



Supported by



# Report of the Climate Literacy and Marine Litter Management campaign in the East Coast of India

We<sup>4</sup> Climate

Climate Literacy and Marine Litter Management in the East Coast of India

CEE

Centre for Environment Education

**Published by:**  
DEUTSCHE GESELLSCHAFT FÜR INTERNATIONALE  
ZUSAMMENARBEIT (GIZ) GmbH

**Registered offices:**  
Bonn and Eschborn, Germany  
A2/18, Safdarjung Enclave, New Delhi 110 029 India  
T: +91 11 4949 5353  
F: +91 11 4949 5391  
E: info@giz.de  
I: www.giz.de

**Project:**  
Climate Literacy and Marine litter Management (CLMLM) under Climate Change Adaptation in  
Rural Areas of India (CCA-RAI)  
Environment, Climate Change and Natural Resource Management

**Responsible:**  
Dr. Ashish Chaturvedi  
E: ashish.chaturvedi@giz.de

**Overall coordination**  
Karin Deckenbach, Kirtiman Awasthi, Meghana Kshirsagar, Kartikeya V. Sarabhai, Prithi Nambiar,  
Kiran Desai, Sanskriti Menon, Gopal Krishna Murthy, Krishna Kumar

**Compilation:**  
Pooja Dave, Ketki Gadre, Shriji Kurup

**Designer:**  
Shailesh Bhalani, Ravi Panchal, Hardik Rawal

**Photo Credit:** AGS, AVVAI and CEE photo bank

**Maps:**  
The maps printed here are intended only for information purpose and in no way constitute  
recognition under international law of boundaries and territories. GIZ accepts no responsibility  
for these maps being entirely up-to-date, correct or complete. All liability for any damage, direct  
or indirect, resulting from their use is excluded.

On behalf of  
German Federal Ministry for Economic Cooperation and Development (BMZ)

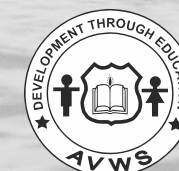
GIZ is responsible for the content of this publication  
New Delhi,  
January, 2019



Supported by



# Report of the Climate Literacy and Marine Litter Management campaign in the East Coast of India



**We<sup>4</sup>  
Climate**  
Climate Literacy  
and Marine Litter  
Management in the  
East Coast of India



# Contents

<b>Executive Summary</b>	1
<b>1. About the Project</b>	2
- Context	3
- Geographic scope of the Campaign	3
- Partnerships	6
<b>2. Evolving the Campaign Strategy</b>	8
<b>3. Campaign Implementation</b>	14
- Two Days in a Village:	15
School Campaign	17
Focused Group Discussions	20
Cultural Events and Exhibitions	23
Gram Sabha Meetings	26
Beach Clean up	29
- Climate Change Adaptation Pilots	33
- State and District Level Workshops	47
<b>4. Campaign Impact and Learnings</b>	50
- Survey and Analysis	51
- Project Outcomes	58
- Media Coverage	61
- Challenges, Suggestions and Way Forward	64



## Executive Summary

The 7,500 km long Indian coastline is at high risk due to climate change especially the Eastern coast and its communities, given its location and sensitive economic conditions. There is strong historic evidence that severe and frequent extreme weather events like cyclones and floods have negatively affected the fertility of the land, caused salt-water ingress and led to the loss of habitat and livelihood. Climate change, unsustainable fishing practices and other local conditions have led to a decline in fish catch and consequent loss in livelihood. Marine litter and its mismanagement is another stressor on the coping capacity of the coastal communities.

There is a need to increase climate literacy among these communities and build their resilience with knowledge about climate change, adaptive habitat and natural resource management, resilient infrastructure and sustainable alternatives for livelihood generation, and mechanisms for climate proofing.

The Climate Literacy and Marine Litter Management (CLMLM) project in the East Coast of India, was designed as an education and communication campaign engaging over 12 partner organizations. The campaign was designed through a participatory approach, building upon the experiences and knowledge of the partners organizations. The campaign design provided space for knowledge sharing and community dialogue with a view to developing insights for future adaptation and livelihoods action.

The CLMLM reached out to more than three lakh (three hundred thousand) communities across 280 villages in four East coast states and one union territory: Andhra Pradesh, Odisha, West Bengal, Tamil Nadu, and Puducherry. The project was able to increase the local awareness on climate change adaptation and marine litter management by 62% and was able to improve resilience of the communities through 24 pilot projects on climate change adaptation infrastructure. In addition to improving literacy and building resilience, 143 km of the coastline was cleaned and the Dry Waste Resource Collection Center was established at Bheemunipatnam, Visakapatnam, Andhra Pradesh. As a follow up, the project also influenced the setting up of the East Coast Forum with the aim of continuing the activities and advance the work initiated by the CLMLM project.

## About the Project



## Context

The coastal areas of India are vulnerable to climate change with high risk of extreme weather events. An analysis of the frequency of cyclones on the East and West coasts of India between 1891 and 1990, shows that nearly 262 cyclones (92 of them severe) have occurred in the Eastern coast affecting a 50 km wide coastal strip. More than 250 million people in India live within 50 km of the coastline; and majority of them consist of urban population.

The Eastern coast is subjected to high climate risk and stress making the coastal communities there more vulnerable. Furthermore, marine litter and its management is another added stress which affects the coping capacity of communities. Hence, in order to build the resilience of the coastal communities, it is a prerequisite that we empower and increase their climate literacy along with provide them with alternative livelihood; develop infrastructure and mechanism on climate proofing.

Climate Literacy and Marine Litter Management (CLMLM) project was started with a vision to empower the Indian communities in the East Coast to better adapt to climate risk and reduce the marine litter burden on the ecosystem. Moreover, the project aimed at developing infrastructure and building synergies/convergence and inter linkages with existing policies and action plans on climate change and marine waste management through campaign strategies, thereby enabling the communities take positive actions towards clean, safe and resilient beaches and marine eco systems in 250 selected coastal villages in the states of Tamil Nadu, Andhra Pradesh, West Bengal and Odisha and the Union territory of Puducherry.

### Objectives

1. To **enhance awareness** among the coastal communities on marine pollution, litter management.
2. To **engage local youth and women** in marine litter cleaning and management.
3. To **build the capacity of the local communities and local government** for addressing the climate change challenges by framing local climate action plans.
4. To **facilitate community dialogues** on climate literacy and marine litter management.
5. To **develop and carry out pilot initiatives in 25 village communities** to reduce vulnerabilities through multi-sectoral cooperation and approaches which include but not limited to measures for prevention of coastal erosion, technology transfer and improvement of infrastructure to prevent loss of life, property and livelihoods during the time of coastal hazards and coastal erosion.

## Geographic Scope of the Campaign



## States & UT Covered

11 Districts  
250 Villages



# Partnerships

Project envisioning and overall support



Supported by  
**giz** Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH



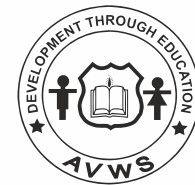
Project coordination and campaign strategy development including design and development of communication materials

**CEE**

Centre for Environment Education

On ground project execution and coordination including training NGO outreach teams, campaign implementation oversight, pilot conceptualization, technical guidance and liaison with state governments

ACADEMY OF GANDHIAN STUDY, ANDHRA PRADESH (AP)



AVVAI VILLAGE WELFARE SOCIETY, TAMIL NADU (TN)

Grassroot partners for on-ground campaign plans, campaign roll-out, community engagement and dialogues



