proposal was called through public notice from the recognized universities and research institutions. GEC has selected three institutes for conducting the study. GEC has signed MoU with all these three institutions. The final report will be received by the June-2014.Details of the institutes and total outlay of the study is as follows:

Sr. No	Name of Institute	Name of River to be study	Total Cost for the assignment
1	ISTAR University Anand	, Banas & Meshwo	Rs. 5.22 lakh
2	Kachchh University Bhuj	, Khari & SHetrunji	Rs. 5.22 lakh
3	Gujarat Ecolog Society, Vadodara	/ Kim & Kolak	Rs. 5.22 lakh

Progress of the study:

Total 26 physiochemical, 8 sediment logical parameters and 6 biological parameters along with various indices are taken up to access water quality and biodiversity status in the project.

Intended outcome:

Present study will help to create a benchmark and become helpful in delineating concrete results for the benefit of humankind inhabiting in the adjacent regions of the Study Rivers in particular and other government and academic organization in general.

3) Environmental Sustainability Vision 2025 for the Gujarat State

GEC has prepared Environmental Sustainability Vision 2025 for the Gujarat State, in collaboration with Indian Institute of Management, Ahmedabad. It would be first time that the State had conceptualized its sustainability goal in environment sector. This vision plan has been prepared in collaboration with IIMA at a total cost of Rs. 10.33 lac. GEC has submitted the final report to the Government for approval & adopting. Glimpse of the project report are as follows:

The environmental sustainability vision 2025 for the State looks into the challenges of traversing towards a future wherein everyone lives a life which is safe from the environmental point of view and is within the limits of the ecological capacity. Objectives & goal of the Sustainability vision are as following:

1. Increase Availability of Safe and Clean Water

Safe and clean water have direct impact on environmental sustainability. The availability has also clear implications for agriculture and industrial growth in a sustained manner. The State should strive to have 100% of its rivers, canals and ponds suitable for swimming.

2. Enhance the Availability of Clean Air

Clean air is the key to a sustainable environment. It depends a lot on how we manage the emission of greenhouse gases which have a key role in balancing the atmosphere and pressure the climatic. It is suggested that 35% of vehicles (commercial and personal) run on alternate fuel and 35% of power is generated from non-fossil sources.

3. Enrich the Availability of land and make healthy soil

The land resource would be always under pressure due to the increase in the requirement for living and economic activities. State would have to develop plans for ensure availability, use and recuperation. It suggest that we should (a) bring the use of Chemical fertiliser and pesticide levels are as of 1990, (b) increase Forest cover by 10% (c) increase the Green cover in cities by 20% (d) 100% of commercial buildings built after 2015 are green and (e) 35% of wastes are recycled or up-cycled; not just disposed.

4. Invigorate Sea Life

The state has one of the longest coasts in the country. The coast is important to the State for internationalization, commercialization and marine life as well the overall climate. The effort should be to restore the sea life as of 1990.

5. Make Environment and Ecology as a Sustainable Business Opportunity

The environment is expected to contribute to the economic development of the State. The economic activities should not only show responsibility towards environment but use such innovative practices and ideas that promote businesses and initiatives that contribute to recharging of the environment and add to the financial prosperity of the firms and the economy. It is suggested that (a) Green Businesses and practices should contribute 35% of industrial production in the State.

6. Let Community Own the Environment

The environment is owned by the people who live in the State. While the State has been charged by its people with the responsibility of giving them a good living planet, they are also equally responsible for contributing to its use and recharging. It is suggested that efforts in this direction be taken with new energy and missionary zeal. The State should (a) utilise the current social and community vehicle, (b) promote opportunities for the community to participate on a wider and more exciting ways and (c) create administrative mechanisms till Panchayat / Ward level.

