

Sub-Regional Workshop on Community Resilience to Climate Change in the Bay of Bengal



Bhubaneswar, Odisha, India
12th July to 14th July 2012

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Photographs : RCDC and Concern Worldwide

Printed by : Perfect Print & Graphics Pvt. Ltd., Bhubaneswar

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ACKNOWLEDGEMENT

We wish to thank one and all whose valuable contribution led to the success of the Sub-Regional Workshop on 'Community Resilience to Climate Change in the Bay of Bengal' - 2012 held from 12th to 14th July at Bhubaneswar, Odisha. In particular all credit goes to Mr. Dipankar Datta, Country Director, Concern Worldwide, Mr. Saroj Dash, Technical Coordinator, Climate Change, Concern Worldwide and Ms. Sweta Mishra, Team Leader of Concern Worldwide. Dr. Ambika Nanda, State Programme Officer, UNDP was the guiding light whose coordination efforts deserve all praise. We wish to thank Dr. Kabir Sethy and Prof. Gopal Panda of the Geography Department, Utkal University who were involved right from the inception stage. Credit must go to all the staff of Regional Centre for Development Cooperation (RCDC) whose untiring efforts made the workshop a success. We would also like to thank the Partners, JJS and Sushilan from Bangladesh. Mention must be made of the co-organisers, Practical Action, Save the Children, Trocaire, AIDMI, and CANSA represented by Ms. Vishaka Hidellage, Mr. Achyut Luitel, Mr. Ranga Pallawala, Mr. Gehendra Gurung, Mr. Ray Kancharala, Mr. Sasanka Padhi, Ms. Laura, Mr. Mihir Bhatt, Mr. Sanjay Vashist, and Mr. Tirthankar Mandal without whose support the workshop would not have been a success. We are particularly grateful to the Hon'ble Minister of Forest and Environment, Government of Odisha, Mr. Debi Prasad Mishra who so kindly inaugurated the workshop and committed all help, and Hon'ble MP's of India and Bangladesh, Mr. A V Swamy and Mr. Tanvir Shakil Joy who enriched the workshop with their presence, support and valuable suggestions. Our special thanks to the resource persons and panel members, in particular, Mr. Mukul Sharma, Dr. Debal Deb, Dr. Sinhababu, Dr. P Bhattacharya, Dr. Gurmeet Singh, Dr. Tawhidul Islam, Mr. Rafique Haque, Mr. Palash Halder, Dr. P Mishra, Dr. Dillip Pattnaik, Prof. Asha Hans, Ms Bipasha Dutta, Ms. Umme Salma, Ms. Padmavathi Yedla, Mr. Ghanshyam Pandey, Dr. Kamal Mishra, Ms. Binapani Mishra, Mr. G. Padmanbhan, Mr. Anirudh Dey, Mr. Charudutta Panigrahi and the community representatives from Kendrapara and Jagatsinghpur who enriched the workshop with their valuable inputs. We wish to thank Mr. Jagadananda, State Information Commissioner, Odisha, for the concluding session. We cannot thank enough the eminent media personalities Mr. Dillip Satapathy, Mr. Rajaram Satapathy and Mr. Sampad Mahapatra who spared their precious time to attend and share their views. We also wish to thank profusely the community members and the participants for their enthusiasm, meaningful interaction and valuable sharing of their experiences which made the entire exercise worthwhile. The facilitation efforts of Mr. Suresh Bisoyi, Mr. Ghasiram Panda, Ms. Sikha Srivastava, Ms. Mamata Dash, Mr. Bimal Pandia and Ms. Sarojini Brahma must be praised. This acknowledgement will not be complete without mentioning the staff of Hotel Swosti Premium who worked silently in the background and ensured the perfect ambience for such an important workshop.

Organising Committee

ABBREVIATIONS

AIDMI	All India Disaster Mitigation Institute
CANSA	Climate Action Network South Asia
CBA	Community Based Adaptation
CHE	Centre for Hydrological Education
CIS	Centre for Interdisciplinary Studies
CRRI	Central Rice Research Institute
CWB	Crop Water Budget
DCA	Dan Church Aid
DRI	Disaster Risk Index
GHG	Green House Gas
GIS	Geographic Information System
GPS	Geo Positioning System
HoD	Head of Department
LDF	LetzDream Foundation
MP	Member of Parliament
NGO	Non Government Organisation
OSDMA	Odisha State Disaster Mitigation Authority
PRI	Panchayati Raj Institutions
RCDC	Regional Centre for Development Cooperation
SAARC	South Asian Association for Regional Cooperation
SAYCC	South Asian Youth Climate Coalition
SRI	System of Rice Intensification
SWAD	Society for Women Action Development
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme
UNICEF	United Nations International Children Education Fund

INTRODUCTION

Sub-Regional Workshop on Community Resilience to Climate Change in the Bay of Bengal - 2012

Background

A considerable number of the world's poorest people live on the coast of Bay of Bengal, which is also the world's largest Bay. Bay of Bengal is endowed with rich natural resources and monsoon that provides livelihood support to the millions living along the coast. Vast stretches of fertile land, wet lands, resourceful forests and grasslands make this region one of the most inhabited ones. This sub-region, areas around the Bay of Bengal, is among the most densely populated regions of the world. This coast, however, also bore some of the deadliest natural disasters. It has had all - massive cyclones, cruel tsunamis and continuous sea surges. The list is only growing in number and intensity. Experts have no two opinions that such disasters have very close link with global climate change and that this region is among the hot-beds of climate's fury. These disasters are posing additional and

significant threat to an already vulnerable population and environment.

The coast of Bangladesh and India are among the most vulnerable regions in South Asia with very significant exposure to coastal disasters and high mortality risk which are now accentuated further by climate change. Agriculture is coming under increasing stress, coastal livelihoods are in jeopardy. They are posing serious social challenges too. The problem of huge climate refugee has already emanated as a big problem in the region. Vulnerable people with their science and resources are trying to adapt with the impacts of climate change that have become the central concern. With the emergence of scientific consensus on climate change, the governments in the coasts have intensified their efforts to tackle the impacts. Climate change policy and actions are already formulated in these



THE BAY OF BENGAL SUB-REGION

The sub-region has Sri Lanka and Maldives in the South-west and Myanmar, Thailand and Indonesia in the South-eastern part of the Bay of Bengal. Since the coastal areas also have significant climatic relation with majestic hills like the Himalayas, Eastern Ghats and river basins like Ganga, Brahmaputra and Mekong etc; countries like Nepal also become integral part of the Sub-region.

countries to strengthen their effort in sustainable development, poverty alleviation and disaster management.

To contribute to this effort Concern Worldwide, through partnership with regional NGOs, has initiated a project, "Multi Country Initiative on Increasing Resilience and Reducing Risk of Coastal Communities to Climate Change and Natural Hazards in the Bay of Bengal". This project - titled 'Paribartan' - covers the South West coast of Bangladesh and the coast of Odisha in India. One of its partners, Regional Center for Development Cooperation (RCDC), also implements another project in the coastal parts of Odisha with United Nations Development Programme (UNDP) support. That project "Climate change adaption and reducing vulnerabilities of communities to climate change and disaster risk through integrated water management", named 'Prayas' aims to address the issues of climate change impact through Integrated Water Management.

As an outcome of the collaboration between both programs, the Sub-regional conference on "Community Resilience to Climate Change in the Bay of Bengal - 2012" was organised in Bhubaneswar, Odisha to facilitate a dialogue on community resilience in the Bay of Bengal region. The conference was hosted as the first initiative to bring the communities and their agencies living along the coastal areas of Bay of Bengal together to share their issues and probabilities to overcome the climate crisis across the Bay.

The three days conference from 12th to 14th July 2012 was co-hosted by Regional Centre for Development Cooperation (RCDC) and Geography Department of Utkal University with the support and facilitation of Concern Worldwide and UNDP in Odisha. The event was co-sponsored by Save the Children, Practical Action, Trocaire, AIDMI, CANSA based on their

commitments for the specific themes assigned as part of the design. All these supporting organisations having international presence cater to different sectors and subjects but are bonded by one common goal - of fighting climate challenges.

The three days event had participation from countries along the Bay of Bengal; India, Bangladesh, Sri Lanka and Nepal. The participants included representatives from different sectors and walks of society like international and national civil society organisations, academic institutions, policy makers including members of parliament, practitioners and community representatives across the countries bordering the Bay of Bengal region.

Objective

The broad objective of the process was to foster an informal forum for sharing experiences and bridge the knowledge gap on the climate change phenomenon and its impact on the coastal communities in the Bay of Bengal region by cutting across geo-political boundaries.

The Specific Objectives were set out as;

1. Bring together stakeholders and practitioners to share and discuss knowledge of community resilience and adaptation planning from different parts of Bay of Bengal.
2. Capture the scientific learning from community by engaging with the scientists and academicians to develop a people's science model appropriate for the developing world.
3. Enhance the capacity of most vulnerable groups of people to develop their resilience capacity in developing countries and integrate lessons into development plans.
4. Disseminate lessons learnt at the workshop as a summary charter for follow up.

WORKSHOP PROCEEDINGS

DAY ONE- 12th July 2012

INAUGURAL SESSION

The workshop was inaugurated by Mr. Debi Prasad Mishra, Honorable Minister for Forest and Environment, Government of Odisha, along with an esteemed panel of delegates representing India, Bangladesh, Sri Lanka and Nepal.



Mr. Dipankar Datta, Country Director, Concern Worldwide, India, welcomed the delegates to the workshop and mentioned that this workshop is the first initiative to create a platform to bring together the coastal communities along the Bay of Bengal coast and address the climate change issues across the sub region. He highlighted that climate change is a global issue and does not respect state boundaries; hence the entire geo-climatic politics needs to be explored to address the issue holistically. Quoting the UN Secretary General

that there would be no food security without climate security he emphasized that most vulnerable countries along the Bay of Bengal coast are facing the worst impact of the scenario and coordinated effort is required at the regional level to address the issue. He urged the delegates to actively participate in the three day long workshop and hoped that a meaningful dialogue would ensue leading to some direction for the communities, Government and the key agencies working in the region.

This first of kind initiative aims to establish a platform to bring together the communities along the Bay of Bengal coast and address the climate change issues together.



Mr. Saroj Dash, Technical Coordinator-Concern Worldwide, briefed about the sub regional perspective and the need for such an initiative and described the broad objective of the process. As a proponent of

the sub-regional workshop, he also highlighted the need to bring together all stakeholders and practitioners to develop collective action on community resilience and adaptation in the Bay of Bengal region. The participation of key stakeholders from the region has helped to broaden the scope of the engagement. Sharing briefly about 'Paribartan'- the multi-country climate change initiative by Concern Worldwide, he said that this effort aimed to initiate and develop desired positive changes amongst the communities across the sub region living in highly vulnerable conditions and facing the fury and challenges of climate change and natural disasters. 'Paribartan' is not a mere project but is a mirror to the problems afflicting the entire sub-region and reflects the hopes and aspirations of the people to bring positive changes. The challenge is to address a larger change working in tandem with different governments, institutions, the different communities and the entire population who will be affected by the changes in the region. This sub-regional workshop is the outcome of a series of consultations that has started from Bangladesh and now resulted in this event to bring the experiences from the grassroots agencies, academic research and policy makers together. He also appreciated the participation of large number of people across boundaries for responding to the call and sincerely hoped for stronger cooperation and effort to meet the challenges ahead.

He also emphasized on the concept of the workshop that it has linked the communities with

strategic partners like UNDP and European Union, support partners like Concern Worldwide, Practical Action, Trocaire, Save the Children and academic partners Utkal University and Jawaharlal Nehru University and Jahangir Nagar University as the knowledge partners with the support of the action partners as the organizers namely Regional Centre for Development Cooperation (RCDC) from India and JJS and Sushilan from Bangladesh. Most importantly, he mentioned the valued contribution and support from Parliamentarians from India and Bangladesh.