AP



BREDS

BAPUJI RURAL ENLIGHTENMENT AND DEVELOPMENT SOCIETY, AP



SRAVANTI ASSOCIATION FOR RURAL AND TRIBAL DEVELOPMENT, AP



PRAJA PRAGATHI TRUST, AP



AP



GRAMA SWARAJYA SAMITHI, AP



INDIAN INSTITUTE OF YOUTH AND DEVELOPMENT, ODISHA



LOK-SHAKTI VIKASH KENDRA, ODISHA



SABUJ SANGHA, WB



KALAISELVI KARUNALAYA SOCIAL WELFARE SOCIETY, TN



MATHAR NALA THONDU NIRUVANAM, TN



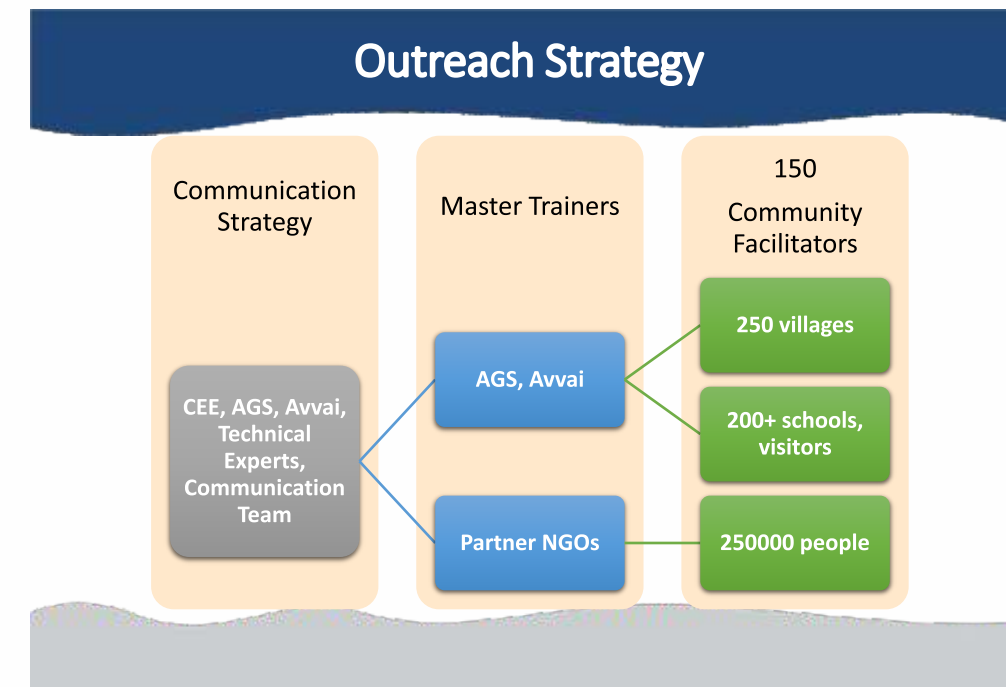
GRAMIYA SOCIAL WELFARE SOCIETY, TN



## Evolving the Campaign Strategy



## Evolving the Strategy



### Designing the Project

The project was designed in a way to facilitate the NGO partners towards the implementation of their respective projects in the East Coast states with the objective to create A resilient, safe and clean beach. The content and outreach strategy were developed through a design process that engaged all the partners. A series of workshops were conducted to first identify the campaign themes. Based on these inputs and desk research, the potential content was detailed out. Through an Information Education and communication (IEC) Materials conceptualization workshop, the content was further refined. The campaign roll out strategy, communication and discussion methods, and the IEC materials were further designed.

### Project Kick off Workshop – Chennai

The kick off workshop for Climate Literacy and Marine Litter Management was held in Chennai on 17 August 2018 and attended by 55 participants from all NGOs and invited subject experts. The objective of the workshop was to identify the main themes and gather the experiences of the partner NGOs in relation to:

- Climate change impact
- Adaptation experiences and needs along the East Coast
- Marine litter management



The workshop participants discussed the development of communication materials focused on various target groups for achieving the targets. It was decided that field staff from locals NGOs would be given adequate training and capacity building on the topic. Various other strategies to be used in order to bring significant social impact within the coastal communities while addressing challenges of inclusive growth for climate change resilience, were also discussed.

The essential principles of climate change; key points related to the area of operation; the communication strategy of holding exhibitions and demonstrations in the coastal villages were also discussed. Since most of these organizations are experts in cultural activities, it was decided to utilize this strength also within the program.



### Develop IEC Material – Ahmedabad

In order to take the Chennai workshop deliberations forward, a workshop was organized to design and develop Knowledge Management (KM) materials in consultation with technical experts and agencies in the sectors of Climate Literacy and Marine Litter Management, in Ahmedabad on 30-31 August 2018.

The aim of the workshop was to identify the key contents of the materials and the campaign strategy. The topics covered during the workshop were – Concepts to be covered for the campaign on Climate change, Climate change adaptation and waste management, Understanding IEC materials and exhibits and how to use them, Action plan for knowledge dissemination in the villages, and freezing the timeline. The outputs of the workshop were converted into appropriate communication materials by the CEE communications team.



### Training of Trainers - Visakhapatnam

A Training of Trainers workshop on Climate Literacy and Marine Litter Management campaign was held from 19 - 21 September 2018 in Visakhapatnam. The objective of the workshop was to provide training on Campaign and Communication Strategies for Campaign Facilitators. Furthermore, during the workshop, the IEC material developed was shared for inputs and recommendation as per field reality. The ToT also focused on providing necessary guidance on how to use the IEC material and other campaign tools especially social media.

The Chief Functionary, Zonal Coordinator, Area Coordinators and Program Coordinators, of all partner organizations were present.

### A state level launch and seminar on Climate Literacy and Marine Litter Management was also conducted on 8 October 2018 in Kolkata.

### Communication and Outreach Strategy

The IEC materials were developed based on the field level realities shared by participants during the Ahmedabad workshop. The contents of the material included enhanced knowledge on climate change adaptation and literacy, marine litter management, disaster risk reduction and alternative livelihoods and sustainable tourism.

Type of IEC material developed for training and communication:

**Facilitator's Manual** was created to support NGO coordinator and serve as a field guide. The manual was prepared to assist NGOs and campaign facilitator to design and conduct activities through a participatory approach.

**IEC materials for Communities** included a set of posters, flyers and standee containing information on issues of climate change and marine litter and possible solution to address the same.

**School activity book** which includes a set of prescribed activities which the campaign facilitator can conduct with school children.



## Campaign Implementation

Using the IEC materials, the campaign communication and outreach strategy evolved around a set of knowledge sharing and participatory practices, which was implemented through community involvement. The various activities of campaign implementation were:

**Two Days in a Village campaign:** An intensive and focused communication and outreach strategy to increase the awareness and literacy of the local communities. During the two day in a village, communities were engaged through a series of activities, such as focused group discussions and meetings with relevant stakeholders, cultural events and exhibitions, and beach clean up among others. Moreover, school children were also involved through dedicated activities such as rallies, painting competition and others.

**Climate Change Adaptation Pilots:** A community led measure to increase their resilience through a climate change adaptation pilots in selected villages. Twenty five such pilots were identified through participatory processes. Out of the Twenty five pilots, twenty four focused on various climate change adaptation proofing measures such as bund renovation and strengthening, plantations, and regeneration of waterfront areas, drinking water ponds and irrigation canals. For the community led pilot execution, a pre assessment was conducted after which the technical design was drafted, materials were procured, necessary permissions were acquired and pilot projects were implemented.



**State and District Level Workshop:** A interface activity to promote convergence and create a platform for experience sharing, learning and discussions. The district and state level workshops initiated focused discussion to build people's awareness about local and regional impacts of climate change, and help them understand how to plan adaptation strategies. It provided an opportunity to facilitate multi stakeholder dialogue to design local actions.

## Assessing Impact

In order to ascertain the impact of the CLMLM Campaign on community members' awareness/ perceptions on climate change, marine litter and disaster management, and their motivation levels and keenness to participate for positive actions, a survey was designed. Twenty five villages were selected for the pre and post survey.



# Campaign Implementation



## Two Days in a Village

The action campaign “Two days in a village” was designed to increase literacy and create awareness on climate change and marine litter. The dedicated Information, Education and Communication (IEC) materials informed various stakeholder about the topic and engaged them in activities during the two days.



The activities included in the two days of the village were:

Session	Duration	Participants/ Locations
School activities including standee	2 – 3 hours	Students, teachers, poster exhibition
Climate Samvaad Meeting with fishermen Meeting with farmers Meeting with women SHGs Meeting with vendors	1 – 2 hours with each group	Focussed groups as described
Marine litter management	2 – 3 hours	Students, youth, volunteers, fishermen, vendors/traders
Cultural events	1 – 2 hours (evening)	Village population, market places, tourism spots
Standee/ poster exhibition at common village place	2 – 3 hours	Village population, tourists, students, market visitors
Gram Sabha meeting	1 – 2 hours (evening)	Sarpanch and elected elders, village population, special invitees



# 1 School Campaign

**A discussion on climate change and marine litter was facilitated with school children and teachers through a school campaign during Two days in a village.**

A school activity manual was developed to help the facilitator in planning and executing activities such as

- Discussion with teachers and students, to explain the campaign subjects, aims and objectives.
- Slogan rally where children / youth raise slogans and also paint slogans on common areas/ walls for public awareness.
- Garbage mapping activity with students.
- Demonstrations or training on Disaster Risk Reduction (DRR) or a short drill on one of the DRR activity, e.g. flood evacuation, cyclone rescue, cyclone warning to village or fishermen.



## Andhra Pradesh

In Andhra Pradesh, 22542 children were educated through 258 school events. Various activities like rallies, safety demonstration in an event of disaster, drawing competition and others, improved their knowledge level. The campaign not only sensitized the school children but also motivated them to pass the knowledge gained to their parents.

*Owing to the school campaign in the Babanagar village of East Godavari District, the school children have started carrying steel glasses to school instead of using plastic glasses and bottles for drinking water.*

DRR training



School rally



Drawing painted by the school children

## Odisha

In the state of Odisha, 2800 children through 25 events were sensitized on the issues of climate change and marine litter management. The discussions, demonstrations, rallies, beach cleanup activities and quiz competitions were very well received by the schools. Apart from organizing the suggested activities, a slogan writing competition was also organized in the state.



Pledge/oath taking



Poster display and school rally

## Tamil Nadu

The school activities such as rallies, poster exhibitions, awareness raising sessions, and quizzes were able to sensitize around 18336 school children across 81 schools of 91 villages in the state of Tamil Nadu and Puducherry.

The school children not only learnt new information but also became conscious about the issues of climate change, marine litter and its management and climate change adaptation. They decided to share their learning with students of neighboring villages.