These are only a snapshot of the complex challenges that are interrelated in their nature. For overcoming them, Gujarat as a state is required to have a practical and honest dialogue towards conserving the ecology and environment for future harmony

4) Environment Strategies for Gujarat 2014-19

GEC has prepared the report on "Environment Strategies 2014-19 for Gujarat based on State of Environment Report-2012 prepared by GEC. Environment Strategies for Gujarat is an effort to offset existing environment issues by integrating environment in development process. In order to support sustainable development, this action plan has incorporated seven significant sectors: Land, Water, Urban, Coastal area, Dessert, Industry, and Air. The expected benefits of this action plan include

- Prioritization of environment issues and Setting up targets
- Identification of stakeholders and coordination
- Building up necessary resources

GEC has submitted the report to the Government

OVERVIEW OF INTEGRATED COASTAL ZONE MANAGEMENT PROJECT, GUJARAT

The Integrated Coastal Zone Management Project (ICZMP) in its fourth year has achieved many a milestones towards its journey towards the objectives of the project. Gradually, the project is moving towards institutionalizing an integrated coastal zone management approach in Gujarat. In the year 2013-14, the project has seen many a capacity building initiatives, international workshop on mangrove conservation, awareness activities, interventions by PEAs, socio-economic activities, national review of the ICZMP, mid-term review of the project, conferring of membership to GEC by International Society for Mangrove Ecosystems (ISME), Japan etc. A quick view of achievements of the ICZMP is as follows:

- 160 coastal villages covered in ICZMP
- 4 coastal districts &13 blocks covering a population of more than 50 lacs
- 8 Government implementing partners
- More than **7200** active SHG members
- CBOs formed with **12800** members
- 13655 ha. of mangrove restoration
- Coral transplantation in over 417 sq. metre area
- 1407 trainings & workshops for capacity building of over 26000 coastal villagers
- Building of around **132** rural infrastructures to ease daily lives in coastal villages
- More than 82 equipments procured to use in coastal studies, research & monitoring
- Over **96** trainings/workshops for building capacity & skills of more than **1300** district/state level government functionaries

Initiation of Jamnagar Sewerage Treatment Plant Project

Jamnagar sewerage project is one of the most important parts of the ICZM Project. For construction of the Sewage Treatment Plant in Jamnagar with a capacity of 70MLD under DBOT mode (Design, Build, Operate, Transfer) a unique bidding process was adopted. The work has been awarded to M/s Essar Project Ltd. with a joint venture with Thermax Ltd. This is for the first time in the country where a STP construction contract is awarded including operation & maintenance for 15 years. One of the interesting aspects of the work is that Rs. 2 crore per annum would be given to Jamnagar Municipal Corporation and above the cost from the third year of contract.



With the view to collect sewage generated from the city and to improve the condition of the rivers, the JMC has started the construction of sewerage network for 12 sewerage zones in the city of Jamnagar. This included the laying of sewer lines, providing house connections, collecting the sewage through a main trunk line along the river and pumping it to the STP for treatment.

Collaboration with international experts for preparation of coastal ecosystem health report card

Gujarat Ecology Commission collaborated with NCSCM and University of Maryland, USA to develop a framework for Cumulative Environmental Impact



development workshop engrossed in putting

Assessment for Gulf of Kachchh. Today, evaluating and reporting environmental impact assessments is more important than ever. Educating the general public about environmental issues is imperative as the world struggles with the adverse impacts of climate change. A precise yet informative and user-friendly resource such as the Environmental Health Report Card keeps the general public informed about



themes in environmental issues such as restoration and conservation. Overall, the workshop was a multilateral collaboration with inputs from different stakeholders participating in the workshop. Gujarat Ecology Commission looks forward to taking its commitment to the environment further by working closely with University of Maryland and NCSCM to develop a detailed and systematic report card for the Gulf of Kachchh, a gem of our national biodiversity heritage. In the same line an ecosystem health report card for the Marine National Park & Sanctuary is also in the anvil.