Ms Vishaka Hidellage, South Asia Director, Practical Action said her organization was immensely pleased to be a part of this initiative. She emphasized that Practical Action inherits the

principles of the eminent British economist and philosopher E Fritz Schumacher and the founder of the organization who warned about the impacts of lopsided development and climate change nearly four decades ago. Practical Action has been trying to demonstrate an alternative path to development based on the principle of environment friendly development approach of Schumacher that could still save the situation if properly implemented. She explained that Practical Action is trying hard to bring 'technology justice' to the communities in need and offered the support of her organization's experience and expertise for building up the resilience of the communities across the sub region. Wishing all the success she extended her appreciation to the organisers to initiate such a step which needs urgent attention and action as disasters do not respect boundaries.

Coastal disasters have strong relation with what happens in the hills and inlands. Hence need to think and strategies in a holistic manner.

Reiterating her statement Mr. Achyut Luitel of Practical Action- Nepal pointed that climate change was not restricted to the Bay of Bengal region alone and even in a highland country like Nepal temperature is constantly rising and affecting livelihoods. The melting glaciers of the Himalayas are leading to flooding in the major Indian rivers originating from Nepal and are disrupting life in India as well as Bangladesh. Hence it is necessary for all nations to think seriously about climate change and its impact in the upstream region as that would cover the issues with a holistic perspective.



The Chief Guest, Hon'ble Minister Mr. Debi Prasad Mishra, expressed his gratitude for organizing such an important multi country workshop in Odisha and for inviting him. The minister lucidly described the importance of the Bay - both in the development of region and also in the recent climatic threats. The state of Odisha has always been dependent on the Bay of Bengal, earlier known as the Kalinga Ocean, and its inhabitants used to sail across the bay to trade with countries of Java, Sumatra, Indonesia and Sri Lanka adding to the prosperity of the state. Today unfortunately the same Bay has turned into a threat forcing the transition from a once prosperous state to a disaster prone poor economy affecting the lives and livelihoods across coastal Odisha. Out of 40 million people in the state, 60 percent are dependent upon the coastal ecosystem for their livelihoods. The changes witnessed in lakes, rivers and the coast are alarming. Sea level rise, saline ingress, and coastal erosion have emerged

I on behalf of the Government of Odisha declare strong support to promote this sub-regional Cooperation to tackle climate change challenges

as major climate induced problems affecting both agriculture and marine productivity. He emphasised that the Government is aware of climate change issues and has been taking steps to control and mitigate the situation and in the process has developed a 'climate change action plan' for the state and a separate coastal zone management plan is also being implemented by the Government with assistance from World Bank. Coining this effort as a 'mini-SAARC' initiative he extended his commitment for the cause and gave call to join hands and promote sub-regional cooperation at the SAARC level and create a multi stake holder platform to address the challenges of climate change in the Bay



Dr. Ambika Nanda, summing up the session, expressed happiness that the workshop has started on an auspicious note with strong support and commitments from the Hon'ble Minister and other participants. He expressed hope that the initiative would bring results as other Afro-Asian commitments have done in the past. He called upon the facilitators, knowledge providers and experts to come out with viable solutions during the various sessions so that they could be shared and taken up with the Governments.



The vote of thanks was extended by Mr. Kailash Chandra Dash, Executive Director, RCDC who extended his heartfelt gratitude to the Chief Guest, Panel Members and all the participants and wished that the event would be a great success and the deliberations would provide key solutions to the crisis affecting the communities across the Bay of Bengal region.

PANEL DISCUSSION

Bay of Bengal Perspective and the Role of Civil Society

The inaugural session was followed by the session on "Bay of Bengal Perspective and the Role of the Civil Society" which aimed to build the perspective before beginning of the technical sessions. Apart from setting up the objective for the workshop this session geared to develop the modalities and modus operandi for the

tackled at the community level alone. The role of NGOs, CSOs and other stakeholders becomes very important not only to intervene on a service delivery mode during emergency situations but to develop the capacities of the people and empower them to face the challenges. In spite of such capacity building the people continue to



participants, paper presenters and session chairs to conduct the session. The session was chaired by eminent journalist Mr. Dillip Satapathy and the panel included organizers like Dr. Ambika Nanda, Mr. Dipankar Datta, Mr Saroj Dash, Mr Kailash Chandra Dash, and Dr. Kabir Mohan Sethy.

Referring to the increasing number of climatic aberrations, both in number and intensity, Mr. Ambika Nanda expressed that people are getting exposed to increasing number of varied climatic disasters. They are staying prepared at their level as they are trying their best to adapt. However a complex issue like climate change cannot be

be dependent on the service providers and thus it is important to make the state accountable and follow the rights based approach. He called upon the civil societies to build a common agenda and work together to ensure that all development interventions are sustainable and well researched so that the new programmes and interventions help reduce the risks and vulnerabilities of common people.

Clarifying that the word 'civil society' does not mean only NGOs but all the people and their organizations, Dipankar Datta of Concern Worldwide emphasized that the nature of the civil society varies across all countries bordering

the Bay of Bengal. He expressed the need for understanding their different character and urged the need to bring them onto a common platform and develop common action points.

Representing the academia Dr. Kabir Mohan Sethy, HoD, Department of Geography, Utkal University expressed the role of technical institutes and universities to carry out scientific studies and ensure the outreach of the study findings to the common people in a simple manner which would help in demystifying the complex technical knowledge and their application in common interpretable forms. He cited his own experience with regard to study of coastal erosion in Satabhaya region in Odisha and how people's perception of the disaster has gradually changed. Thus there is a need to undertake more of such grassroots studies to educate the people and help them in developing their resilience and the role of the academia is to act as a bridge between science and people and blend the traditional knowledge of the people with the scientific knowledge for the benefit of the community to overcome the climate crisis.

Echoing the voice of the civil society, Mr. Kailash Chandra Dash, Executive Director, RCDC opined that most of the climate change action plans, including the one that Government of Odisha has prepared, are beset by the top-down approach. Fruitful action can come only by giving

Government can perform many things best but there are certain jobs where the NGOs are better. We need to find a perfect and healthy mix where both supplement each other.

more emphases to action at the local level. Technology is good and can be accepted if it is suited to the needs of the community and as per the local situation. Highlighting the role of NGOs, he expressed that government can of course do many things but there are certain jobs where the NGOs are better equipped. We need

to establish a perfect and healthy mix. He appreciated the efforts of NGO's who are working with the people to understand their problems, empowering them by building their capacities, enabling them to form community based organizations, and advocating their cause to Governments and other agencies to bring about people friendly policies and development. NGOs with their peoples led approach and advocacy skills are better placed to take care of natural resources and their effective management suiting the needs of the communities. He appealed to all civil society organizations working in the region to come together to meet the aspirations of the people and help them in fighting the vagaries of the climate and adapting to changing circumstances.

Briefing about the agenda of the workshop the representative of Concern Worldwide shared that the workshop was proposed as the first initiative to create a sharing platform to bring together the coastal communities and their agencies along the Bay of Bengal coast to address the climate change

The workshop aims to galvanise every individual living in the sub-region where they realise that they too have a role to play in mitigating climate crisis.

issues across the sub region. The goal of the sub regional workshop is to share the latest developments and discourse on building community resilience across the region by addressing the core issues of disaster and climate change

Mr. Saroj Dash expressed that climate change is a global issue and does not respect state boundaries; hence the entire geo-climatic politics needs to be explored to address the issue holistically. In this regard, he appealed to all the groups to demonstrate actions on the ground which would motivate the common man to join the struggle. As an anecdote, he cited the

example of how Gandhiji associated common salt with the Independence Movement to communicate with common people to mobilize their participation. Similarly the issues of Climate Change should be communicated to enable every individual living in the region to realise that it is affecting their lives and they too have a role in mitigating the crisis which would not leave anyone unscathed.

Summarizing the session and also representing the media Mr. Dillip Satapathy said that this workshop will surely help build the intended platforms at all levels - from community to national policy making to international

negotiations. Adding on the role of the media he said that the media needs to play a very important and responsible role to tackle the climate crisis. He said that the media has a key role in disseminating knowledge on climate change, its causes and effects and also in reporting on the various measures being taken to mitigate and adapt to such changes. He said the media looks for precise and genuine information and lack of such information makes it difficult for the media to focus on the issue and urged the groups working on the issue to support the media with authentic and timely information for wider sharing.



TECHNICAL SESSION - 1

Climate Change and Impact Assessment / Monitoring

Preparation can start only when we become aware about certain changes. Preparation becomes successful only when we are able find out the causes; and/or any pattern in such changes. Thus assessing impacts and monitoring the developments are the basic essentials, especially when we are dealing with highly erratic climatic situation. The scope of the session provided the opportunity to explore the range and diversity of experiences on the process of conducting assessments and monitoring of climate change impact by drawing the learning from both existing and ongoing experiences of key stakeholders engaged in the region.

The first technical session was on 'Climate Change and Impact Assessment/Monitoring' which was chaired by Prof. Gopal Panda, Geography Department, Utkal University. The other members in the panel were Prof. Tawhidul Islam of Jahangir Nagar University, Bangladesh; Mr. Rafique Haque of Sushilan in Bangladesh; and Mr. Sudip Chandra Pal, Sarpanch of a vulnerable coastal Panchayat in Kendrapada district of Odisha.



With a graphic presentation Prof. Panda elaborated on morphological changes and issues of coastal zone management along Odisha coast. The presentation highlighted the distinct characteristics of Odisha coast and described some conceptual and methodological aspects of use of Relative Vulnerability and Disaster Risk Index (DRI) for spatial analysis and multi hazard zoning in India situation. He focused on coastal erosion along the Odisha coast and explained how such erosion has become a major threat for the coastal communities making human habitation and livelihood vulnerable due to climate induced

coastal processes. Citing the various agents and processes affecting the coast like coastal winds, coastal waves, littoral drift, storm surges, flood discharges, tides, and human interventions he said that coastal communities are living in constant threat of loss of lives and livelihood. He called upon researchers to identify and study the various changes occurring along the coast as an impact of climate change so as to influence development in coastal areas in order to mitigate and adapt to the changes. He discussed about various tools and methods to study the forces that were causing the changes and hoped that SMART modifications and intelligent interventions could turn things around and help the communities thrive and become resilient and also have ecologically sound impact on the coastline. He ended by calling out for an integrated process of sustainable development that would ensure social justice and equity.



Dr. Tawhidul Islam, in his presentation, dealt with Contextual Assessment for Designing Community Resilience Program in Climate Change Scenario and focused on the

vulnerabilities of communities living in the coastal regions of Bay of Bengal which has been frequently affected by cyclones, tidal inundation and floods most of which are considered as impacts of climate change. Understanding community vulnerability to shocks is not easy and linear rather it requires a conceptual line of thought that may have sufficient space to accommodate every major and minor contextual issues appropriate for a location and specific scale (i.e. household, community, regional). The paper tried to explore how communities use the resources for their well-being and how uncertainties, threats and shocks creates grounds of vulnerability by amplifying gaps in asset holding and distribution pattern.

The panelists shared their views that development activities, including some intended to mitigate coastal hazards, along the coast has been responsible in degrading the coastal environment, leading to deterioration of common property resources which are the livelihood support of poor and marginal communities.



Mr. Rafique Haque from Sushilan, Bangladesh, advised caution while implementing projects in sensitive areas. Citing from experience he shared that in the 1960s Bangladesh implemented a coastal

zone project which on the contrary caused more adverse affects. The project's adverse affect started to be felt in 15-20 years. Now that area has become water logged because of siltation as drainage system has been blocked. He said that we tend to term climate change for loss of livelihoods but there is no such provision yet to prove it. He stressed on the need for evidence that can actually establish that the damages in coastal areas and loss of lives and livelihoods

are an impact of climate change. Through the 'Paribartan' project, initiative has been taken to gather evidences and baseline study has been conducted which has captured the climate change impacts and vulnerabilities at the community level. This baseline information system will be updated every year to capture the changes. He concluded by highlighting that lots of actions are being taken by the communities at the grassroots but there is need to develop strong linkage between the researchers and the community people for better results.