Fancy dress competition



Poster exhibition and discussions



## West Bengal

The 14 school events across 10 villages were able to provide knowledge on issues of climate change, its impact and how marine litter is damaging the coastal ecosystems. In total, 8768 students attended these events.

School rally



*The campaign managed to influence a young student Ms. Aritra Sahu of class V, Sumatinagar High school, Dhaspara Sumatinagar II Gram Panchayat who went on to educate and inspire her family to start segregating waste at home. Her active participation in the discussions urged the village panchayat to consider setting up a system for collection of non -biodegradable waste from households.*



Cultural event



## 2 Focused Group Discussion



During the 'Two days in a village' campaign, focused group discussions (FGDs) were organized with various categories of community representatives such as women self help groups, youth, members of fisheries cooperative, fishermen association representatives, and shopkeepers. The FGDs brought out the issues and concerns related to climate change and waste management. The discussions focused on the topics of climate change, livelihood adaptation, disaster preparedness, marine litter, and appropriate solutions.



## Andhra Pradesh

In the state of Andhra Pradesh, around 11602 community representative were involved in focused group discussions. The FGDs helped the communities to develop insights into various aspects of climate change. The farmers group could understand the issues of uncontrolled usage of pesticides and their impact on climate while the fisher group realized how crucial it is to follow emergency indications being given by the government in times of cyclones or other natural calamities.

*Focused group discussions with farmers in Andhra Pradesh have provoked them to think towards adopting sustainable farming practices. They realized that such farming practices will reduce the use of fertilizers that aggregate climate change impacts, though economically less expensive.*



FGDs with fisher communities



FGDs with women SHGs

## Odisha

Through 32 FGDs, around 4037 villagers were involved in discourse on the consequences of climate change. During the FGDs, stakeholder highlighted the major issues related to climate change, disaster risk reduction and waste management in their villages, and the solution to combat the same. Along with the FGDs, a youth conclave/carnival was organized at Tandahara beach, Astaranga, Puri District with participation from youths of five project villages.



FGDs with women SHGs

## Tamil Nadu

A total of 229 FGDs with 18313 community representatives was organized across Nagapattinam, Thiruvallur, Cuddalore and Karaikal districts. These meetings provided a platform to the community to interact and learn. Through such meetings; the SHGs were able to realize the climate change risks of cyclone and sea water inundation while the youth got motivated to learn new skills for livelihood adaptation and realized the importance of carrying DRR kits and boat insurance while fishing. The farmers understood the importance of crop insurance and decided to attend training to know new techniques and skills on cropping pattern, salt resistant crops and others. The meetings with shop owners motivated them to use paper covers and baskets made out of leaf as well as educated their customers to bring cloth bag for shopping.

*In the Karaikal District of Puducherry Union Territory, the FGDs with the women SHGs on waste collection and segregation at household level were well received and appreciated. This was further linked with the 'Hand in Hand' NGO which has partnered with the local Corporation to collect all waste and ensure proper disposal.*



Meeting with farmers



## West Bengal

In West Bengal, 50 FGDs with women SHGs and 50 farmers and fisher communities were organized. During the FGDs, the villagers cited the problem of embankment breaches and ingress of saline water into agriculture lands and subsequent loss of homes. They raised the issues of waste dumping by the tourists in the area. Along with the exchange on concerns and potential risk, solutions to address the issues like conducting mock drill on DRR in most vulnerable villages, plantation of fruits and other valuable tree species, and others was also discussed.

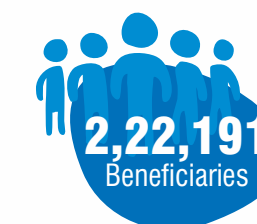


Self help group members discussing the impacts of sea level rise

## 3 Cultural Events and Exhibitions



To mobilize communities, different stakeholder engagement activities like cultural events, road shows and exhibitions were organized. A set of 19 posters covering the aspects related to climate change, its impact on livelihoods, sea safety and marine litter management developed as part of the campaign were displayed in the villages. These materials were used to raise awareness among the people and the interaction focused on increasing a sense of responsibility among people and communities to exhibit more responsible behavior towards climate literacy.



## Andhra Pradesh

Around 186 exhibitions with 45208 attendees were organized across six districts of Andhra Pradesh. The pictorial IEC materials were well received by the communities as they were able to relate to the observed impacts due to climate change on their lives through the materials. Moreover, as these exhibitions were setup near tourist destinations, tourists also realized the adverse impacts of their littering behavior and felt the need of changing the same. Apart from the exhibitions, 241 cultural events with 47,397 participants were organized. These cultural events included street play, folk dance and songs and skits on the topic of the decreasing fish catch. The cultural events helped a lot to draw the attention of the village communities and improve the participation.

Cultural event at Guntur



The campaign on horseback in the Mypadu beach, Nellore, Andhra Pradesh for spreading awareness was appreciated by local people and members of forest and police departments.

## Odisha

In Odisha, two exhibitions and 25 cultural events with 1735 and 22240 participants respectively were conducted. The horse dance as part of the cultural event drew a lot of attention and villagers from neighboring villages also participated in the same.



Horse dance at Puri



Cultural event

## Tamil Nadu

In Tamil Nadu, 21 cultural events were conducted with 33305 beneficiaries. The cultural event in the form of street theater and songs depicted the impact of climate change and marine litter. One outcome of the cultural events was that the local community members were able to relate and establish the link between their own behavior and its impact on the environment. Apart from cultural event, 39 exhibitions were installed to sensitize the local people.

Cultural event



Exhibition on marine litter on a tourist beach

## West Bengal

The 25 cultural events with 21175 participants and 25 exhibitions with 21174 local people in West Bengal disseminated knowledge among local community members on the adverse impacts of marine litter on fish production through drama. These dramas highlighted how the fisherman would face difficulties in fishing due to marine litter. The exhibitions helped the campaign to attract the masses on a large scale at beaches/tourist places and during festivals happening at sea.

Stilt walkers



Stilt performance on impacts of marine litter on fish production







## 4 Gram Sabha Meetings

**394**  
Meetings

**57,346**  
Beneficiaries

To culminate all the activities organized as part of 'Two days in a village' campaign, a Gram Sabha meeting was organized by the Gram Panchayat and represented by Government officials of the village, and, at some places, mandal officials and CBOs. The village panchayat representatives along with other community elders shared their experience and learnings. The meeting provided an opportunity to villagers to identify and analyze the issues due to climate change, its solution and marine litter management. The Gram Sabha meeting led to drafting village level climate change action plans and future actions.



## Andhra Pradesh

A total of 246 Gram Sabha were organized across six districts with 43409 participants. During the Gram Sabha meeting, the communities discussed the need for better litter management, especially for the villages which are near tourist destination. The villagers felt the need to coordinate and involve the tourist department for effective management of litter being thrown on the beaches by tourists. With regards to the issues of climate change campaign, communities shared their climate change adaptation action plans, and Gram Sabhas of the climate change adaption pilot villages committed to manage the pilot structures effectively.

*The climate literacy campaign motivated the locals from the island villages of Krishna District to persuade the government authorities to look into issues of back water and salinity ingress. They have already met the deputy speaker of Andhra Pradesh Assembly and mandal level official to combat the issue.*



Meetings with villagers to develop action plan



## Odisha

In Odisha, 30 meetings with 1949 locals were organized where in village level plans for marine litter management and climate change adaptation were drafted. A contingency plan for disaster risk reduction was also drafted which highlighted the need for establishing cyclone shelter in each village, escape route, warning dissemination mechanism and others.



Villagers committing to reduce the use of plastic



## Tamil Nadu

108 Gram Sabha meetings were held with 5850 community representatives. The meeting focused on sharing the activities held with various community groups on climate change and marine litter management. The village traditional leaders, community stakeholders, ex ward member, ex panchayat president and women SHGs were present in Gram sabha/village meetings. During the meeting it was decided to regularize arrival of sanitation workers to their village for collectively the waste and the panchayat instructed the people to segregate waste and to levy fine on people littering water bodies. Furthermore, the panchayat decided to comply with the rule of banning trawlers net.

*The Gram panchayat decided to utilize the 100 days employment work for renovating the water bodies instead of spending the days cleaning the streets and cutting the bushes.*

Gram sabha meeting representatives



Women sharing their learning during Gram Sabha meeting



## West Bengal

The 10 meetings with 6138 villagers discussed the issues related to extreme weather like cyclone and floods. The local people said that a Disaster management Committees have been formed and that the Gram panchayats are responsible for coordinating them. However there is need to set up more cyclone shelters and conduct mock drills. Furthermore, the communities decided to rejuvenate mangrove plantation in the area.



Women pledging



Expert discussion on climate change adaptation

## 5 Beach Clean Up



The campaign involved awareness and sensitization of the communities on the adverse effects of marine litter and ways to address the problem. This activity involved the use of IEC material for wider coverage of population. Followed by the campaign, the project proposed to adopt a few beaches in the East coast and to promote litter cleaning initiatives with the active involvement of youth, women, college students and community volunteers. The collected material was either sent for recycling or authorized disposal through the existing waste collector's networks.