Innovative awareness activity with the school children of Gulf of Kachchh

Children are the beacons of future and in true spirit of it; Gujarat Commission Ecology conceptualized а unique drawing competition for the school children of Gulf of Kachchh. The

My

named,



drawing competition aptly The young artists are busy creating their little master pieces during the finale Coastal

Village, My Environment was inaugurated on September 5, 2013 and was held in 205 schools of Gulf of Kachchh. Over 10,000 school children from Rajkot, Kachchh and Jamnagar districts participated in the drawing competition, which went on for eight days. At many of the places, the competition was encouraged upon by local leaders, NGO members, government officials and the education department. The competition was well received by school authorities and the officials of district education department. All the children who had participated in the village level event were given a complete drawing kit, which included colour pencils, water colours, brushes, and palette. The competition was held for students of Class 1 to 4 and Class 5 to 8. Winners of these competitions were called for the finale, which was held at Bhuj, Kachchh on September 16, 2013.

Over 400 students participated in the final drawing competition and drew paintings on the theme my coastal village, my environment. The students were accompanied by their parents and teachers.

Strengthening knowledge and skills of coastal villagers to combat disasters

The changing environment and climate has made natural disasters a common place in world over. Technology and human wisdom is put to test when disaster strikes. Due to its proximity to the Arabian Sea and the geological formation,



Imparting training in disaster management in ICZMP villages

villages of the Gulf of Kachchh have had faced the fury of nature several times in the past. Lack of knowledge about disaster management has resulted in heavy loss of human and cattle lives as well as of property. Therefore, Gujarat Ecology Commission (GEC) developed a specific training module on disaster management under the Integrated Coastal Zone Management (ICZM) Project to create awareness among the youth of coastal villages. Gujarat State Disaster Management Authority (GSDMA) was roped in for technical expertise.

The trainings, which began on September 23, 2013 capacitated 950 village youth of three districts, such as Kachchh, Rajkot and Jamnagar in a span of one month. The sessions were carefully planned to cater to the needs of the villagers and was delivered by experts from GSDMA. The one-day training programme primarily focussed on disaster management, first aid, search and rescue. In the beginning, participants were given an overview about various types of disaster like man-made and natural. The session on search and rescue training emphasized on building collapse, drowning, flood rescue, earthquake and cyclone rescue etc. With the help of power point presentations and live demonstrations, the participants were made aware about first aid and emergency rescue method.

GREEN ACTION FOR NATIONAL DANDI HERITAGE INITIATIVE (G.A.N.D.H.I) PROJECT

As the PEA of National component of ICZMP, Gujarat Ecology Commission has initiated various activities under the GANDHI project. Highlights of the project are as follows:

- To promote livelihood opportunity in the project area, 8 SHGs were formed in six villages' viz. Dandi, Samapore, Matwad, Onjal, Sultanpur and Aat.Currently these groups linked with Gujarat Livelihood Promotion Company (GLPC) for various trainings.
- With an objective to adopt non-conventional sources of energy, 60 Solar Street lights had been installed in 4 villages and along the Dandi Beach. A capacity building training was also conducted for the villagers for operation and



maintenance of the installed solar lights in villages. The participants were mostly the Panchayat members, CBO members and other institution in the village. The major objective of the training was to make the community familiar with the instruments. In addition to this, after two years of installation, defunct solar street lights have been repaired. Second training has been for those who have been nominated by the Panchayat from each village who shall be responsible for maintaining and repairing the solar street light in a minimum cost and have also handed over the lights to the Panchayat. GEC has initiated the exercise of Solid Waste Disposal &Management [SWM] mechanism in Dandi village on pilot basis. The solid waste disposal is handling by the village CBO and the working group where all the biodegradable and



non-biodegradable wastes are being collected from each household in the village after which segregation process will take place. After segregation the bio-degradable garbage will be decomposed at shed which has been prepared for the same. Approximately after 50 days of discomposing, it will be ready to use in an agriculture farm. Under this initiative, 350 household has been covered in the village.

• Regular beach cleaning and awareness creation activity amongst the

tourists/visitors and hawkers in the beach of Dandi has been initiated as the major junk of trash in the Dandi village comes from Dandi beach. It was jointly decided with CBO, Dandi, GEC & Gujarat Vidhyapith that 3 days in



a week would be dedicated to beach cleaning in Dandi. For this, a BPL group residing in the village showed their interest and started cleaning the beach which also helped them to generate income. And 2 days in a week are totally dedicated to awareness activity with the same BPL group and school children under the guidance of GEC and Gujarat Vidhyapith.