Mr. Sudip Chandra Pal shared about the climate change impacts faced by the people of this region. He said that people have become victims of the development projects along the coast and the

improper planning by the government. He shared the examples of Satbhaya and Pentha which have become climate hot spots and impacts of sea level rise could be witnessed in these areas. Elaborating further on his area, the Sarpanch said that nature's

Researchers have to identify changes occurring along the coast as an impact of climate change so as to influence development in coastal areas.

fury is more acute in his area as it has been trapped in a dreadful triangle with the restriction to access and use the resources due to imposition of Wildlife Act in Bhitarkanika National Park on one side; Marine sanctuary at Gahirmatha on the other and restrictions imposed by missile testing centre on the third side. He narrated about climate refugees and how people are forced to migrate to live a pitiable life. He however sounded very positive and concluded by saying that it is our duty to safeguard nature, which will then protect us.

The contribution of the paper and inputs from the panel members shared the practices from across the region and captured the view points on the relevance and legitimacy of the monitoring processes to establish a community based monitoring system to capture the changing impacts of climate change. The use of information and technologies in building such comprehensive

monitoring system was emphasized as the emerging trend to capture the community perception in an effective manner. The session also identified common issues and called for cross regional cooperation to share the practices and discuss knowledge of community resilience and adaptation planning from different parts of Bay of Bengal.

Suggested Action Points

- *Monitoring hazards and their impacts need to be assessed by the researchers along with the coastal communities and issues need to be addressed at the sub regional level since there exists diversity in people, environment and resources.*
- *Micro level studies will help more in community centric adaptation and mitigation.*
- *In climate change scenario the affected communities and civil society organisations need to design community resilience programmes using the 'asset, inequality and vulnerability' framework.*
- *Local specific community resilience programmes can be a solution to address the coastal issues of climate change and lessons can be drawn from contextual analysis which has been adopted in Bangladesh as a model.*
- *Tracking the impact of development in reduction or enhancing climate change effects requires to be given special emphasis.*



TECHNICAL SESSION - 2

Climate Change and Food Security / Agriculture / Livelihood

Climate change hits the poor hard as it affects the primary sector first. This sub-region is home to the densest poor population of the world. About 80 percent of that population is directly dependent on agriculture and natural resource as their primary livelihood sources. The impact of climate change is being felt the most in these sectors. In such backdrop this session offered sharing of wide range of experiences, knowledge and practices in agriculture sector to develop the coping capacity of the farm dependent communities and the scope to maintain/enhance food security. The panel members discussed the range of impact generated through the action research models that captured the scientific researches; and learning from community. They provided a potential ground to develop a people's science model on sustainable agriculture in a climate change scenario. The session also shared a perspective on community based crop water budgeting systems. The issues of access to commons and interaction with the market was proposed to ensure the livelihoods and food security of the most vulnerable groups as the challenges to develop and management of the climate resource to benefit the developing world with livelihoods insecurity caused by climate change and suggested to secure livelihoods and food security as a perfect blend of traditional knowledge and new innovations.



The second technical session was a very crucial one as it meticulously tried to learn both from the grassroots as well as from the laboratories the impacts of climate change on agriculture and the ways to mitigate or adapt to the challenges. The panel for this session included farm scientists Dr. P Bhattacharya and Dr. Sinhababu, from Central Rice Research Institute (CRRI); Dr Debal Deb, a known ecologist and Director of Centre for Interdisciplinary Studies, Kolkata; Mr. S V Gobardhan Das, Executive Secretary of CHE; Mr Palash Halder of Concern Worldwide, Bangladesh; and Mr Deepak Singh of Dan Church Aid, New Delhi.



Dr. Bhattacharya gave an idea about technological innovations and experience to assess and combat climate change effects on agriculture in his presentation titled "Climate change and agriculture; special reference to rice". He informed that the developed nations always blame the rice producing developing nations like India for contributing to climate change as large scale rice cultivation release Green House Gases (GHG), a factor for climate change. To verify the

Rice fields do not 'sink' the climate; rather they 'sink' carbon. It is incorrect that rice fields are significant GHG emitters. They in fact act as carbon sink with minor modification in cultivation practices.

claim the Central Rice Research Institute (CRRI) at Cuttack took up a study and shared the study findings which proved that it was a myth that rice fields are adding significantly to GHG emissions, on the contrary, these fields in fact act as net carbon sinks and he supplemented the findings with the information and figures from four other rice producing countries. The GHG emitted by rice fields can be better managed by slight changes in cultivation practices, he pointed out and spelt out various technological options that could lead to terrestrial reduction of GHGs and carbon sequestration.

Dr. Sinhababu in his presentation on "Food and Livelihood Security by Rice and Rice based Farming Systems" spoke on how integrated rice based farming system has been introduced in many coastal and North Eastern states of the country to augment food security taking into consideration that different factors are putting agriculture under stress. He narrated the benefits of integrating rice farming with fish, prawn, poultry, horticulture and trees in various ecosystems and shared about the various rice varieties developed by CRRI and the different initiatives undertaken by CRRI towards food and livelihood security.



Dr. S.V. Gobardhan Das, a scientist and water/crop management practitioner from Andhra Pradesh highlighted experiences from an arid region which is facing increasing water stress. He discussed about

his practical action on community based ground water budgeting in an arid region of Andhra Pradesh in India. In his presentation on "Crop Water Budgeting (CWB): A tool to build community resilience to drought" he shared how communities/farmers could be trained on water management, community preparedness to face the drought situations and how to improve the scientist-farmer relationship. Using various innovative tools and institutional arrangements the communities can be organized to carry out simple scientific water tracking at the community level and sensitized to use water sustainably. The farmers accordingly went in for low water consuming crops, diversified their crops, adopted various water saving methods, and went in for water saving equipment for watering and irrigation. The documented results were very encouraging and also influenced policy makers at the national level.



Mr. Palash Haldar from Concern Worldwide, Bangladesh, narrated his experiences with the implementation of Paribartan project and the initiatives undertaken under this project as climate adaptation measures so as to ensure food and livelihood security of the targeted coastal communities.



Mr. Deepak Singh focused more on the policies related to food production and food security. He viewed that the process of industrialization and the activities of industries are a significant contributor to climate change which is being overlooked by even the monitoring agencies. He complained that most of the international initiatives and

negotiations have ignored the base, which is the food production and impact on billions of people. He mentioned that of all such international agencies it was only the UNEP which had its Head Office in a developing country; Kenya. At the regional level too, the efforts have been mostly macro-centric. Governments sometimes did chalk out plans to combat climate change but did not earmark sufficient budgets to implement them. Thus the intents are not translating into work. He warned that unless the current development paradigm was revisited and changed for a better model, the world would only see an aggravation of its current problems.



Dr. Debal Deb who chaired the session put forth his observation and shared that today intensive agriculture and mono crop patterns favoured by the agricultural institutions have created many

problems in agriculture and the present perception of such practices indicates that there needs to be a change in approach. Climate change is putting agriculture under stress but current research on rice, that is 60 years old, is yet to produce any stress tolerant variety.

Indigenous varieties have been ignored and neglected but these varieties have evolved over centuries to tolerate various kinds of stress. He said that in his own capacity as a rice conservationist he has come across several salt tolerant indigenous varieties of rice and has in his possession 18 varieties that can be grown under 15 feet of water. These varieties have been identified by farmers themselves and he wondered why such a rich and diverse array of indigenous knowledge systems are being ignored by the researchers and policy makers. He opined that contrary to the contention of agriculture scientists, zero chemical agriculture is both possible and feasible and countries like Cuba have also demonstrated it to the world. He reiterated that the issue of rice fields leading to GHG emissions and climate change is a joke as a single jet plane emits more such gases than entire rice fields of India.

Many suggestions and inputs came in a lively open session which also suggested action points. The chair summed up the session by saying that we have a rich bio-diversity and when they react/interact with each other we get the most effective result but we need to learn the wisdom from the affected communities and build a people's science mechanism at large.

Suggested action points

- *A perfect blend of traditional knowledge and new innovations is required in order to secure livelihood and food security.*
- *All technology new or old have to be practical and implementable and should be developed keeping the most vulnerable persons and sectors in focus.*
- *Adopting integrated systems could increase output and spread the risks from failures due to the vagaries of weather. Adopting a proper cropping pattern, a sound knowledge system and increasing agri-biodiversity is very important, was the advice to communities.*
- *Overall the session cleared the misconception that agriculture in developing nations was contributing to climate change. There were assurances that there existed traditional varieties that could resist flooding and higher temperatures. Institutions were also engaged in research to come out with stress tolerant varieties.*
- *With the emergence of scientific consensus on climate change, the issues of the fisher folk communities are also manifold and their science have been challenged by the unpredictability of the shift in fish harvest and impacts of frequent disasters due to climate change. There is an urgent need to address the issues of fisher folk livelihoods.*

DAY TWO- 13th July 2012

PLENARY SESSION

Day two was a natural progress from day one. Many technical sessions were covered during the course of the day. However the day started with a plenary that distinctly aimed to facilitate practical takeaways from the workshop which will help during negotiation and lobbies at forums of various levels.



The second day of the workshop started with a revisit to the first day progress. It was followed by morning plenary session chaired by Mr. Tanvir Shakil Joy, Honourable Member of Parliament from Bangladesh. The panel members included Mr. Achyut Luitel, Country Director Nepal from Practical Action; and Mr. Mukul Sharma, South Asia Regional Director, Climate Parliament.



Mr. Joy expressed his firm commitment and added that in order to negotiate with the international community and in order to safeguard the interest of our vulnerable people, we as South Asians have to think together, act together and develop a sense

of being in the same boat and negotiate with the developed nations in an united manner. He subtly referred to different stands taken by countries of the region at international forums on climate change and hoped that the countries will soon talk an unified voice. Speaking about Bangladesh

We suffer for other's sins. Our sub-region needs to organize and bargain strongly. For that we have to think together, act together and develop a sense of being in the same boat.

he narrated the plight of the dense population living in the coast. Siltation along the rivers in the coast has created numerous small islands known as "chars" which is inhabited by the coastal communities and easily fall prey to both flash floods and erosion that have become

frequent in the recent days. Increasing salinity has made drinking water scarce in the region and to add to it Northern Bangladesh is ravaged by frequent cyclonic storms. There are also areas where due to droughts there is desertification leading to problems of food security. Bangladesh is not contributing to climate change but is bearing the full brunt of it, he said adding that similar is the condition of the poor and developing nations of the sub region. While emphasizing that the western countries are bound by their responsibilities towards developing and underdeveloped countries to transfer technologies and fund, our local knowledge is no less important. Many communities are tackling climate vagaries on their own, through their own learning and knowhow that we need to learn from and develop the future actions for a comprehensive plan to promote community resilience.

Mr. Achyut from Nepal shared how local communities are coping with the changes and adapting through innovative local practices in the coastal areas of Odisha and Bangladesh. He shared the experiences of Practical Action working in the coastal district of Odisha along with SWAD, a local NGO. He urged the development practitioners to be sensitive to local cultural contexts and think of solutions from the ecosystem point of view and work collectively rather than having isolated approaches to tackle the issue.



Mr. Mukul Sharma, South Asia Director- Climate Parliament called upon the political community to shed political boundaries and foster mutual collaboration across the region to voice the concerns of the affected communities. He also emphasized on four key points: a) Form a Parliamentary group for the Bay of Bengal; b) Initiate some legislation, policy discussion in the parliament; c) Organise Parliamentarians at least once a year to discuss on climate change issues; and, d) Initiate cross-border sharing.

Mr. Mukul also gave emphasis on energy transfer from one country of the region to other which will improve camaraderie further and help the sub-region in combating climate change challenges better.

While doing the summing up the session, Mr. Tanvir Shakil reiterated that the challenge of climate change needs to be faced together and all the actors need to come together and form a united South Asian voice. He urged the participants to formulate a charter and road map at the end of this workshop.

Many issues were discussed in the open session that followed. The subjects ranged from international scope for negotiation to preparations at the grassroots for such negotiations.

In the open session the following issues were suggested:

- Need for political will and inter-regional consensus to tackle climate change issue and bring Parliamentarians together on a common platform and develop a holistic approach for the sub region.
- Need for the citizen of the affected countries to think across borders and consider themselves as South Asians. The young, experienced and knowledgeable MP from Bangladesh, Mr. Tanvir stood as an example for his countrymen and the entire region and it is the responsibility of the Parliamentarians like him to carry the community voices forward.
- Ensure more women representation in the policy level.
- Appeal to Parliamentarians not to limit themselves to discussing bigger issues but

also involve themselves with local issues affecting communities.