## Andhra Pradesh

The beach clean up was carried out in 21 beaches of 31 villages in Andhra Pradesh with 1956 community members collecting 42 tons of waste from 43.5 km stretch of beach. The type of waste collected was PET bottles, water packet pouches, glass bottles, nets, thermocol, packaging materials, paper plates, etc.

The Gram Panchayat of Hamsaladevi is planning to setup a micro solid waste management unit for facilitating storing, segregation and recycling of wet waste and marketing of dry waste. The villages in the Bheemili cluster in Visakhapatnam have also come forward to deposit the inorganic waste in the Dry Resource Collection Centre. In five villages of Godavari District and in Nellore District in Andhra Pradesh, the community has made a decision to use dust bins to store litter instead of disposing on roads and sewage gutters.

Mypadu village, Nellore



Students from East Godavari involved in beach clean up

## Odisha

The beach clean up activity was conducted on 12 beaches of Odisha covering a 31 km stretch. 10.7 tons of inorganic waste was collected from the beaches and then disposed in municipality premises. An initial discussion has been held with Puri Municipality, a plan of action is being developed for shifting and recycling the waste from the sea beach. Local scrap collectors were also mobilized to collect the plastic waste from the Barapas and Sea beach adjacent to the Barapas.

Baleswar beach clean up



Banganam Bank beach clean up

## Tamil Nadu

12 beaches were cleaned along a distance of 50 km in Tamil Nadu wherein 1600 community members participated in the cleaning activities. They had collected 27.8 tons of waste from beaches and disposed it THE city municipal limits through support from local Municipalities. The project was coordinated with NSS college students, youths, school students, Self help groups, NGOs and sanitation workers.

There has been increased community awareness and behaviour change observation in the villages as the fishermen are bringing back the waste from the sea in their boats.

Silver Beach, Cuddalore



Beach clean by community in Koraiuppam

## West Bengal

The key issue at Sagar islands in West Bengal is the added load of trash created by the thousands of religious tourists apart from that one created by locals. The current practices of burning is contributing to the problem and the SWM facilities are yet to be fully operational. A total of 15 beach clean up drives were conducted across a stretch of 20 km and 300 kgs of waste (both plastic and religious offerings) were collected by 170 community members.

Ganga Sagar Bakkhali Development Authority has requested Sabuj Sangha to help it to make the Ganga Sagar Mela 2019 plastic free. The gram panchayat at Sagar islands has also decided to strictly enforce the ban on plastic and thermocol in schools and markets.

Students participate in beach clean up

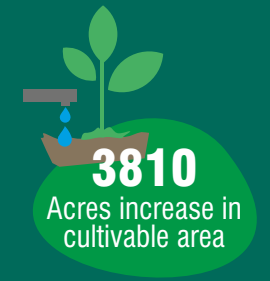


Sagar islands



# Climate Change Adaptation Pilots

One of the major interventions of CLMLM programme was Climate Change Adaptation (CCA) infrastructure development initiatives through multi-sector cooperation and technology transfer. Under this, 24 community-based climate change adaptation pilots on agriculture, coastal erosion, and livelihood security, regeneration of waterfront areas, drinking water and sanitation were established in the project area.



**The various kinds of climate change adaptation pilots implemented during the project were**

1. Renovation of irrigation supply canal/tank bund and rainwater recharge unit.
2. Flood bund/River bund construction and strengthening for protection against salt water ingress and flooding.
3. Renovation of ponds, canals and supply channels.
4. Restoration of irrigation/flood water drainage system.
5. Casuarina plantation and mangrove reforestation for natural fencing to minimize the damage from heavy floods, high wind velocity and sea erosion.

*Apart from implementing climate change adaptation pilots, one dry waste resource collection center on pilot basis was set up at Bhemunipatnam village of Visakhapatnam District, Andhra Pradesh. The pilot is benefiting around 326 families in the area and protecting 5 km of a marine ecosystem.*



The unique approach about the climate change adaptation pilot was establishing a "Pilot Execution Committee" and "Community Pilot Monitoring Committees" for execution and sustainable operation and maintenance. The committee, apart from ensuring sustainable pilot execution, also decided on the kind of pilot, collected quotation, allocated work and monitored its execution and are now maintaining the same.

**The process adopted for pilot implementation**

**Identify potential technology transfers for climate change adaptation and adapt to local contexts**

**Prepare the local communities for the pilot's establishment**

**Prepare the technical design for the pilots through field visit and consultations**

**Formation of community based Pilot Execution Committee and sub groups**

**Training/orienting the committees about their roles and responsibilities**

**Execution of pilot (involves several steps such as bush clearing or area preparation, procurement of goods and material, and implementation)**

**Formation of Community Pilot Monitoring Committees for sustainable operation and maintenance**

**Training/orienting the committees about their roles and responsibilities**

**Convergence with local government**

## Andhra Pradesh

The fisher and farmer communities in the coastal villages of Andhra Pradesh are highly vulnerable to impacts of floods and cyclone. Saltwater ingression, frequent flooding, erosion, and siltation are causing water scarcity, loss of land productivity and water contamination which is affecting livelihoods.

To address such climatic stress, twelve pilots were implemented under the climate change adaptation infrastructure development initiatives of the CLMLM programme. The CCA infrastructure pilots were mainly on strengthening or renovating bunds for flood protection, drinking water supply and irrigation water supply, and strengthening the shoreline and controlling bunds erosion through plantations.

No of beneficiaries  
**47,187**

No of families  
**4544**

Land safeguarded from salt water ingression  
**2400 acres**

Plantation of **2490 plants** for bund protection, **1518 mangroves** and **42 coconut**

**12.8 km** of bund strengthening and renovation for salt water and flood protection

**12.5 km** of bund strengthening for improving water storage



Bund construction and shoreline strengthening at Pedavalasa Village, East Godavari District, Andhra Pradesh



Planting vegetative barriers on the side drinking water tank bund to control erosion

Canal deepening at Edurumondi village, Krishna District



Piercing wooden poles along the length of bund to arrest erosion

Excavating earth to form bund at Dokulapadu village, Srikakulam District

**Case study: Strengthening of Shoreline and Flood Protection Bund in Gollamanda village of Krishna District, Andhra Pradesh.**

Gollamanda is one of the most remote villages in the Edurumondi Islands of Krishna District. It is surrounded by Krishna River on three sides and by the Bay of Bengal on the fourth side. Till late 1980s the fresh water from the river supported the agricultural livelihood. However, due to increased frequency of droughts and low water level in the river, the sea water surged in making the land saline and barren. In 1977, the government constructed a flood protection bund but due to successive cyclones in the past few years, the erosion continued and the river came close to the flood protection bund, leading to potential risk to the locals. Over the last two decades, around 200 acres of land and fifty houses are already lost due to sea water rise. Hence to protect the villagers and check bund erosion, a pilot on strengthening the existing flood bund and shoreline has been implemented in the area.

As part of CCA pilot, 345 meter of flood bund and shoreline strengthening through wooden poles was implemented through community participation. The villagers used their indigenous technology for pilot execution. As part of the pilot process,

1. Initially a passage was created to reach the pilot location.
2. Afterward, wooden poles of native variety with 225 cm length were procured from mainland. These wooden poles were soaked in river water for four days to make them strong and durable.



Villagers fixing the soaked wooden poles along the coast

3. After soaking them in river water, the poles were sharpened at the bottom and manually fixed along the coast in the river bed with 25 cm spacing and 1.5 meter distance from the river bank.

**Benefits:**

No of beneficiaries <b>594</b>	No of families <b>180</b>	Land safeguarded from saltwater ingress and submergence <b>600 acres</b>
-----------------------------------	------------------------------	---

4. With the help of a JCB machine, the poles were further pushed into the ground. While the machine was pushing the poles, villagers held the poles and kept them straight and well aligned.
5. After fixing the poles, the 1.5 meter gap between the wooden pole revetment line and the river bank was filled with plant debris as first layer, with stone waste as second layer and with earth as the third layer and each layer was adequately compressed.
6. Lastly, mangroves were planted along the revetment line to provide further strength.



Villagers holding the poles while JCB machine pierce them into the ground

**The pilot was successful as it withstood a recent cyclone 'Pethai' and safeguarded the flood protection bund and locals.**

**Case study: Bheemunipatnam Dry Resource Collection Centre**

Indian communities generate municipal waste out of which over 50% is inorganic. Source segregation and collection form the two most important pillars of waste management in coastal villages. Lack of waste collection leads to waste disposal on streets, sewage gutters and even on beaches giving an unaesthetic look and also possible health issues.

One of the SHGs in Eguvapeta, Bheemunipatnam of Visakhapatnam District identified this problem and understood that there could be an income generation opportunity if waste is segregated. After conducting meetings with community members and vendors, they all agreed to have a Dry Resource Collection Centre (DRCC) for the village instead of selling their waste in another village which is 5 km away from Bheemunipatnam. An awareness drive for the community to separate the dry and wet waste was conducted and the Municipal Corporation also distributed separate dustbins to each household. An existing room is painted and fenced for this and will be maintained by a regular staff.



Dry Resource Collection Centre

## Odisha

The coastal communities and ecosystem in the Puri District of Odisha are vulnerable to cyclone, flood, salt water ingress and erosion. Hence, to reduce the risk from disaster, casuarina plantation along with bamboo, Morag, and Pandanus as bio-wall was grown on 12.5 acres of coastal villages.