- Kitchen garden kit was distributed to 5000 families residing in the 6 villages. The prime objective is to use the waste water of the house in the backyard which will partially resolve the issue of sanitation.
- Plantation of Horticulture plants was initiated in the project area but due to the completion of 2013 year season, CBO has decided to carry out the same activity in the 2014 year.
- Constructed 47 individual toilets in the Dandi village under the Sanitation Management with an objective of Open Defecation Free village. All the toilets have been constructed for the BPL families of the villages who are mostly scheduled caste and could not afford to construct it. GEC had constructed the toilets by converging the funds of Total Sanitation Campaign Programme.

Preparation of Master Plan/ICZM Plan of G.A.N.D.H.I Project

IPE Global Pvt. Ltd and Urban Management Consultancy were appointed as a Consultant for preparation of Master Plan/ ICZM Plan for ESA, Dandi and 5 villages. The contract between SICOM and IPE Global Pvt. Ltd/ Urban Management Consultancy had been finalized on 2nd May, 2013 and following activities has been completed

- IPE Global Pvt. Ltd./UMC had submitted the Inception Report in Oct. 2013 according to the deliverables of the ToR between SICOM and IPE Global Pvt. Ltd. which has further been submitted to SICOM on Oct. 2013 by GEC.
- According to the ToR between SICOM and IPE Global Pvt. Ltd./ UMC, GEC had shared all the maps, reports, notifications etc. with the consultants appointed in relation to the project. GEC had also requested to Collectorate, Navasari for supporting the consultants with various information required by them.
- IPE Global Pvt. Ltd. / UMC had submitted the Baseline Survey Report of 6 villages of the GANDHI Project in March, 2014

according to the deliverables of the ToR between SICOM and IPE Global Pvt. Ltd. The report is under scrutiny and will be finalize after incorporating the revision.

 IPE Global Pvt. Ltd. / UMC had submitted the Position Papers report of 6 villages of the GANDHI Project in April, 2014 according to the deliverables of the ToR between SICOM and IPE Global Pvt. Ltd. The report is under scrutiny and will be finalize after incorporating the revision.

CRZ WORKSHOPS:

SPMU GEC has organized workshops on the Coastal Regulation Zone notification 2011 for district officials involved in coastal zone management.

The objective of the workshop is to apprise officials about Coastal Zone Management and provisions under CRZ notification 2011 so as to enhance their capacity in coastal zone management.

During the year 2013-14, SPMU has organised 7 workshops on CRZ. Details of the workshops are as following:

Sr.No	Date	District	No.of Participants
1.	16.05.2013	Bhavnagar	45
2.	06.06.2013	Bharuch	98
3.	14.06.2013	Porbandar	40
4.	29.06.2013	Navasari	84
5.	30.10.2013	Bhuj	60
6.	06.02.2014	Jamnagar	19
7.	07.02.2014	Devbhumi Dwarika	13
	TC	359	



All the participants have been given a copy of the reference material, which includes Gazette on CRZ notification 2011 (English & Gujarati), FAQs on CRZ-2011, Quick reference on CRZ-2011, Presentation on CRZ-2011 and Integrated Coastal Zone Management

PUBLICATIONS, EVENT REPORTS AND AUDIO-VIDEO MATERIALS DEVELOPED DURING THE YEAR 2013-14

Publications

No	Details
1	Profile of GEC & the ICZMP
2	Saagarika – quarterly newsletter of ICZMP
3	A framework for the Cumulative Environmental Impact Assessment of
	Gulf of Kachchh
4	A Ready Reference Handbook on Coastal Zone Regulation 1991 for
	Gujarat Ecology Commission
5	A study on CRZ issues related and implementational aspects in the
	State of Gujarat

Audio-video materials

No	Details
1	On the fringes of earth: A success story of Ashirawandh village
2	Documentary on Bio-medical Waste Management

Event and activity reports/documentations

No	Details
1	Leaflet on My Coastal Village My Environment – drawing competition
2	Report on World Environment Day Activity 2014
3	Report on photography competition – Along the coast of Gujarat
4	Reference material on CRZ Notification 2011
5	Report on International Women's Day 2013
6	Proceedings of International Mangrove Workshop - 2013

FINANCIAL STATEMENT





To, Member Secretary, Gujarat Ecology Commission, Gandhinagar, Gujarat.