- Need for an urgent review of all climate change projects in the sub region and develop uniformity and linkage within the actions taken up by the national governments across the region.

Summing up, Mr. Tanvir Shakil Joy emphasised that Parliamentarians of developing nations are awake to the problems of climate change, unlike their counterparts from developed nations. He admitted that there was need for better coordination of various projects across the Bay of Bengal and that they needed to be reviewed for their probable impacts. He believed that Parliamentarians are accountable to their people and hoped that the workshop would lead to development of a Charter and a road map to tackle climate change in the region.

Suggested action points

- *Although governments of the sub region face the same problem and confront similar challenges, their approaches at various negotiation forums have been independent and varied. Individual Parliamentarians need to be identified to further the overall goal of sub-regional cooperation and common approach.*
- *All climate change projects need urgent review and reorientation. The national governments need to forge uniformity and linkages within the actions around the sub-region.*
- *Efforts are required to persuade the governments and policy makers to devise action plans that supplement each others resources and capacities. For example, countries like Nepal and India can meet energy requirement of Bangladesh.*

TECHNICAL SESSION - 3

Climate Change and Technology

The third technical session of the workshop and first of the second day aimed to build from the platform that the morning plenary provided. It discussed various technologies and mostly highlighted the need for engaging the technological innovations for addressing the issues of climate change. The focus was on harnessing available technological options to assess climate change, predict its impact and enable communities to adapt to such changes by offering advance warning and technical tools.

The session on 'Climate Change and Technology', which was co-organised by Practical Action and Concern Worldwide, was chaired by Dr. Kabir Sethy of Department of Geography, Utkal University and had Dr. Gurmeet Singh, School for Environmental Science, Jawaharlal Nehru University, New Delhi; Mr. Ranga Pallawala of Practical Action, Sri Lanka; Dr. P.Mishra, Senior Scientist of ORSAC, Odisha; and Mr. Gehendra Gurung of Practical Action, Nepal as panel members.

Stating that India is among 27 most vulnerable countries to climate change, Dr. Gurmeet Singh focused on the natural shields like mangroves to protect the vulnerable coasts and coastal habitations. In his presentation on "Climate Change & Mangroves: Issues, Adaptation and Mitigation" he highlighted that mangrove forests act as an important adaptation measure in the coastal areas of the Bay of Bengal. Mangroves protect the communities by preventing sea erosion, restricting sea surges and reducing the impact of cyclonic storms emerging from the sea. They provide a variety of eco-system services and also help to sequester huge amounts of carbon, he informed. The coastal communities are dependent on these forests for food production, medicines, firewood, honey fish and construction

material. He further cited that the different climatic factors like increasing salinity, and sea level rise are leading to fast degradation of the mangroves. Over the last seven years the world has witnessed a sharp decrease in mangrove cover leading directly to a loss of 225,000 metric tonnes of carbon sequestration potential each



Mangrove forests not only give a protective natural shield to coastal disasters, they also are the major livelihood source of the coastal community. Any technology aimed to protect and regenerate mangrove forest must have community at the centre.

year. Dr. Singh elaborated on tools and methods to enhance mangroves resilience. He discussed about various scientific tools and ended his presentation saying that there is a need for shift in research attitude so that the community's needs could be kept in mind and transparency is maintained during data processing and sharing. He emphatically said we need 'a science with human face'. Most of the modern scientific tools are out of the reach of the common people who can be the best monitors and thus we are losing out on the best possible opportunity, he argued.

Mr. Ranga Pallawala shared how Practical Action has demonstrated a pragmatic approach of developing people's model by enhancing their knowledge and access to appropriate technologies starting from most modern satellite/web based technologies and developing community technologies. He shared that use of technology in climate change presented many dilemmas; like whether to go in for mitigation or adaptation, whether to use hardware or software, what methods of sustainable development to go in for, whether efforts will be voluntary or financed, whether technology is to be transferred or developed, whether the transformation is to be gradual or abrupt, and whether the approaches should be local or national. Discussing elaborately on each of these options he emphasized on the need for balance according to the situation and contextual need. Practical Action is offering a wide sharing in the region with advancing technologies but the dissemination and access to such technologies remain a problem area. Finally he also highlighted the need to develop local technology that would lead to practical action and must be scientifically sound to meet the standards.

Supporting the views, Mr. Gehendra Gurung also from Practical Action shared that there was need for technology assessment based upon the dynamics of the local situation and also the need



to assess the strengths and gaps of the community and prepare plans for responding to climate change through technology by using the strengths and addressing the gaps. Currently there is need for a forum for technology exchange and transfer within the region and expressed his hope that this workshop would help create such a forum.

Dr. P. Mishra in his presentation titled, "Cutting Edge Geospatial Technology for Facts Finding and Monitoring Indicators of Climate Change", appraised the house about the advanced geospatial technology and various tools that were now available to map the trends and effects of climate change, particularly in the coastal regions. He informed that today's geospatial technology includes remote sensing GIS, GPS, web based GIS-WMS and WFS which could easily help to map out the trend and probable future impacts of climate change. The challenge for a researcher lies in how to collect and disseminate such information relating to climate change. He said that most of the governments maintain huge data repositories. But they loose value as the information is not reaching the state officials who devise plans and other users at the grassroots level. There is the need to be more open with information and for scientific and other concerned institutions to interact with each other. The science and technology available has to be made community friendly and the Government and the Parliamentarians can become technology savvy and start using them for the benefit of the community.

Open house discussion followed the presentations by panel members.

The session was very informative and detailed the ongoing research, using scientific tools, on the various changes that are being observed in areas vulnerable to climate change and their impact on the lives, habitat and livelihood of communities. All the members gave ideas on various technologies starting from most modern satellite/web based technologies to low cost community technologies and the authors also shared the papers with the experience on potential use of scientific tools and technologies to develop any analytical model for the critical resources essential to reduce the impact of greenhouse gases and promoting the scope of modeling the vulnerabilities in the coastal regions of Bay of Bengal. Further, the panel members also highlighted the need to develop local

technology that would lead to practical action and must be scientifically sound to meet the standards. The chair of the session also reiterated that we need technologies, which obviously are not limited to machinery or equipments, which can coordinate with other existing technology and knowhow and further the interest of the community in adapting to and/or mitigating climate change affects. The panel shared that technologies are advancing but the dissemination and access to such technologies remain a problem area. Further the technology should lead to practical action and must be community specific. The session concluded by summing that we need technologies, which obviously are not limited to machinery or equipment, which can coordinate with other existing technology and knowhow and further the interest of the community in adapting to and/or mitigating climate change effects.

Suggested action points

- *There is an immediate need for technology to map out the land cover and land use change as an impact of climate change. Efforts have to be made to form network of resource organisations of the sub-region.*
- *The technologies need to be simplified and popularised so that they become useful. There is a need for resource organisations, governments and non-government organisations to work together.*
- *There is a need to convince and force developed nations for appropriate technology transfer or fund technology innovations to help the vulnerable people in developing nations.*

TECHNICAL SESSION - 4

Climate Change and Youth / Children

Children are among the most vulnerable to climate change. However, ironically, they neither have a say in any discussion or decision making process, nor are their issues prominently discussed at important forums or taken care in the climate change adaptation plans. As the future citizen they expect the present generation to not pass over a completely man-made climate change curse on their genre. On the other hand, the youth are the most efficient workforce and the most knowledgeable about the climate change and its present course. This session aimed to discuss how issues of children and youth can be mainstreamed into the major actions and how they can play a lead role in challenging climate change.



This session was facilitated by Save the Children and was chaired by Mr. Ray Kancharla of Save the Children. The Panel Members were Mr Mihir Bhatt of All India Disaster Mitigation Institute (AIDMI), New Delhi; Mr. Gourishankar Pattnaik of South Asian Youth Climate Coalition (SAYCC); and Mr. Mohan Kumar Dash, community leader from a coastal village in Kendrapada, Odisha. The session sought to highlight the plight of children and youth in the face of climate change and how they should be encouraged to voice their concerns so that plans and policies deal with issues pertaining to them.

The session certainly brought the focus of the debate on energy and climate change with a

human rights perspective and built on the strength of the youth and children to engage in the debate. The session highlighted that children and youth were suffering from various societal pressures and economic and livelihood impacts arising out of climate change which needed serious consideration while preparing for climate change. The issues that emerged were those of child

More of children's participation in the climate change planning process and more children centered focus in disaster reduction and adaptation measures is the need.

rights, child survival, growth and well-being, food security and nutrition, and their access to education.

Highlighting the fact that children are always excluded from any climate change discussions Mr. Ray Kancharla stressed that children and youth are an important part of the climate change debate and should be part of any such discussions and decisions. They have a right to be heard as children and youth are, and in future will be, severely affected by climate change impacts,

even though they have done the least to cause the change. Climate change poses a severe threat to child rights, child survival and well-being, food security and nutrition, and also children's access to education and protection. Citing the Bunyavanich 2003 study he outlined how metabolic, behavioral, physiological and developmental changes would come about in children by increased exposure to pollutants, thermal changes, lack of food and nutrition, rise in infectious diseases, and ultraviolet radiations as a result of climatic changes and their effects. He called for more of children's participation in the climate change planning process and more children centered focus in disaster reduction and adaptation measures. Save the Children has taken initiative to create awareness among children about climate change and mitigation/prevention and educating that climate change was not all about gloom and doom but about what can be done to prevent it and reduce its impact.

Mr. Mihir Bhatt shared many study findings in various parts of the sub-region and other parts of the world and informed that the new edition IPCC Special Report on "Managing the Risks of Extreme Events and Disasters to Advance Climate Change Adaptation for Children" has already been published. He said that the issue of child migration was very important and also the issues of education, health, and food and nutrition security. He said that the role of children's rights in the biodiversity conservation agenda needs to



be studied as also the dynamics of increased stress on families due to climate change.

Dr. Pattanaik highlighted the role of the youth and called to strengthen South Asian Youth Forum. He also shared that women and children are the worst victims of climate change and natural disasters and they have to be the torch bearers to make things effective and bring practical solutions. He called for youth parliaments and inter-continental/intern-country youth exchange programmes.

Mr. Mohan Das, a Sarpanch from Kendrapara district shared about plight of children and women in his area due to the impact of climate change. Coming from one of the affected regions, he shared how the community is suffering from issues of increasing salinity, agricultural loss due to erratic rainfall, depletion of groundwater table, drinking water issues, soil erosion, and displacement due to coastal erosion which the community perceives are impacts of climate change. Such health and livelihood threats are forcing the youth to migrate in search of jobs

We are fast becoming climate's orphans. Worsening climate is forcing migration and displacement in a big way. The 'Panchayats' lack the resources to tackle such problems.

and the problem of child labour is raising its head as parents are forced to employ children to buttress their dwindling livelihood opportunities. The worsening economic situation is forcing people to shun the girl child and give preference to boys leading to imbalance in the society. The health and education of children are highly compromised during natural disasters which need to be addressed by the Government. He shared that Panchayats lacked the resources to cope with the situation and hoped that the Government and other agencies would come to their aid and the community level issues are included in the

government budget and planning process. He appealed to all to visit the area and develop the region to end the intense human suffering.

The session certainly brought the focus of the debate on energy and climate change with a human rights perspective and built on the strength of the youth and children to engage in the debate. Integrating a rights-based approach to access sustainable and affordable energy is an approach that will recognize and take into account women's specific needs to address the issues.

Current economic models based primarily on privatization strategies do not include accountability in terms of meeting people's basic needs and proposes the factors to enhance the capacity of the most vulnerable groups to develop their resilience capacity in developing countries by integrating these lessons into development plans. Very pertinent suggestions were made to include children and youth as the focus in all climate change adaptation and mitigation exercises. 'Children can't wait, respond to them today'.