The bio-wall not only addresses the issues of disaster risk reduction but also creates alternative resources and assets for the community.

*In Puri (Urban) District, SISUA Gram Panchayat is keen to link the pilot intervention with MGNREGS*

No of beneficiaries  
**6369**

No of families  
**1296**

Increase in cultivable area  
**80 acres**

Plantation of  
**20,000 casuarina**  
and  
**1000 Acacia**



Villagers carrying out plantation work

### Case study: Casuarina Plantation with Bio wall

Tandahar and Udayakani villages in Sisua Panchayat block of Astaranga in Puri District is surrounded by Kadua & Prachi Rivers on both the sides. Owing to its location, the area is vulnerable to frequent flooding and cyclone. The livelihood of the agrarian society of these villages is severally affected because of salt water intrusion and land submergence. Around 120 acres of agriculture land and forest covers is already lost to sea. Hence, to build resilience of the communities, restore the area and reduce coastal erosion, casuarina plantation as a climate change adaptation pilot was executed in the area.

As part of the CCA pilot, around 15000 casuarina were planted over 10 acre of coastal belt area. To protect the casuarina plantation, Pandanus (screw pine plant) and bamboo plants were planted as bio-shields along its sides. Members from village panchayat, Jangal Surakshya Committe, youth, and SHGs worked together for the pilot execution. After the completion of the pilot activities, a workshop on 'Operational Maintenance" at Tandahar and Udayakani villages was organized wherein the pilot was officially handed over to the Panchayat for its sustainable monitoring.

#### Benefits

No of beneficiaries  
**2641**

No of families  
**503**



Casuarina plantation



## Tamil Nadu

The traditional agriculture communities in the coastal areas of Tamil Nadu are paddy producers. The livelihood of these communities is at risk as their land is becoming more and more saline due to salt water ingress on farmland and in their water supply sources, making it unsuitable for paddy farming. Furthermore, the area is prone to extreme weather events such as cyclone and floods, causing more salt water ingress and loss of land but also affecting the fishing communities' livelihood and shelter.

Hence, to build the resilience of the agriculture communities and protect the fishing villages, ten pilots focused on renovating irrigation supply canal/ponds and rainwater recharge pit, bund strengthening and natural fencing or coastal barriers through plantation to reduce erosion were implemented in selected villages.

No of beneficiaries  
**13093**

No of families  
**2543**

**1330 acres** increase in cultivable area

Plantation of **40000 casuarina**  
**200 coconut**

**3.5 km** of Bund strengthening for salt water arrest

Renovation of **320** rainwater recharge unit



Pilot activity on strengthening bund to arrest back water, Kumarakudi village, Nagai District

## Case study: Renovation of Irrigation Supply Channel to Revamp Paddy Cultivation in Kalamanallur Village of Nagapattnam District, Tamil Nadu

The locals of Kalamanallur village are traditional paddy producers. Around 110 acres of agricultural land was under paddy cultivation through direct sowing method. Until 1970s, when Cauvery River was regularly flowing, the locals used to produce three crops per annum. However, due to reduced flow of water in the river, villagers are facing the risk of frequent droughts. The paddy production cycle has been reduced to only one per annum as they are now dependent mainly on rainwater feed irrigation. Moreover, the saline backwater from the sea is entering the village through Manjalaru River, not only affecting the cultivable land but also making them saline. Almost 60 acres of land has become non-fertile causing loss of livelihood and income, and leading to migration. Hence to arrest salinity intrusion and provide water for irrigation, a climate change adaptation pilot on bund formation and desilting of existing irrigation supply channel was piloted in the village.

As part of the pilot intervention, about 1.5 km stretch of canal was desilted to allow rain water flow to the agriculture lands. Apart from desilting the canal, two bunds were also constructed along Manjalaru River to check salinity ingress.

Establishing an Agriculture Farmers Association to ensure proper maintenance and upkeep of the canals.

### Benefits

No of beneficiaries  
**1070**

No of families  
**320**

**230 acres** of land become more cultivable



Renovation of irrigation canal

## West Bengal

The coastal communities of Sagar island, in South 24 Parganas District of West Bengal is grappling with a rising sea level, increase in the intensity of cyclones, increase in intensity of storms and high tide. Therefore, to protect the local community as well as to demonstrate the significance of natural bio-shield, a pilot on mangrove reforestation was carried out in Bankimnagar village.



Villager maintaining the plantation site



Mangrove plantation site

### Case study: Mangrove Restoration in 25 hectares of Land

The 90 families in Purba Bankimnagar village of Dhaspara Sumatinagar II Gram Panchayat of Sagar Block in the S 24 Parganas District of West Bengal were at risk due to high tide and lashing waves caused by embankment breach. Around 25 hectare of former agricultural land had been severely affected by rising sea level and land subsidence, exposing the locals to the stress. To protect these vulnerable communities and their livelihood, an intensive mangrove restoration was carried out on this 25 ha of waste land.

A combination of three species of mangroves- *Rhizophora mucronata* (local name garjan), *Xylocarpus mekongnsis* (local name dhundul), and *Bruguera gymnorrhiza* (local name kankra) was planted to cope with seasonal, tide and salinity variations. In order to protect the mangroves plantation, a protective casing of bamboo was used.

#### Benefits:

Mangrove plantation  
**3100**

No of families  
**90**

No of beneficiaries  
**421**

**30** families who had lost their lands to the river were directly benefited.



Bamboo fencing to protect the plants from high tide



## District and State Level Workshop

The district and state level workshops were another key intervention of the programme which aimed towards policy convergence. It was designed in the form of Samvaad: discourse that brings together experts, policy makers, and local stakeholders, to start a dialogue and design local action.

The district and state level workshops initiated focused discussions to build people's awareness and help them understand how to plan adaptation strategies. It shared the outcomes of the project with the government officials so as to facilitate continuation and replication of activities and climate change infrastructure. Moreover, it also provided a platform for multi-stakeholder discussions and knowledge exchange.



## Andhra Pradesh

In Andhra Pradesh, one state level and one district level workshop was organised. During the course of the workshop, discussions on key challenges arising due to climate change and waste disposal were shared. Moreover, the members of the gram panchayats and other cluster committees highlighted the key lessons learnt by them and the communities throughout the campaign. The state nodal agencies shared details on the interventions/ activities initiated as part of the campaign. In addition to the Samvaad, the campaigning agencies shared details about the communities' response to the campaign.

The discussions and sharing during the state level workshop, helped draft the action plan for the future which includes:

1. Establishing a village level committee for better management of the pilot project
2. Networking among various groups and departments
3. Development of village action plan and linking it with district and state plans.
4. Coastal rejuvenation and habitat improvement
5. Establishing institutional mechanism for waste management
6. Adoption of new and resilient varieties of crop.



Sri.Ramesh Suman, Additional Principal Conservator of Forests, Government of Andhra Pradesh going through the IEC material exhibition

*In the Nagayalanka village of Krishna District, Andhra Pradesh, CLMLM campaign motivated the swachh Nagayalanka team to integrate climate change and marine waste management in its campaign focus.*

## Odisha

One state level workshop was organized in Odisha where community organizers shared the CLMLM achievement report, and municipality level achievement report with the ward members, the Sarpanch of the Sisua Panchayat, executive officer of Puri Municipality and the Chairman of Astarang Panchayat Samiti (Block). Moreover, communities briefed the Executive Officer of Puri Municipality about the beach cleaning activities.

During the workshop, the state agencies and community organisers discussed and urged the different task force members to build a cadre on plastic waste management.

*The Sisua village panchayat, Cuttack District committed to monitor the pilot areas and plant more trees to safeguard agriculture land*

## Tamil Nadu

In Tamil Nadu, three district and one state level workshops were organized with a total of 237 participants. The three district level workshops with 181 participants brought out the outcome of the project to the knowledge of Government officials and the need for replication. In each workshop, the beneficiaries shared about the benefits they received through pilot activities and of the campaign and also shared their knowledge and attitudinal changes in littering.

In the state level workshop, the community members shared their experience and learnings. They opined that the campaign has helped them become more aware about bio-shield and water bodies in arresting natural hazards and salinity intrusion. Moreover, the partner NGOs shared insights on the challenges they faced during the campaign implementation such as difficulties in providing practical solutions for waste segregation and convincing the communities among others.



Krishna Kumar of AVVAI village society sharing learning of the campaign

## West Bengal

In West Bengal, one state level workshop was organized where different project stakeholders shared their experiences and learning. The fishermen shared their concern on the disappearance of fish varieties while the farmers discussed the need to use organic manure. The self-help groups express their concern on used plastic/ thermacol plates and also gave suggestions to use traditional banana-leaf plates instead.