We have audited the attached Balance Sheet of **Gujarat Ecology Commission**, **Gandhinagar**, (hereinafter referred to as GEC), as at 31st March, 2014 and the Income & Expenditure Account of the GEC & related Projects for the year ended on that date annexed thereto. These financial statements are the responsibility of the Management of the project. Our responsibility is to express an opinion on this financial statement based on our audit.

We conducted our audit in accordance with auditing standards generally accepted in India. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audit provides a reasonable basis for our opinion.

(a) We have obtained all the information and explanations which, to the best of our knowledge and belief, were necessary for the purpose of our audit.

(b) In our opinion, proper books of accounts as required by law have been kept by the $\ensuremath{\mathsf{Project.}}$

(c) The Balance sheet and Income & Exp. Account referred to in this report are in agreement with the books of accounts.

(d) In our opinion and to the best of our knowledge and according to the information and explanations given to us, gives a true and fair view : -

(i) In the case of the Balance Sheet, of the state of affairs of the $\mbox{PROJECT}$ as at 31st March, 2014, and

(ii) In the case of the Income & Expenditure Account, of the Excess of Income over Expenditure for the year ended on that date.

Dated : Place : Gandhinagar.



G'NAGAR Off. : Plot No. 1201/2, Opp. Chaudhary School, Sector-7/D, Gandhinagar-382007

E-mail : bharat102215@gmail.com

For, G.C. Patel & Co. Chartered Accountants

CA. BHARAT B. PATEL Partner, Mem. No. 102215 FRN No. 113693W

> +91 - 9824082309 079 - 23247008

GUJARAT ECOLOGY COMMISSION

BALANCE SHEET AS ON 31ST MARCH, 2014

COPPUS /CAPITAL FUND AND LIAPULITIES	SCH	AS ON	
CORFUS/CAFINAL FUND AND LIABILITIES	NO.	31ST MARCH, 2014	
CORPUS/CAPITAL FUND AND LIABILITIES	1	(6,82,17,637.35)	
Reserves And surpius	2		
Endowment Funds	3		
Secured Loans And Borrowings	4		
Unsecured Loans and Borrowings	5		
Differed Credit Liabilities	6		
Current Liabilities and Provision	7	11,58,44,216.73	
TOTAL		4,76,26,579.38	
ASSETS			
Fixed Assets	8	17,13,275.00	
Investment-earmarked/endowment fund	9	-	
Investment-other	10	-	
Current Assets, Loans & Advances,etc.	11	4,59,13,304.38	
Miscellaneous Expenditure (to the extent not written off or adjusted)			
TOTAL		4,76,26,579.38	
significant accounting policies	24		
Contingent Liabilities and Notes on Accounts	25		