Suggested action points

- *Children have to be educated about climate change. Child friendly version of education materials need to be developed.*
- *Inclusion of children and youth has to be ensured in all climate change discussions and debates.*
- *Children and youth need to be kept at the focus in all climate change adaptation and mitigation exercises.*
- *Development of infrastructure at the community level in the light of the needs of children.*
- *Development of actions plans and programmes to reduce the vulnerabilities at the family level which would reduce the stress and check migration of youth to far off places for want of livelihoods.*

TECHNICAL SESSION - 5

Climate Change and Gender / Inequality

The impacts of climate change and effects have been found to be vastly different among the gender and societal divide. The burden of facing challenges of climate change and disasters has also fallen differently among that divide. Women and socially excluded groups fall in the dark side of that divide. However, such considerations have hardly been at the mainstream during climate change assessment, adaptation or mitigations phases. The session drew on the perspectives of ensuring the issues of inequality and gender as part of the overall planning processes on Climate Change Action Plan for the respective governments of the countries around Bay of Bengal region.

The session was chaired by Prof Asha Hans of Shanta Memorial Rehabilitation Centre, Bhubaneswar. The panel was shared by Ms. Bipasha Dutta of Eminence, Bangladesh; Ms. Umme Salma of Concern Worldwide, Bangladesh; and Ms. Bhanumati, a community member from Balijori village, Jagatsinghpur district of coastal Odisha. The objective of the session was to give the climate change debate the essential gender perspective by bringing out the sensitive needs of the female population. All the panelists of the session shared about the neglect of women in various decision making and negotiation forums. The panel's view was that gender does not mean thinking about women. It is about equal participation, equal opportunity.



The paper presented by Ms. Bipasha highlighted the issues related to the planning and programming concerning the vulnerability of women in particular. She shared that Climate

Change Adaptation Policy in Bangladesh is completely gender insensitive and clearly reflects

the patriarchal nature of policy decisions. Climate change has been studied to have detrimental effects on maternal and child health and also leads to increase in violence against women because of both vulnerability and resultant societal tensions. After the tsunami, she pointed out, miscarriage increased in Indonesia, sexual violence increased in India and, strangely, maternity clinics were destroyed in Sri Lanka. In Bangladesh it was observed that the tsunami accelerated infant mortality, led to early marriage of girls, increased sexual assault and increase in trafficking and prostitution. Women's health problems aggravate after disasters. The shelter houses lack gender friendly sanitation facilities and witnessed sexual harassment. Disasters have led to policies in Bangladesh, but they reflect the mindset of a male dominated traditional

After the tsunami, miscarriage increased in Indonesia, sexual violence increased in India and, strangely, maternity clinics were destroyed in Sri Lanka. In Bangladesh it was observed that the tsunami accelerated infant mortality, led to early marriage of girls, increased sexual assault and increase in trafficking and prostitution. Women's health problems aggravate after disasters.

society. Female participation is not ensured while making such policies which are often not discussed in the Parliament. The various committees have very negligible women members whose voices too are sidelined. She cited two of the most important disaster policies of Bangladesh and pointed out how they did not represent the voices of the vulnerable, particularly women. Women's issues are rarely considered. She hoped that this workshop would result in addressing the imbalance



Ms. Umme Salma highlighted the issues of the most vulnerable communities across the region and stressed on the need for an inclusive climate change strategy and action plan in line with the commitments assigned by the respective declarations to protect their rights at all level.

Women were an important driving force in solving the issues facing communities living in the coastal areas and facing the vagaries of climate change

Ms. Bhanaumati, community representative from Jagatsinghpur gave a presentation of women power in meeting climate change challenges. She focused on the role of women in her village who

were impacted by problems of drinking water, communication, children's education, health (the nearest health centre being 10 kms away) and livelihoods. She made it evident to the House that women were an important driving force in solving the issues facing communities living in the coastal areas and facing the vagaries of climate change.

The open house discussion came with the following suggestions:

- It is important to understand the gender framework in climate change action plan
- Women are the real transformers and drivers for change and are an important part of building the communities' resilience to climate change.
- Sensitiveness and the willingness of the agencies to listen to the people and their problems.
- Urgent need for gender sensitization while framing climate change and disaster risk reduction policies.
- The presence of women in panels that frame climate change policies can help in addressing gender specific problems.

The Chair summed up the session by saying that equity and equality lies in recognition, day to day communication and perception. Legislations may be improved but ultimately it is up to us to believe in equality for the women.

Suggested action points

- *In a climate change scenario, gender and societal inequalities not only cause discrimination towards the weaker section; but also adversely affects the whole society. Thus a change in perception is the need of the hour. This can be achieved not through legislations alone but through learning and awareness.*
- *No climate change plan or strategy can ever achieve positive outcomes if concerns of women and excluded social groups are not mainstreamed into the scheme of things. Thus every government and every other non-government actor working on the issue must give enough emphasis to so that inequality in scope and capacity is eradicated.*
- *International negotiations must give significant focus to problems associated with gender and societal inequalities and try to address those.*
- *There is a need for further assessments to study affects of gender and societal inequalities in a climate change scenario and best practices need to be shared.*

TECHNICAL SESSION - 6

Climate Change and Community Based Adaptation

The whole world may be having series of endless negotiations on climate change and how to adapt to or mitigate the associated disasters, but thousands of communities across the globe either do not know of such negotiations or do not bother for such events as they silently go on believing their own wisdom and capacity in building their own adaptation strategies and do that quite successfully too. This session aimed to exclusively deal with such efforts of community based adaptation and tried to search relevance of community based adaptation in the changing context.

The session was chaired by Ms. Padmavati Yedla of UNICEF. Panel members included Mr. Ghanashyam Pandey from Global Alliance on Community Forestry, Nepal; Ms. Laura from Troicare, India; Mr. Kailash Dash of RCDC; and Mr. Pramod, Sarapanch from Rajnagar Panchayat in coastal Kendrapara district of Odisha. The panel members gave various examples of community based adaptation in different context-hill to coastal eco-systems. As Bay of Bengal has been identified as the most vulnerable region that would face the brunt of the impact envisaged; it would call for a comprehensive action to undertake a knowledge initiative in collaboration with action partners, knowledge institutions and communities at large to develop a blue print on adaptation models. The presentations also dealt with the lessons from existing or ongoing adaptation practices and develop linkages with key stakeholders to broad base the scope of promoting community resilience through CBA approach.

Mr. Kailash Chandra Dash presented the findings from the community in the project area in Odisha in his presentation on "CBA - Project Paribartan". He said that communities can be considered to be climate resilient if they can withstand climate hazards and rebuild themselves. Community

Based Adaptation (CBA) consists of initiatives and measures to reduce the vulnerability of natural and human systems to actual or expected climate change effects. They can be spontaneous or planned responses to actual or expected conditions. He delineated the various CBA practices documented from the Paribartan project area which ranged from cyclone resistant houses, traditionally built eco-friendly toilets, supplementing rural livelihoods, community initiatives to protect the mangrove forests, afforestation to check soil erosion, sea water surges and saline ingress, creating drinking water



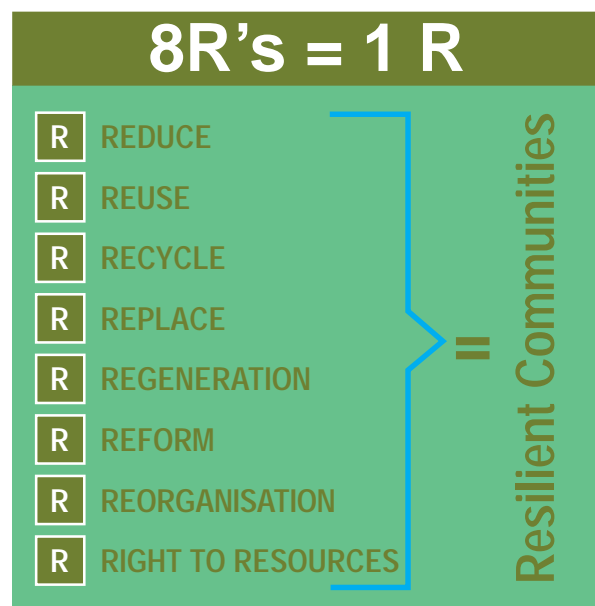
Community based adaptation initiatives are the quickest and/or best possible spontaneous or planned response to actual or expected conditions.

canals for animals, methods of rain water harvesting, traditional methods of storing food grains, to introducing solar panels and alternative firewood needs. He also briefly explained the community based adaptation measures demonstrated as pilot initiatives in the coastal districts of Odisha under the Paribartan project.

Highlighting the importance of forests in climate change adaptation and mitigation, Mr. Ghanashyam Pandey pointed out that forest could provide solutions to many a crisis arising from climate change. While speaking on "Forest, Climate Change, Green Economy, Community Based Adaptation and Mitigation", he informed that community forestry was very strong in Nepal forging a bond between the forest, the people and their institutions which had helped regenerate totally destroyed or over exploited



forest cover. He suggested a 10 point strategy for CBA in forestry that had many distinct advantages for both people and the ecosystem and also led to poverty reduction and rural development in Nepal. Mr. Pandey also shared how in Nepal, the concept of Green Economy has been interpreted as reducing, reusing, recycling, replacing, resilience, regeneration, reform, reorganising, and the right to resources which has brought about vast changes in areas managed by community forestry initiatives and resulted in resilient communities and healthy forests. He concluded by emphatically saying that green economy is little about money but more



about life and this principle applies not just to the hills but to the coast as well.

Ms. Laura of Trocaire informed that the Irish Government has identified climate change as an important issue and said that in future Trocaire would be working on specific climate change issues and would concentrate on building partner capacity for tackling climate change.

Mr. Pramod, the community representative from Pentha, an extremely vulnerable coastal village from Kendrapada district, Odisha said that despite the vagaries brought about by climate change, the communities are stoically facing the challenge and have devised their own traditional means to adapt to the changing environment. He shared about the various indigenous methods of rain water harvesting, grain storage, organic farming practices, and community forest conservation which have helped the communities to adapt to the climate change impacts. He appealed to the Government to develop coastal protection measures as the Odisha coast is quite vulnerable to sea level rise and Satbhaya and Pentha are hot spots of climate change where the impact of sea level rise is clearly visible. He also welcomed the steps the

NGOs were taking to help the affected people in the region.

The following suggestions came during open discussion session:

- The CBA concept being very location specific, it will be good to let the community take independent decisions and develop adaptation strategies according to ground realities.
- The good practices should be documented and widely disseminated.
- Clear strategies were needed to guide communities to come forward with their own initiatives.

The Chair summed up by stating that there was the lack of clear and reliable information on the

changes that were affecting communities as the affects of the process is gradual. She said that all adaptation measures must consider the different kinds of vulnerabilities, be they social, economic, development oriented or natural.

The session clearly spelt out that the communities have demonstrated their ability to be dynamic and take independent decisions to come out with local solutions to their climate change induced problems. These solutions were the best as they were location specific and being self-initiated also ensured their sustainability. Community initiatives have helped preserve natural resources and create livelihood options that are climate friendly.

Suggested action points

- *Community based adaptations are taking place all around the globe. There is an urgent need to properly document those and find a pattern therein. Scope of reliability in different geographical zones may be tried.*
- *Often community based adaptations are considered as adaptation to disasters and not to climate change. This confusion relating to climate change and disaster has to be broken. This can be done through more action researches.*
- *International studies and assessments as well as national/regional action plans should build adaptation strategies from the learning of the community.*
- *Every preparedness strategy, howsoever technologically sound that may have been, must include community based approaches as the first shield.*
- *Community based adaptation methods have to be included in the course curriculum at the school and university levels.*



DAY THREE- 14th July 2012

PLENARY SESSION

The third and final day of the workshop began with summary statement of the previous two days by Dr Ambika Prasad Nanda of UNDP, India. It was followed by the morning's plenary session.

The morning plenary session aimed to set the tone for the final day of the workshop. Like the second day morning plenary this plenary too focused on sub-regional and international cooperation. Since politics plays a vital role in furthering or sabotaging such cooperation the plenary focused on that aspect. The plenary also aimed to set a vision on probable workshop declaration or charter.

The third day's morning plenary session was chaired by Mr. A V Swamy, Honourable Member of Parliament, Rajya Sabha from India; and in the panel were Mr. Tanvir Shakil Joy, Hon'ble MP from Bangladesh; Mr. Mukul Sharma, South Asia Regional Director, Climate Parliament; and Mr. Sanjay Vashist, Coordinator- Climate Action Network South Asia (CANSAs).