The workshop resulted in a draft action plan for the next five years to address the issues of climate change and marine litter in the state. The action plan identified key areas of concern and presented strategies such as:

- Educating children to reduce the use of plastics and eventually phasing it out in the next five years
- Protecting the landmass and fish production through mangrove reforestation, afforestation and conservation
- Proper implementation of government schemes through networks and planning
- Adopting new and resilient varieties of crops

*During the state level discourse, community members discussed with the district departments to conduct soil test on regular basis, and suggest possible solutions to cope with the issues of increasing salinity in water and soil.*

## Campaign Impact and Learnings



## Survey and Analysis

In order to ascertain the impact of the CLMLM Campaign on community members' awareness/ perceptions on climate change, marine litter, disaster management; their motivation levels and keenness to participate for positive actions; a survey was designed and executed.



## Survey Methodology

The survey design was developed through a consultative process with the participating NGOs and statistical experts. Based on the nature of the campaign activities and key messages about climate change and marine litter management intended to be conveyed through the campaign, a draft questionnaire was prepared. The questionnaire overall attempted to capture and measure the responses of the community members across different categories on their perception of climate change and marine litter. A pre campaign and post campaign survey methodology was attempted in order to ascertain whether there was an improvement in their awareness, motivation and action levels following the campaign, specifically with reference to climate and marine litter management action. Before rolling out the final survey instrument, the CLMLM Secretariat vetted the questionnaire with external statistical experts. The local language versions were prepared and handed to the respective NGOs. The chief coordinators of the NGOs from the respective campaign states were oriented to the survey design and enumeration methodology. Logistics for data recording, transmission, entry and analysis was also finalized in consultation with them. Appropriate forms, monitoring formats, sampling methodology, timelines and others were also provided to the respective NGOs.

A guideline was provided for the selection of survey project villages, survey control villages, respondents and respondent categories. The broad respondent category was gender, age, occupation and education level.

As per the following table a total of 25 villages from 250 campaign villages and seven control villages were selected for the survey.

### Number and Type of Villages for Survey

State/UT	Semi-urban	Agriculture	Delta or Island/ Estuary/ Fishing/ Tourist	Total Campaigned Villages	Control Villages
West Bengal		1	1	2	1
Orissa		1	1	3	1
Puducherry		-	1	1	1
Andhra Pradesh	1	3	5	9	2
Tamil Nadu	1	4	5	10	2
				<b>25</b>	<b>7</b>

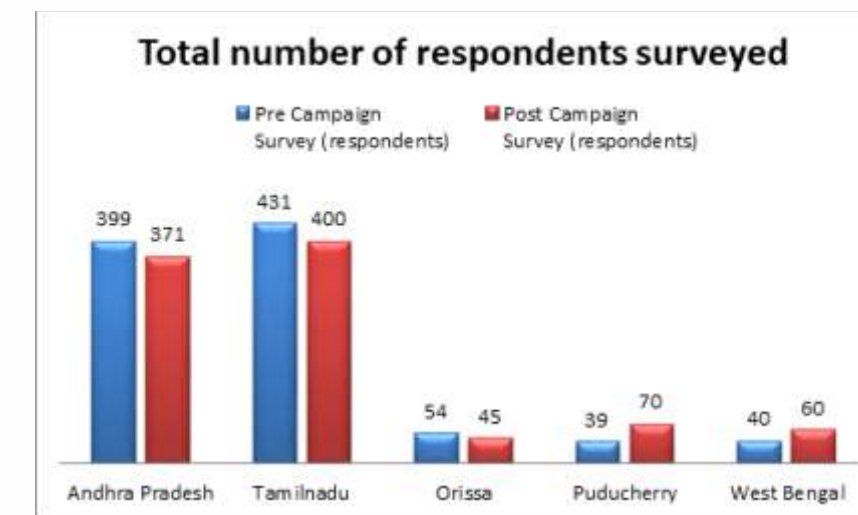
In each village it was suggested to survey 40 respondents in pre and 30 respondents in post campaign survey.

## Results and Conclusion

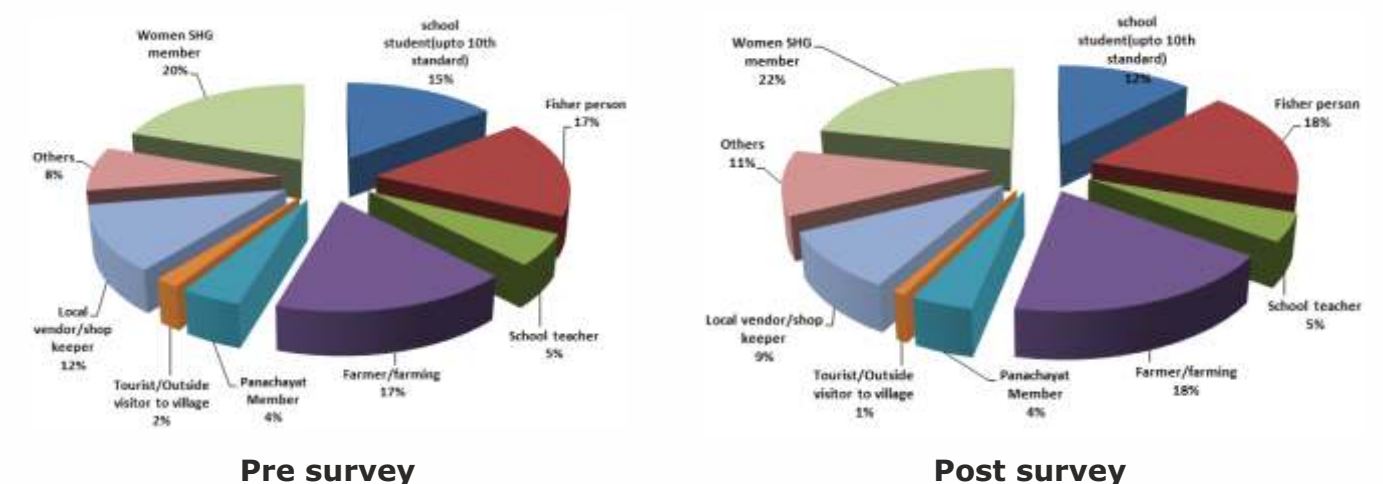
### Respondent Profile

A total of 1911 samples were collected during the survey out of which 963 samples or respondents were surveyed during pre campaign and 948 respondents during post campaign survey. Overall, there is almost equal participation of both male and female respondents throughout the survey. About 50 to 52% of the respondents were from the age group of 31 to 50 years. About 37% were self-employed which essentially reflect the respondents who are engaged in fishing and farming livelihood. Around 48 to 50% of the respondents had primary schooling but are below 10th standard academic level. Almost 26 to 28% of the respondents had never been to school.

### State wise pre and post number of samples collected



### Respondent category wise distribution of samples collected during pre and post survey



## Increase in the level of awareness among the communities

To quantify the increase in the level of awareness due to CLMLM campaign, a set of eight key terms were posed and respondents were asked to record their response according to their degree of familiarity to the term – e.g. do not know the term; have not understood the term although heard about it; and completely understand the meaning and significance of the term.

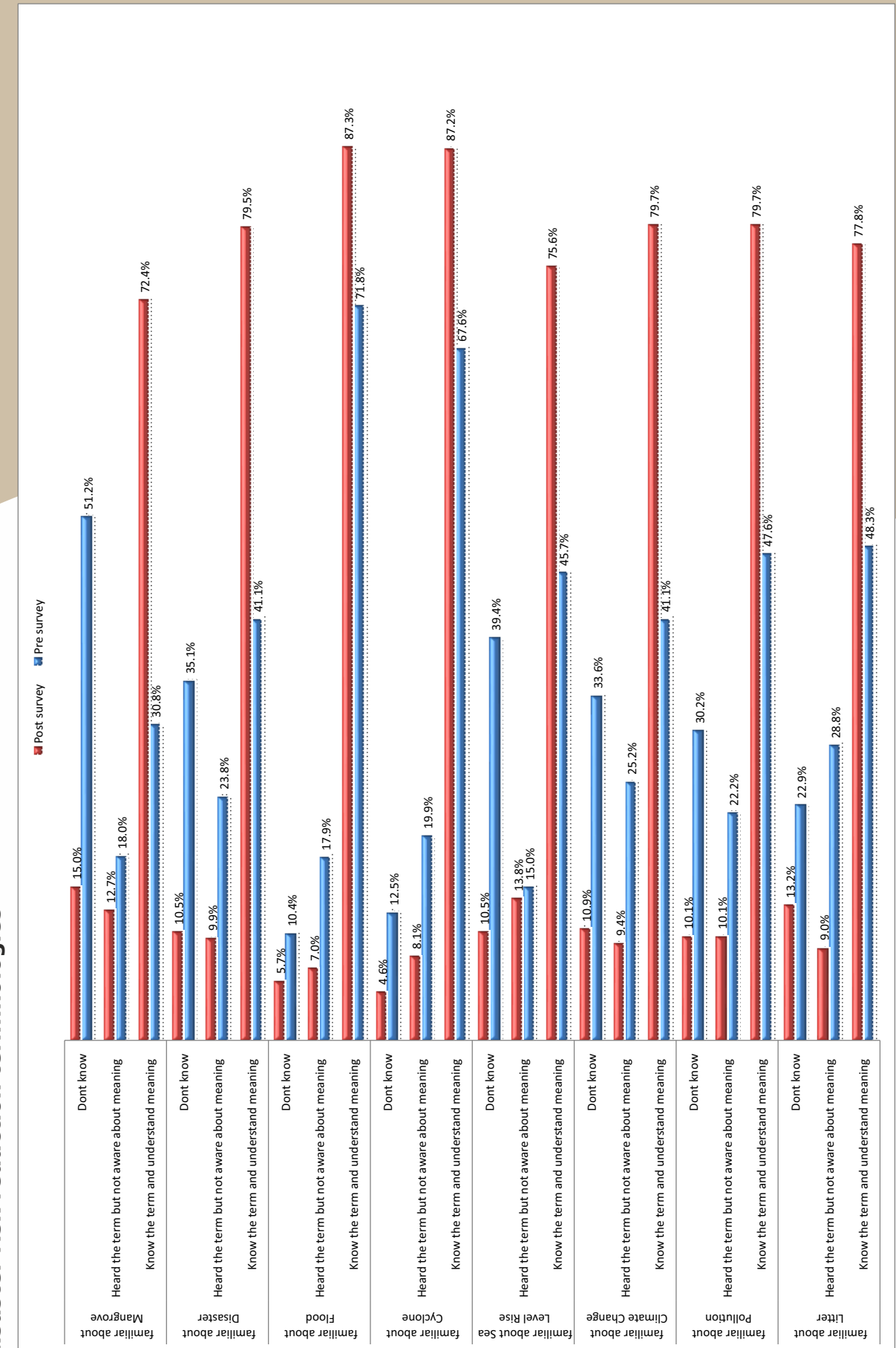
The questions were composed in a way so as to know the existing perception and levels of understanding of the respondents and check for statistically significant shifts of the respondents towards an improved understanding of the term following the campaign.