CA. BHARAT B. PATEL Partner, Mem. No. 102215 FRN No. 113693W



Date : Place : Gandhinagar

GUJARAT ECOLOGY COMMISSION

INCOME AND EXPENDITURE ACCOUNT FOR THE PERIOD/YEAR ENDED ON 31ST MARCH, 2014

INCOME	SCHEDULE	AMOUNT RS.			
Income From Sales/Services	12				
Grants/Subsidies	13				
Fees/Subscriptions	14	34,000.00			
Income From Investments(Income on Invest from earmarked/endow.Funds transferred to Funds)	15	-			
Income From Royalty, Publication etc.	16				
Interest Earned	17	1,16,528.00			
Other Income	me 18				
Increase/(Decrease) in Stock Of Finished Goods And Works-in-Progress	19	-			
TOTAL(A)		1,51,081.00			
EXPENDITURE					
Establishment Expenses	20	31,31,056.00			
Other Administrative Expenses etc.	inistrative Expenses etc. 21				
Expenditure On Grants, Subsidies etc.	etc. 22				
Interest	- 23				
Depreciation (Net total at the year-end-Corresponding to Schedule 8)					
TOTAL(B)		4,44,71,107.00			
Balance Being Excess Of Income Over Expenditure(A- B)	Γ	(4,43,20,026.00)			
Transfer to Special Reserve (Specify each)					
Transfer to / From Gernal Reserve					
BALANCE BEING SURPLUS/(DEFICIT) CARRIED TO CORPUS/CAPITAL FUND		(4,43,20,026.00)			
SIGNIFICANT ACCOUNTING POLICIES	24				
CONTIGENT LIABILITIES AND NOTES ON ACCOUNTS	25				

Date : Place : Gandhinagar

F&N No. 13693W

For, G.C. Patel & Co. Chartered Accountants CA. BHARAT B. PATEL Partner, Mem. No. 102215 FRN No. 113693W

GUJARAT ECOLOGY COMMISSION

SCHEDULES FORMING PART OF BALANCE SHEET AS ON 31ST MARCH, 2014

	(Amount-Rs)
SCHEDULE 1-CORPUS/CAPITAL FUND	AS ON 31ST MARCH, 2014
Balance as at the beginning of the year	(2,38,97,611.35)
Add:Contributions towards Corpus/Capital Fund	
Add/(Deduct):Balance of net income/ expenditure) transferred from the Income and Expenditure Account	(4,43,20,026.00)
BALANCE AS THE YEAR -END	(6,82,17,637.35)

SCHEDULE 2-RESERVES AND SURPLUS	AS ON 31ST MARCH, 2014
1.Capital Reserves	
As per last Account	
Addition during the year	
Less:Deduction during the year	
2.Revaluation Reserve:	
As per last Account	
Addition during the year	
Less:Deduction during the year	
3.Special Reserves:	
As per last Account	
Addition during the year	
Less:Deduction during the year	
3.General Reserve:	
As per last Account	
Addition during the year	
Less:Deduction during the year	
TOTAL	



For, G.C. Patel & Co. Chartered Accountants

CA. BHARAT B. PATEL Partner, Mem. No. 102215 FRN No. 113693W

STATE PROJECT MANAGEMENT UNIT (SPMU) - ICZM Project							
Income & Expenditure A/c for the period of 01.04.2013 to 31.03.2014							
INCOME	TOTAL	Expenditure		TOTAL			
Opening Balance	2783,13,214.00	<u>Utilisation of</u> Grant					
Grant From Worldbank	4300,00,000.00						
		SPMU	344,28,557.00				
Government of Gujarat	1070,00,000.00	GEC	727,57,056.00				
		BISAG	86,34,834.00				
		GPCB	39,05,223.00				
	-	GEER	334,01,360.00				
		MNP	390,97,574.00				
		JMC	2304,94,565.00				
		Kutch	1104,91,216.00				
		Gandhi Green	42,89,119.00	5374,99,504.00			
Bank Interest Income	92,99,040.00						
		Closing Balance		2871,12,750.00			
Total	8246,12,254.00	Total		8246,12,254.00			

INCOME AND EXPENDITURE ACCOUNT OF ICZMP GUJARAT 2013-14
MEMBERS OF THE COMMISSION

Sr. No	Position in the Commission	Designation	Name	Image
1	Chairman	Additional Chief Secretary, Forests & Environment Department, Government of Gujarat	Shri H. K. Dash, IAS	
2	Member	Member Secretary, Gujarat Ecology Commission	Dr. A. K. Verma, IFS	
3	Member	Principal Chief Conservator of Forests & Head of Forests Force, Government of Gujarat	Shri S. K. Goyal, IFS	
4	Member	Professor, IIMA, Ahmedabad	Dr. Piyush Kumar Sinha	



Gujarat Ecology Commission

Government of Gujarat Block No. 18, First Floor, Udyog Bhavan, Sector-11, Gandhinagar- 382 011 Web: <u>www.gec.gujarat.gov.in</u> | <u>www.geciczmp.com</u>

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