Mr. Mukul said that in the last two days we have touched in a very comprehensive way the issues of climate change but the main challenge is how we really initiate change and how we look for an alternate for the Bay of Bengal region and for that we need to have an action plan and our aim should be to develop a comprehensive adaptation package. He further spelt out the way forward by stating a seven point strategy where the first priority should be to connect the national Parliaments and Parliamentarians to climate change discussions and discourse who should take the leadership in the region to take the Bay of Bengal initiative forward. He stressed on the need to form a climate change group to link the region both at national and state levels and

We won't wait for the rich to bail us out but we won't let them slip away from their responsibilities either.



maintain a steady pressure on the Governments through the Parliamentarians to respond to the issues. Finally cross border cooperation between peoples and countries should be fostered to push forward the issues with high level consortiums or Parliament Committees through the Parliamentarian groups.

Mr. Sanjay Vashist put forth his points by saying that this sub regional workshop is a unique initiative as it does not look only at macro regional issue and its probable solution but goes beyond to address micro level sub regional issue along the Bay of Bengal coast which will help us to design the action plan at the sub regional level. Due to the impact of climate change, it is estimated that 175 million will migrate of which 40 million will be from Bangladesh. To check

this local development and local level adaptation is required which is climate resilient. He urged the people to go forward with their initiatives without waiting for the rich countries to bail them out despite the fact that it was the rich who are causing the problem. Pro people policies should be framed which should tend to capture traditional knowledge and blend with scientific knowledge to have the maximum impact. There should be no compromise on three objectives; food, water and livelihood security while designing any adaptation or mitigation policies. He urged the South Asians to generate a Green Climate Fund to become self-sufficient and have effective coordination to ensure better policies for climate resilient life in the Bay of Bengal region.

Mr. Tanvir Shakil Joy said that the workshop has been an eye opener for him in various ways and it was very participatory. He opined that as Member of Parliament, we have the most significant role to play as we have direct interaction and connection with our community

We have to come closer, build pressure on our respective governments and stand/withstand united. A seven-point strategy, with polity at the centre, may go a long way in furthering that.

people as we represent the communities. We actually know the ground reality. Climate change is affecting the communities most. People living in a better living standard are able to cope with

the situation but the real victims of climate change are the ones who are living with vulnerabilities. Our prime role is to listen to the communities and get their opinion and know what they need. Regional cooperation on climate change issues is not so strong outside. We have different standing in the issue of climate change. We have division amongst ourselves. We need to stand united and have uniform South Asian demands and voice and on behalf of Bangladesh Parliament.

Mr. A V Swamy from India concluded the session by saying that all the natural hazards were there earlier also but recently we are facing an environmental situation where it is becoming unpredictable to know what is going to happen tomorrow. He also elaborated that the imbalance has been because of man's desire to grow and become rich which is beyond nature's capacity to absorb. He said that we need to change our attitude and follow the Gandhian principles of simple living, less consumption and coordination between people. We as a developing nation need not compete with the developed nations and we as citizens of any developing nation should come out of the thinking that if developed nations have committed the crime, then we also have the right to do so.

With this the morning plenary session came to a close. The third day had a very busy day ahead with two more technical sessions and then framing of the Bhubaneswar charter.

Suggested action points

- *Need for governments and communities to be sincere and remain prepared as the disasters were becoming more frequent and unpredictable.*
- *Need for greater and better coordination between governments, departments, research organisations, civil society members and the communities.*
- *Need for proper knowledge management and the need to improve upon existing networks.*
- *More investment required on location infrastructure development and protection measures.*
- *Need to promote climate smart and ecologically sustainable development, he emphasised.*

TECHNICAL SESSION - 7

Climate Change and Disaster Risk Reduction

Climate change is bad for people and the world because it increases scope, incidence and abnormality of disasters. This technical session highlighted the need for the integration of Climate Change Adaptation and DRR as one of the primary aspects that relates to community resilience processes. In the Bay of Bengal region there has been substantial experiences gained by the agencies working with the perspective to build community capacity, developing resilient livelihoods and ensuring early warning and risk reduction.

The session was co-hosted by Concern Worldwide and AIDMI and was chaired by Mihir Bhatt, AIDMI. In the panel were Dr. Kamal Mishra from OSDMA, Odisha; Ms. Binapani Mishra, SWAD, a grassroots organisation working in coastal Puri district of Odisha; Mr G. Padmanabhan, Emergency Analyst at UNDP India; and Mr. Anirudh Dey from PRISM West Bengal. The panel members highlighted the need to look at the aspects of vulnerability along the Bay of Bengal from an equality and inclusive lens by developing tools to track vulnerability in a participatory way and reflect at the policy decisions.



Dr. Kamal Mishra in his presentation on "Climate Change & Disaster Risk Reduction" stated the precarious nature of the Odisha coastline and discussed about its vulnerabilities and the measures taken by the government to address them. The Government of Odisha is trying its best to tackle the situation and special initiatives like construction of multi-purpose cyclone shelters along the entire coast, setting up communication systems to the remotest areas, specialized search and rescue teams to respond to any emergency, training the communities in disaster mitigation technologies, using technologies of GIS and mobile phones to respond to disasters and capacitating the villages to develop village based disaster management plans have been taken which has shown positive results in the field.

Ms. Binapani Mishra, SWAD, shared about the risks and vulnerabilities of the coastal areas, particularly Puri district where SWAD has been working closely with the communities since a decade. She stressed that the situation can be tackled only with coordinated efforts at the local level and focusing on the vulnerable social groups and individuals is very important.

Mr. G Padmanbhan, UNDP, pointed out that it is difficult to believe in climate trends and patterns anymore as they keep changing frequently and it is only preparedness that can help people and keep them secure these days. The administration is yet to wake up fully to the emerging situation; even though the Government policies have taken note of climate change but upon review it has been noticed that the disaster management plans of 10 states in India have

Can we say that India is serious about climate change when 10 of its states do not even have climate change consideration in their disaster mitigation plans?

missed climate change considerations. The Finance Ministry's clearance for development projects contains a check list relating to disaster risk mitigation, but these are rarely strictly followed. He urged for the dire need to have authentic and detailed database and their analysis

to share with the Government and any other agencies. Further he also stressed that there is urgent need for a proper platform to disseminate and discuss the information. Though UNDP has taken initiative to develop solution exchange forum but its membership is very limited and cannot help the entire country to be equipped with information. Finally he urged the key agencies working in this issue to scale up the pilots or the sporadic experiences of success and promote locally suitable models as building community resilience is the only answer to face the current climate crisis.

Dr. Anirudh Dey reminded the audience that perhaps no other country is as vulnerable to climate change as India and in his presentation "Climate Change and Disaster Risk Reduction - Needs a Change in Lens" he discussed about a study finding which pointed out that Asia has been hardest hit by natural disasters of various types. Keeping in view the diverse impacts of



climate change based upon the different ecosystems and livelihood patterns, community based localised action appears to be the best option. There is need to align climate change adaptation with disaster risk reduction as DRR is not yet fully adapted and fine-tuned to climate change. Communities need to be sensitised about the poor and vulnerable and they need to be empowered to map the dynamics of the various aspects of disasters they are likely to face in their region. Their efforts must be backed by investments in local infrastructure development and protection measures. He emphasised on good governance, strong public-private partnership, building a political will and on research and capacity building measures.

A lot of suggestions came during the open house discussion. Most participants rued that governments spend more on rescue and rehabilitation after a disaster than preparing to mitigate such disasters. This shows that we do

not proceed in a planned manner. Besides most of the development initiatives do not consider climate change factors at all. And thus they end up as a menace.

Summing up, Mr. Mihir Bhatt agreed that information exchange and sharing among stakeholders across the Bay of Bengal region is very important. The chair also reinforced the need for promoting dissemination of those lessons learnt from a wide range of stakeholders including government, civil societies, academicians, and communities. The sharing from the panel members also suggested that facilitation of developing a best practices principle would be critical to graduate from DRR to climate change adaptation which is expected to emerge from a set of indicators on community resilience. The session came up with a few action points at various levels to develop a platform or system for accessing information across the Bay of Bengal.

Suggested Action Points

- *Force respective governments to include climate change consideration and disaster preparedness aspect in all development programmes and schemes. Need to promote climate smart and ecologically sustainable development.*
- *Need for governments and communities to be sincere and remain prepared as the disasters were becoming more frequent and unpredictable. Need to spend more on preparedness than rehabilitation.*
- *Need to facilitate greater and better coordination between governments, departments, research organizations, civil society members and the communities of the region.*
- *Need for proper knowledge management and the need to improve upon existing networks. For this various resource institutions and agencies have to be identified and networked.*
- *More investment required on location infrastructure development and protection measures.*

TECHNICAL SESSION - 8

Climate Change and Governance / Policy Advocacy

The first two days discussed various technical aspects relating to climate change. This sub-regional workshop was unique as it tried to integrate a diverse set of differently governed nations which are commonly bound by one threat - climate change. Thus aptly this session, the last of the workshop, discussed about the governance and policy advocacy.

The final technical session of the workshop was chaired by Dr. Ambika Nanda, UNDP, and panelists included Mr. Sampad Mahapatra, Senior Journalist, NDTV; Mr. Tirthankar Mandal, CANSA; Mr. Charudutta Panigrahi, LDF, New Delhi; and Mr Sanjay Vashist, CANSA. The session focused on activating the local governance system and influencing policy, which is very important in climate change context and difficult to do but which cannot be done away with. The main challenge is to link both with the local community as well as the negotiations at the top level where all the key stakeholders have a role to play. Besides efforts towards improving governance and policy advocacy also means implementing proper things in a proper manner and in proper time.

Mr. Tirthankar Mandal spoke in detail about the policy context of climate change in his presentation, "Post Durban Climate Process: Putting Region in the International Context". He

We have to facilitate multiple channels of communication. Even when mainstream media fails, other communication channels must be open to the community.

mentioned the Durban agreement of December 2011 under which governments will now spend



four years negotiating how far and how fast each country should cut carbon emissions. He spoke on Article 3 of the Fair Ambitious and Binding (FAB) Global Climate Deal which detailed that developed countries will take the lead in combating climate change adverse effects. Speaking in detail on the internationally set standard about the 2 degree emission goal he also described how it could be achieved through different models. He then discussed about CANSA's plans to bring about reduction in emissions and the means of the implementations and also the role of SAARC and other national actions.

Mr. Sanjay Vashist emphasized on the urgency of reducing emissions and discussed about the responsibilities of the developed and developing nations to achieve the target.

Mr. Charudutta Panigrahi rued that in the whole debate about climate change there was more of theory and less of action and said that there is a need to take stock of opportunities available with us before asking for outside help. We need to prepare a database of policies and a repository of information available before framing any new policies or taking up new research. He also spoke about the need for better governance and policy advocacy, particularly keeping the needs of vulnerable groups and women in mind.

Representing media, Mr. Sampad Mahapatra, NDTV, said that the media should be a mainstream participant in the entire exercise. Communication is not just about print and electronic media, it happens at multiple levels. Many media houses are just disseminating information without realizing their social responsibilities. He said that he observed that communication with the people at the grassroot level is singularly lacking. At the state level, beyond communicating with the districts little else is done. The policy makers should strive to

improve communication channels. There should be every effort to link the affected persons and groups with the agencies that can help them, he opined.

The Chair summed up the discussion stating that the key priority was to activate local governance and also to influence policy level decisions. This session detailed how there is a stalemate as far as implementation of policies to combat green house gas emissions is concerned. There appears to be no end in sight to the imbroglio as the developed nations seem to have lost interest in the debate. Under these conditions it depends on the developing nations who are facing the brunt of climate change to develop their own policies depending upon ground realities. For this there is a need to come together in one platform. Ultimately things will depend upon local governance and thus there is the need to strengthen the same. There is need for each country to have availability and access to finance and technology to meet the challenges ahead.