As per the analysis of pre and post survey through statistical procedure and testing for Levene's Test for Equality of Variances, it was found that there was significant improvement in the level of awareness post campaign.

The analysis shows an increase in the level of awareness on climate change and marine litter by 62%.



Percentage of respondents from Pre Campaign and Post Campaign based on their familiarity with climate change, marine litter and disaster risk reduction terminologies



## Increase in the level of individual priority and willingness

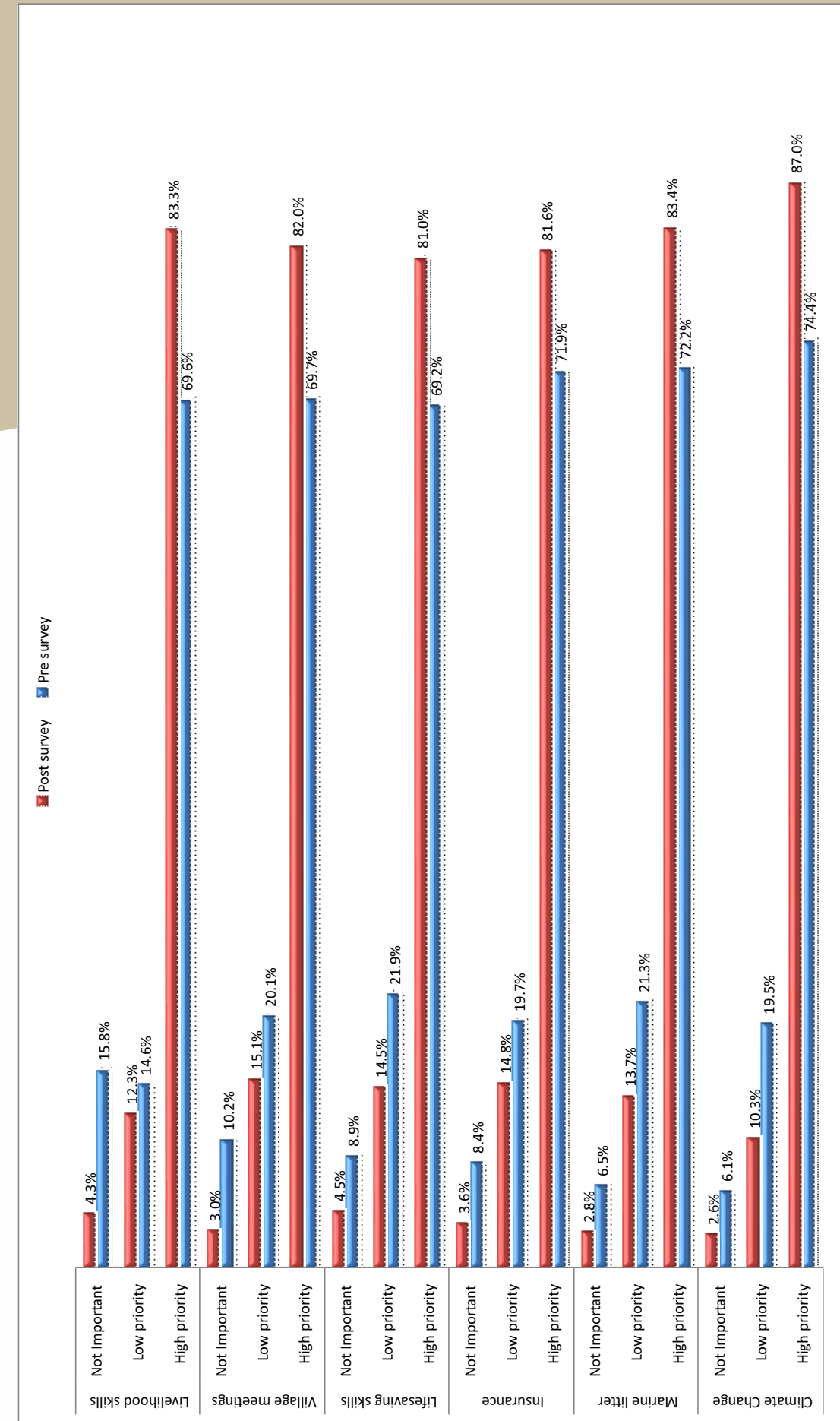
To understand if the campaign was able to motivate the communities and increase their willingness and prioritisation of climate change and marine litter issues, a set questions were posed with response option as high priority, low priority and not important. The responses for the same were collected during the pre and post survey.

As per the analysis of pre and post survey through statistical procedure and testing for Levene's Test for Equality of Variances, it was found that the campaign was able to motivate the communities and inspire them to improve their skills on CLMLM themes.

**Almost about 81 to 87% of the respondents felt high priority for learning and enhancing their skills related to the CLMLM**



**Willingness to learn and prioritize activities related to climate change, marine litter management, governance, livelihood skills, disaster risk reduction**





## Outcomes

**The CLMLM project , through its activities across 280 villages benefited 392177 communities. Some of the key highlights of the project are:**

- **Fire & Disaster Response Authority of Andhra Pradesh** has come forward and joined the campaign. They have extended their support by sending their field level team to our campaign sites. The field level team has **trained youth and children on disaster risk resilience.**
- **The Chief Conservator of Forests, Andhra Pradesh** State, who is the in charge of Climate Change for the state, has taken part in the campaign and he **has agreed to include the points from the campaign outcomes/state level workshop into the State Climate Change Action Plan.**
- **Adavipalem Beach of Adavi Panchayat of Guntur District of Andhra Pradesh** is proposed to be reviewed for receiving **Blue Flag status.** The Blue Flag is sought for beaches, marinas, and sustainable boating tourism operators as an indication of their high environmental and quality standards by Foundation for Environment Education.
- Due to the campaign, the **District Administrator in East Godavari District of Andhra Pradesh** is supportive to **provide life jackets to every worker** who works on boats in our project villages.
- The **Gram Panchayat of DS-II in West Bengal** agreed to **support the plantation request** made by students during the CLMLM Campaign.
- An **SHG in Tamil Nadu** decided to disseminate learnt information about Climate change and Marine Litter with other SHG members in their regular meetings; they decided to **plant trees under the 100 days employment programme** in their area.
- **In Cuddalore District, Tamil Nadu,** the SHG involved in **cloth bag preparation** shared their activity among other groups in the meeting.
- The **farmers in Tamil Nadu** decided to **renovate water bodies** under the 100 days employment program to harvest rain water.
- The **fishermen** have started **collecting the litter caught in their fishing nets.**
- The fishermen decided to place a dust bin in the harbour and deposit the litter in it safely.
- A common decision was taken to **maintain and safeguard the buildings meant for disaster preparedness** like cyclone shelter, community hall and fish auction centre.

- Community members have decided to report to the Government department about limiting trawlers' nets and streamlining their waste disposal.
- The members decided to approach the Forest Department for **coastal plantation in Karaikal District, Puducherry.**
- The shop owners in most districts have decided to use paper covers, baskets made of leaf and also request customers to bring cloth bag while shopping.
- Most vendors have decided to charge customers for plastic bags in order to encourage them to carry their own bag.
- In **Puri District** the **campaign forced the Municipality to keep the beach litter free** and to maintain it that way.
- In five villages of Godavari District and in Nellore District in Andhra Pradesh, the community has made a decision to use dust bins for depositing litter instead of disposing on roads and sewage gutters.
- Ganga Sagar Bakkhali Development Authority plans to make **Ganga Sagar Mela 2019 plastic free.**



Shri Gopala Krishna Murthy, Executive Director, AGS was felicitated by Sri.N.Chandrababu Naidu, Chief Minister, Andhra Pradesh for his services to the people of Diviseema region, Krishna District, Andhra Pradesh. He appreciated the IEC material of CLMLM



## Media Coverage

### Facebook

Social media is slowly becoming a very important educational, marketing and advertising tool. Partners were encouraged to share the activity photos with the project Secretariat who then uploaded them on CLMLM Facebook page. Over 50 posts were posted on the page during October 2018 to February 2019. The likes for the page reached 180 with an average reach of 50 per post. Unique hashtags related to the project were marked with each post in order to make it easier for users to find messages with a specific theme or content.