Suggested Action Points

- *There is a governance deficit at all levels - from grassroots to the international levels. The laws, policies and principles have to be made clear and well focused so that they include climate change consideration at all levels and facilitate smooth implementation with due accountability.*
- *Advocacy efforts also require attention at various levels - from promotion of community based adaptation, to technology development and integration, to negotiations at the national and international levels. Organisations and institutes have to identified and networked to further this cause.*
- *The media plays a very important role. But most of the large media houses are controlled by big corporate entities that may not prioritise climate change considerations. Thus multiple channels of communications needs to be established - not only to face a disaster situation but also to overcome negotiation blues.*
- *Database of policies and a repository of information have to establish at various levels.*
- *Many national, regional charters, protocols, agreements exist. But their application is lacking. The civil societies of the sub-region have to identify the gap areas and work together.*
- *A similar workshop will be organised at Dhaka with support from Mr Tanvir Shakil Joy, MP from Bangladesh.*

CONCLUDING SESSION

As per the original agenda a group discussion was scheduled to prepare a plan of action. However, for paucity of time that session was merged with the concluding or valedictory session. The previous day evening all the chairpersons of various sessions and session facilitators had prepared compilation of key suggestions for action. On the third day also the same exercise was done in the background while the normal session was still in progress. That helped in a robust compilation of action points. The valedictory session discussed the draft compilation of the action points and helped come out with a draft charter which was later named by the house as the 'Sub-Regional Charter on Bay of Bengal'.

The valedictory session was chaired by Mr. Jagadanada, Information Commissioner, Odisha and a widely recognized veteran in the

development sector. He along with other members in the panel, which included Mr. Rajaram Satapathy, Resident Editor with Times of India; and Mr. Dipankar Datta of Concern Worldwide India helped frame the charter with precise suggestions. After open house deliberation on the draft charter the house unanimously endorsed it. That provisional charter will be shared among resource persons and after refinements and will be adopted as the 'Sub-Regional Charter on Bay of Bengal'.

Mr. Saroj Dash expressed satisfaction of the three day long exercise. On behalf of the organizers Mr. Dipankar Dutta of Concern Worldwide and Mr. Ghasiram Panda of RCDC expressed their thanks and gratitude.

With this the workshop came to a close.



MAJOR OUTCOMES OF THE WORKSHOP

The outcome of the workshops has been captured by the Chair of the plenary sessions and each of the session also helped to elaborate the indicators of community resilience by facilitating the sessions on the stated themes and suggested a set of action points by inviting the key stakeholders; Universities, NGOs/ INGOs, Media, Government agencies, knowledge among stakeholders and communities. The key action points have been finally shared by the Chair that would contribute to the Charter on Bay of Bengal. The key outcomes are the following;

- Declaration of a 'SUB REGIONAL CHARTER ON BAY OF BENGAL'. The charter was collectively endorsed by the team of civil societies, academic institutes, international organisations, climate network groups, government agencies and volunteers those who participated in the workshop.
- Commitment from Members of Parliament from both Bangladesh and India to take forward the issue and work towards formulation of legislations at their countries.
- Commitments from civil societies at the national and international level to work both at the ground level as well as at the international forums on this issue, influence policies, develop local community friendly technology and develop local specific adaptation models and plans.
- Commitment from each one participating in the workshop to sustain this initiative and take it forward. Mr. Tanvir Shakil Joy, MP, Bangladesh, committed to host the next sub regional workshop at Bangladesh and invited all the participants to the proposed workshop.

The three days event ended with the valedictory session which was chaired by Mr. Jagadananda, Commissioner, Right to Information, Odisha and the panel was shared by Mr. Rajaram Satapathy, Resident Editor, Times of India and Mr. Dipankar Datta, Country Director, Concern Worldwide-India. Mr. Dipankar extended his thanks to one and all who made this event happen and extended his gratitude to all the participants who had come across the nations and expressed his hope that this initiative should be sustained with coordinated efforts across the region.



MEDIA COVERAGE

The workshop had quality representation of media people as participants. Their participation helped strategically position mainstream media as an important stake group in the sub-regional action plan.

The coverage that the event got in the mainstream media, both electronics and print, was very encouraging. Press releases were issued on each day of the workshop. The television media also carried interviews of participant in their prime time coverage.

Media coverage of the workshop was displayed every day at the entrance of the venue.

The venue had a display section also where photographs of disasters, climate change related events and community's adaptation / mitigation experiences were shown through colourful and appealing visuals.



Charter on Community Resilience to Climate Change in the Bay of Bengal 2012

Summary Recommendations from the Sub regional Workshop on "Community Resilience to Climate Change in the Bay of Bengal" held at Swosti Premium, Bhubaneswar from 12th to 14th July 2012

Declaration

We are now even more concerned about the widespread impact of climate change in the Bay of Bengal region that has already threatened the survival of millions of people living the coastline and in the region at large. However not enough is being done to enable vulnerable people to adapt to climate change impact which is further aggravating the poverty context in the region. Often, we also note that development policies are not supportive enough to enhance the community resilience in the region. We are disappointed with the lengthy international climate change negotiations which have failed to produce meaningful outcomes that are essential to protect the rights of the vulnerable men, women and children.

Issues and concerns have been raised through the Sub regional Workshop on Community resilience to Climate Change in the Bay of Bengal held in Bhubaneswar from 12th to 14th of July 2012. More than 200 representatives from Government, civil society, academia, media, and community leaders facilitated an active engagement on the issues of building a climate resilience community through a comprehensive plan of action to be carried forward.

We discussed evidences of climate change impact, new research findings, experience of people to tackle climate change and performance of national and international policy and actions to address climate change. Our common experience can also be utilised in shaping a sub-regional framework of action to tackle climate change and it can be an important basis for collective negotiation in the UNFCCC process.

As the way forward, we believe that the communities and nations in the Bay of Bengal region have reasonable knowledge and experience that can be utilised to deal with certain aspects of the climate change impacts immediately. The call for actions is primarily addressed to the national leaders of the respective governments in the South Asian region. A broad set of programmatic actions is also set out at the end for the governments, scientific communities, academia, media, and civil society groups to foster a collective response through the highlights of the "Charter" to address the Climate Change issues in the region of Bay of Bengal. .

CALL FOR POLICY ACTIONS

1. Accelerating climate change policies and actions: National and international climate change action must speed up its pace with adequate resources to assist vulnerable people to adapt with acute nature of the climate change impacts that they experience today. Climate actions must also consider chronic poverty and historical unmet humanitarian needs that has been exacerbated by climate change in recent past.
2. Action on inequality in climate change context: Climate policy and actions can only ensure justice if they are built on historical inequality in the society. These must ensure that people living in inequality in the form of gender, physical ability, generation, and ethnicity have equitable access to information, technology, and resources to adapt with climate change. Specific and proactive measures must be taken to build ability of these groups and establishing fair and predictable means so that they can influence local and national climate change policies, planning and resource distribution. Greater attention should also be paid on publicly accountable monitoring on how different groups of vulnerable people are assisted by national and international climate change policy and actions.
3. Protecting the vulnerable people's access and control over natural resources: Access and control over natural resources has been the major safeguard for people to cope with the impact of natural disasters in the face of climate change scenario. Climate policy and actions together with national policies must invest on conservation of the quality of natural resources including the mangrove ecosystems and at the same time ensure that vulnerable people have sustainable access to utilise those resources through community led co-management initiatives to protect the coastal biodiversity.
4. Promote locally appropriate sustainable and scalable technologies: Technology solutions are at the core of making communities resilient to adversities of climate change. Both software and hardware components of technology should be considered for enhancing the resilient capacities of the communities along the Bay. Creating enabling environment involving all stakeholders of the region will ensure that the solutions are sustainable and scalable within the socio-economic-cultural contexts to identify and characterize hot spots of the climate vulnerable region.
5. Amplifying the voices of vulnerable people through Parliamentary actions: Members of the national Parliamentary and legislative bodies are the direct representatives of the constituencies to engage in the most critical concerns of climate challenges. Facilitating a regional caucus on climate change for the members would enable to create opportunities to draw the attentions of the policy makers to amplify the key issues of the vulnerable groups at the apex forums on climate negotiations.
6. Fostering regional cooperation on community resilience and climate change adaptation: The governments in the Bay of Bengal and the member countries of SAARC must foster regional development and sharing of knowledge, lessons and technologies for adaptation

to and mitigation of climate change. The civil society actors should also foster exchange of information and knowledge through effective networking on cross cutting issue for effectiveness of their community level adaptation activities on disaster risk reduction and CC adaptation at all level.

CALL FOR PROGRAMMATIC ACTIONS

Climate Change and Impact Assessment/Monitoring

Civil Society Groups

- Establish longitudinal monitoring mechanism to find evidences of climate change and how national and international climate actions are reaching the vulnerable people.
- Develop a data sharing protocol to disclose program information to all parties to facilitate joint monitoring exercises and assessment of transparency, relevance and effectiveness aspects.

Academic and Research Institutions

- Undertake longitudinal assessment exercises to assess the impacts and develop the indicators to build on the evidences of climate change through action research.
- Ensure that research findings empower vulnerable people and shared as public goods throughout Bay of Bengal communities and beyond.
- Establish baseline of the climate change and people's vulnerability and capacity for identifying gaps in actions.

Government

- Invest on developing climate change projections for local, national and sub-regional level to monitor the impacts along the coastal communities to address the issues at the sub regional level
- Establish a Bay of Bengal Institute on Climate Change to facilitate sub regional engagement on issues of commonalities and make them available for wider policy and programmatic decisions.
- Development of national and regional coordination mechanism to strengthen collaboration, learning, sharing by creating a scope to promote appropriate tools and technologies.
- Strengthen the Global Mangrove Database Information Centre (GLOMIS) to enhance exchange of information and cooperation among the scientists, governments, and the people of the region.

Climate change and Agriculture / Food security /Livelihood

Civil Society Groups

- Develop a people's science mechanism to promote climate resilient agriculture with a perfect blend of traditional knowledge and new innovations.
- Adopt proper cropping pattern, a sound knowledge system to promote integrated farming practices by using practical technologies for increased output to spread the risks from failures due to the vagaries of weather.
- Engage in the promotion of alternate livelihood for small holders/ women farmers and fisher folks with support for market linkages and storage support to make them resilient to shocks.

Academic and Research Institutions:

- Develop institutional partnership between scientists and small farmers to evolve suitable technology and practices that are resilient to climate change.
- Undertake scientific studies to clear the misconception about agriculture in developing nations as the major contributor to climate change and promote local varieties that could resist the stress of climatic variability.

Government and Policy makers

- Undertake institutional and policy reforms to enhance sustainable livelihoods as a means to protect food security of the vulnerable groups.
- Greatest focus should be placed on redistributive policy and programs with budget allocation, promotion of indigenous varieties with rain-fed agriculture and right common property resources.
- Combat the climate change impact on agriculture by promoting effective land-use, crop water budgeting and watershed management to protect the hydro geological systems across the Bay.
- Promote climate adaptive livelihoods through effective natural resource management efforts as the essential elements to prevent degradation of land and water resources through community ownership of the commons and prohibit shrimp farming and other harmful practices.
- Ensure that state takes all measures to protect the rights of the fishing communities by facilitating reef restoration in coastal areas to enhance the fish population and marine resource diversity.

Climate Change and Technology

Civil Society Groups

- Establish a common interactive platform to share and gain knowledge on green technologies for community based adaptation and share best pilot practices across Bay of Bengal.
- Promote technology for community actions, which are not limited to machinery or equipments but based on the community knowledge and rightly mutating with the modern technologies and knowhow to enhance the interest of the community in adapting to and/or mitigating climate change affects.

Academia

- Engage in the research to demystify the complex technical knowledge and their application in common interpretable forms to make use of technology in transformations for promoting the local economy and mainstream this component in the national five year plans.
- Ensure that the science of adaptation and mitigation has a human face with appropriate community and academic interface through R&D and are accessible to common and vulnerable people.

Government and Policy Makers

- Support evolution of adaptation technologies based on the traditional knowledge and the local imperatives with financing opportunities and ensures that they are accessible to vulnerable people as public goods not as commercial product.
- Donors and national governments take responsibilities to ensure multi-hazard early warning systems in place to alert officials, as well as communities, before they reach full emergency levels.