**Print Media**

The states where the project was implemented received accolades from government agencies as well as media. A total of 64 newspaper articles were printed in local newspapers and the efforts put in for all activities were appreciated.



## Challenges, Suggestions and Way forward

1. The idea of collecting marine litter from the sea through fishers was triggered through the campaign, but its feasibility and effectiveness is a challenge as dry resource centers are not available everywhere. The pilot on Bheemli (Visakhapatnam) needs to be monitored and evaluated to check the financial viability.
2. Capacity on waste segregation technical skills - identifying and sorting recyclables as per market requirements and understanding market linkages need to be strengthened. It is important to identify more technical institutes, entrepreneurs/companies working in the recyclable/waste treatment sector and link them with the NGOs early in the campaign.
3. While NGOs have mobilized attention on marine litter through beach cleanups, the campaign needs similar sensitization on upstream areas from where the litter is mostly reaching the coast. The next attempt will focus on riverine/stream based set of coastal villages and the project villages need not necessarily have to be all located adjacent to the coast.
4. Need to directly influence and co-opt media in the campaigns to cover stories about issues along the coast.
5. Design/adapt campaign materials to intensively involve the higher education institutions/college students in the campaign.
6. The DRR aspects, especially on relief and rescue skills, can be brought in as a specific component of the campaign. The project needs more technical and practical demonstrations about such skills including that on safety at sea.
7. The coast witnessed several cyclones and low depression situations in almost all the project states during campaign period and this affected the schedule and pilots that required earth works; plantations got delayed or not taken up at all. E.g. Many project villages around Nagapattinam could not be covered post Cyclone Gaja.
8. The pre and post survey work by NGOs could not be evaluated in terms of how they administered, checked format, trained enumerators, etc. We had to rely on NGO resources to conduct the survey including the analysis. In most cases, the persons who administered the survey were also the campaign mobilizers and facilitators. Next time it would be better if we keep the survey type evaluation component including analysis separate and as an independent activity.
9. The presence of GIZ and Ministry officials during the project implementation would have been beneficial. While the case of We4Climate was presented at COP, we may still have scope to conduct a NGO-sharing meeting with GIZ/Ministry and chalk out future interventions and identify specific follow up support.
10. We should revisit the status of pilots after 2 to 3 months and the NGOs may be requested to voluntarily update us on this although the project period is over.

### Formation of East Coast Forum

The Climate Literacy and Marine Litter Management campaign was implemented in over 250 villages spread over West Bengal, Odisha, Andhra Pradesh, Puducherry and Tamil Nadu during October to December 2018.

Extensive outreach was achieved through community meetings, focused group discussions, school events and meetings with local and district government officials. The discussions were on the impacts of climate change, disaster risk reduction, the need for adaptation of livelihoods, improved habitat management in villages and towns and of the coastal ecosystem, as well as marine litter management.

Over 18 organizations and individual experts have been involved in developing and implementing the campaign, and reflecting on the learnings and outcomes. The campaign experience has also led to stronger partnerships among these actors, and an interest to work together collaboratively by forming the East Coast Forum.

Several areas of work have been identified, towards enhancing climate resilience all along the coast.

The programme areas identified are:

- Ecosystem-based adaptive fisheries management
- Climate smart coastal farming management
- Water resources and saline ingress management
- Coastal bio-shields conservation
- Climate change impacted water and sanitation
- Water- and vector-borne disease management
- Marine litter management
- Disaster risk reduction

The approaches identified for further work are:

- Participatory action learning
- River-basin to coastal community connect
- Youth learning and action
- Convergence with government programmes and policy dialogue





## Acknowledgment

### DEUTSCHE GESELLSCHAFT FÜR INTERNATIONALE ZUSAMMENARBEIT (GIZ) GmbH

Sr.No	Name	Email ID
1	Dr. Ashish Chaturvedi	Ashish.chaturvedi@giz.de
2	Karin Deckenbach	karin.deckenbach@giz.de
3	Kirtiman Awasthi	kirtiman.awasthi@giz.de
4	Meghana Kshirsagar	meghana.kshirsagar@giz.de

### Centre for Environment Education

Sr.No	Name	Email ID
1	Kartikeya V. Sarabhai	kartikeya.sarabhai@ceeindia.org
2	Prithi Nambiar	prithi.nambiar@ceeindia.org
3	Kiran Desai	kiran.desai@ceeindia.org
4	Madhavi Joshi	madhavi.joshi@ceeindia.org
5	Sanskriti Menon	sanskriti.menon@ceeindia.org
6	J. K. Vyas	jk.vyas@ceeindia.org
7	Sharad Gaur	sharad.gaur@ceeindia.org
8	Shriji Kurup	shriji.kurup@ceeindia.org
9	Sujeet Dongre	sujeet.dongre@ceeindia.org
10	Debi Prasad Rath	dp.rath@ceeindia.org
11	Jaison Varghese	jaison.varghese@ceeindia.org
12	Pooja Dave	pooja.dave@ceeindia.org
13	Ketki Gadre	ketki.gadre@ceeindia.org
14	Padma G	padma.g@ceeindia.org
15	Deepika Lal	deepika.lal@ceeindia.org
16	Jogendra Rajora	jogendra.rajora@ceeindia.org

### Academy of Gandhian Studies

Sr.No	Name	Email ID
1	G.Gopala Krishna Murthy	ags.tirupati@gmail.com
2	C.Uday Shankar	cudayashankar@yahoo.com
3	Prof.V.Uma	umavennam@gmail.com
4	C.M.Muralidharan	cmmuralidharan@gmail.com
5	S.N.Umakanth	umakanth.s@itc.in
6	M.Snehalatha	snehalatha@saciwaters.org
7	Doraiswamy Ashok Kumar	doraiswamyashokkumar@yahoo.com

8	V.Bhagya Lakshmi
9	B.Venkateswara Rao
10	T.Badari Narayana
11	K.Nirmala
12	G.Vaneeswara Reddy
13	K.Madhumathi

vblakshmi812003@yahoo.co.in
bezavada.rao@gmail.com
badari.bapatla@gmail.com
nirmalagk.ags@gmail.com
gvreddy111@gmail.com
madhumathi.koppal@gmail.com

### Avvai village welfare society

Sr.No	Name	Email ID
1	M. Krishna Kumar	avvaikk@yahoo.com
2	R. Mani Vannan	avvaichildresilience@gmail.com
3	P. Santhosh Kumar	santhosh@kkssindia.org

**Partner organisation**

S. No.	Name of the State & District	Name	Name of the Organisation	Email ID
1	Andhra Pradesh, Nellore	Sri.M.Srinivasulu	Praja Pragathi Trust (PPT)	ppt_srinu@rediffmail.com
2	Andhra Pradesh, Guntur	Sri.J.V.Mohan Rao,	EFFORT	effortap@gmail.com
3	Andhra Pradesh, Krishna	Mrs.M.Prasanna Lakshmi	GUIDE	guide_vja@yahoo.co.in
4	Andhra Pradesh, East Godavari	Mr.S.Kapardi	SRAVANTI (Sravanti Association for Rural and Tribal Development)	ces.sravantiorg@gmail.com
5	Andhra Pradesh, Visakhapatnam	Mr.B.Ramu	Grama Swarajya Samithi (GSS)	gssamithi@yahoo.co.in
6	Andhra Pradesh, Srikakulam	Mr. A.Ramakrishnama Raju	Babuji Rural Enlightenment and Development Society (BREDS)	arkraju64@gmail.com / bredsgo@yahoo.co.in
7	Odisha, Puri	Mrs.Gitanjali Behana	Lok-Shakti Vikash Kendra (LSVK)	gitanjali.lsvk@gmail.com
8	Odisha, Bhadrak	Mr.P.C.Misra	Indian Institute of Youth and Development (IIYD)	iiyd@hotmail.com
9	West Bengal, S 24 Paraganas	Mr.Ansuman Das	Sabuj Sangha	director@sabujsangha.org
10	Tamil Nadu Nagapattinam	S. Rajamanickam, Secretary	Gramiya Social Welfare Society (GSWS)	gswsgsws@gmail.com
11	Tamil Nadu Cuddalore	P. Rajendran, Executive Director	Mathar Nala Thondu Niruvanam (MNTN)	mntn.ngo@gmail.com
12	Tamil Nadu Thiruvallur	K. Purushothaman Secretary	Kalaiselvi Karunalaya Social Welfare Society (KKSS)	purush@kkssindia.org

**Literacy Assessment:**

- Centre of Consultancy & Allied Services
- Parth Tailor