Climate Change and Youth/Children

Civil Society Groups

- Ensure that children and youth have legitimate means to participate in the climate change policy and program planning processes at all level.
- Ensure that sustainable livelihood interventions enable families to invest in their children's education and provide opportunities for building their life skills.

Academic and Educational Institutions

- Introduce the CBDRM course at education institutes to reduce vulnerabilities amongst children and enhance community resilience.
- Introduce youth exchange programs and fellowships to promote their engagement in documenting the evidence of climate change impact and promote their task force to address issues at community level with various tools and techniques.

Government

- Invest on children as resilient citizens and leaders and ensure that education, health and other services are resilient to climate change.
- All efforts should be taken give children the best chance of surviving the effects of climate change impact.
- Address the basic needs of the poorest and curb the trend of climate induced migration through vocational training support rural youth to reduce the vulnerabilities.
- Investments by national governments and the UN must ensure child centered planning as they have the right to participate in decisions that affect their lives, and as such adaptation planning must involve children in identifying appropriate interventions to meet their needs and priorities.

Climate Change and Gender/Inequality

Civil Society Organisations

- Undertake programs to assess the impact of climate change on women and their reproductive health during and after disasters.
- Ensure that women as the climate wise leaders do participate in the planning, implementation and monitoring and negotiation process to voice their concerns in allocation of climate fund.

Academic and Research Organisations

- Study on coherence among policy frameworks on health and environment to integrate the women policy, environment policy, national disaster management plan of action and NAPs etc.
- Institute research around gender inequality and promote transformative actions on the use of related sectors on food security, agriculture changing perceptions around climate change.

Government

- Invest to transform women members' current knowledge and skills to inform climate change policies and actions as a means to access equal share of information, technology and resources for adaptation.
- Facilitate the development of gender disaggregated database to record the increased vulnerability of women during disaster and accelerated impact of climate change through official assessments to recognize the disparities in the response and preparedness planning.
- Incorporating the gender issues in thematic area of National Climate Change Strategy and Action Plans and mainstream the gender framework to recognize the role of women as the real transformers and drivers of building the communities' resilience to climate change.
- Allow the recognition of women and minority communities as key preserver of indigenous knowledge; recognize their achievements work on bio-diversity conservation and resilience.

Climate Change and Community Based Adaptation

Civil Society Organisations

- Promote and scale up the community led processes to develop adaptation practices of CBA with location specific and self-initiated process to ensure their sustainability through collective action.
- Undertake process documentation for all demonstration models to promote best practices of community conservation initiatives and widely disseminate the practices for replication with local solutions using traditional knowledge and wisdom to address the climate change issues.

Academia

- Facilitate participatory research on identification of traditional coping strategy and adaptabilities in climate sensitive zones and encourage communities to come forward with their own initiatives.
- The community level indigenous techniques should be properly documented, researched and provided with technical and scientific support to enhance their quality of engagements.

Government

- Government to provide necessary support through its different line departments to create models by involving the CBOs and based on different models in different climate zone the Government can promote CBA through different schemes.
- Promote location specific community initiatives as they have proved to be the best and have preserved natural resources and created livelihood options that are climate friendly.
- Adaptation to climate change should also involve conservation agencies to assess climate change impacts on the animal habitats, natural resources and marine diversity of the coast.

Climate Change and Disaster Risk Reduction

Civil Society Organisations

- Greater focus on community planning and budgeting should be done as per the priorities of the civil society initiatives with specific focus on issues of gender, inequality, minorities and others integration of DRR and CCA
- Agencies working on issues of children should invest in the education on climate change with child friendly versions of education materials to raise awareness on hazards and preparedness
- The local coping mechanism should be properly documented, analysed and supported in a scientific manner to enhance the quality thereby reducing the risk percentage.

Academic Institutions

- Need for proper knowledge management to improve upon existing networks through academic collaboration among multi stakeholders to develop scientific tools and techniques to promote integration of DRR and CCA in the development planning process.

Government

- Need to promote climate smart and ecologically sustainable development with a focus on building institutional capacity on disaster risk reduction to protect the lives and livelihoods of communities
- Ensure greater and better coordination between governments, research organizations, civil society members and the communities with relevant investment on planning for location specific infrastructure and protection measures to face the unpredictable impacts of climate change.

Climate Change and Governance

Civil Society Organisations

- Focus on regional issues and advocate for their reflections at the international process that will further ensure that international support can be duly made available.
- NGOs need to act as watchdog group to monitor existing policy frameworks on climate change to ensure that the benefits are aimed towards vulnerable communities of Bay of Bengal Region.

Academic

- Need to develop knowledge on the Bay of Bengal region based on science to influence the international community and develop climate scenarios for the region to inform policy findings.
- Undertake losses and damages assessments to advocate for the appropriate allocations of funds.

Government

- Adapt the sustainable development models promoting green technologies as the way forward to take on the ambitions target to meet the goal of 2 degree without deviating from the growth.
- Climate Policies in the region have to take into account local priorities of actions in the planning and invest in building community resilience to achieve food, water and livelihood security.
- Ensure mainstreaming of climate change issues into development programs by using existing country institutional architecture by mainstreaming the financial allocations in the budget.
- Govt. sponsored policies and programmes should be dovetailed to address the issue and special package declared and allocated for addressing the climate change issues.

- Nations facing the brunt of climate change to develop their own policies depending upon ground realities at local governance level by ensuring efficient and accountable resilience program.
- Identity based discrimination should be prevented on all actions related to climate change in the Bay of Bengal region.
- South Asians to generate a Green Climate Fund to become self-sufficient and have effective coordination to ensure better policies for climate resilient life in the Bay of Bengal region.

Recommendations for Media Engagement

- Review and report on program challenges/drawbacks as to strengthen monitoring and accountability processes of climate change scenarios and report on the inappropriateness of the development programs that are primarily responsible to aggravate climate change adversities.
- Media must handle the scientific and technical aspects with care as there are diametrically opposite opinions within the scientific community and due importance should be given to all the view points to encourage journalists with scientific bend of mind to specialize in writing stories related to climate change, adaptation and community resilience in Bay of Bengal region.
- Media should popularize the use of people friendly sustainable technologies, and carry out human interest stories on such application of technologies in local vernacular papers to popularise the adaptation technologies at all levels.
- More media coverage on the condition of children in climate vulnerable areas through media campaign on making common people aware of how they are also been/being affected by climate change. ,
- Media should be informed about the outcome and success stories on the participatory research and highlighting the positive changes round the world.

CALL FOR PARLIAMENTARY ACTION

- Need to engage in the climate change negotiation and action by mobilising the leaders of this region to develop common agenda put up with a united face by shading their identities based on political boundary and to undertake as the role of people's representatives:
- Form a Parliamentarian group for the Bay of Bengal;
- Initiate legislation, policy discussion on issues of climate change
- Organise Parliamentarians caucus at least once a year; and
- Initiate cross-border sharing and recommend issues of commonalities.
- The civil society, government, NGOs have to be united as South Asian and develop the position for regional cooperation to formulate a road map for promoting climate resilience in Bay of Bengal.

ACKNOWLEDGEMENT

We are indebted to the members for contributing their inputs and recommendations for the Charter on Community Resilience to Climate Change in the Bay of Bengal 2012.

ON BEHALF OF ORGANISING COMMITTEE

"There is a need to change our attitude and follow the Gandhian principles of promoting the local economy and taking responsibility of our resources with less consumption and effective coordination. We as developing nation need not compete with the developed nations and we as citizens of any developing nation should come out of the thinking that if developed nations have committed the crime, then we also have the right to do so". A. V. Swamy, Member of Rajya Sabha.



WORKSHOP AGENDA

12th July, 2012 (Thursday), Day - 1

Inaugural Session

Time: 9.30AM-11.30AM

1.	Mr. Dipankar Datta	Country Director, Concern Worldwide	Welcome Address
2.	Mr. Saroj Dash	Technical Coordinator, Climate Change, Concern Worldwide	Introduction
3.	Mr. Ambika Nanda	State Programme Officer, UNDP	Building Perspective on Bay of Bengal
4.	Ms. Vishaka Hidellage	South Asia Director, Practical Action	Keynote Address
5.	Mr. Achyut Luitel	Country Director, Nepal, Practical Action	Guest Address
6.	Shri Debi Prasad Mishra	Hon'ble Minister, Forest and Environment, Odisha	Chief Guest
7.	Mr. Kailash Chandra Dash	Executive Director, RCDC	Vote of Thanks

TEA BREAK : 11.30 TO 12.00

Panel Discussion

Time: 12.00 to 1.00PM

Facilitator: Mr Dilip Satapathy, Editor, Business Standard

1.	Dr. Ambika Nanda	State Programme Officer, UNDP	Panel Member
2.	Mr. Dipankar Datta	Country Director, Concern Worldwide	Panel Member
3.	Dr. Kabir Sethy	Geography Department, Utkal University	Panel Member
4.	Mr. Saroj Dash	Technical Coordinator, CWW	Panel Member
5.	Mr. Kailash Ch. Dash	Executive Director, RCDC	Panel Member

LUNCH: 1.00 to 2.00 PM

Technical Session 1: Climate Change and Impact Assessment/Monitoring

Facilitator: Concern Worldwide/RCDC/JJS/Sushilan

Time: 2.00 - 3.30 PM

1.	Ms. Sweta Mishra	Team leader, Concern Worldwide	Introduction to the session
2.	Prof. Gopal Panda	Department of Geography, Utkal University	Chair
3.	Dr. Tawhidul Islam	Jahangir Nagar University, Bangladesh	Panel Member
4.	Mr. Rafique Haque	Programme Manager, Sushilan	Panel Member
5.	Mr. Sudip Ch. Pal	Sarapanch, Rangani GP	Panel Member
6.	Vote of Thanks		

TEA BREAK : 3.30 TO 3.45 PM

Technical Session 2: Climate Change and Food Security/Agriculture/Livelihood

Facilitators: Concern Worldwide/RCDC/JJS/Sushilan

Time: 3.45 PM - 5.00PM

1.	Mr. Bimal Pandia	RCDC	Introduction to the session
2.	Dr. Debal Deb	Director, Centre of Interdisciplinary Studies, Kolkata	Chair
3.	Dr. Sinhababu, Dr. P.Bhattacharya	Principal Scientists, CRRI	Panel Members
4.	Mr. Palash Halder	Concern Worldwide, Bangladesh	Panel Member
5.	Mr. S V Govardhan Das	Executive Secretary, CHE Andhra Pradesh	Panel Member
6.	Mr. Deepak Singh	Programme Officer, DCA	Panel Member
7.	Vote of Thanks		

13th July 2012 (Friday) Day - 2

Plenary Session

Time: 9.00AM-10.00AM

1.	Mr. Saroj Dash	Technical Coordinator, Concern Worldwide	Facilitator
2.	Mr. Tanvir Shakil Joy	Hon'ble Member of Parliament, Bangladesh	Chair
3.	Mr. Mukul Sharma	Regional Director, South Asia Climate Parliament	Panel Member
4.	Mr. Achyut Luitel	Country Director, Nepal, Practical Action	Panel Member

Technical Session 3: Climate Change and Technology

Facilitator: Practical Action

Time: 10.00AM -11.30AM

1.	Ms. Shikha Srivastav	Practical Action	Introduction to the session
2.	Dr. Kabir Sethy	Geography Department, Utkal University	Chair
3.	Dr. Gurmeet Singh	School for Environmental Science, Jawaharlal Nehru University, New Delhi	Paper Presenter
4.	Mr. Ranga Pallawala	Practical Action, Mr. Lanka	Paper Presenter
5.	Dr. P Mishra	Senior Scientist, ORSAC	Paper Presenter
6.	Mr. Gehendra Gurung	Practical Action, Nepal	Panel Member
7.	Vote of Thanks		

Tea Break: 11.30 to 11.45AM

Technical Session 4: Climate Change and Youth/Children

Facilitator: Save the Children

Time: 11.45AM - 1.00PM

1.	Mr. Sasanka Padhi	Save the Children	Introduction to the session
2.	Mr. Ray Kancharala	Save the Children	Chair
3.	Mr. Mihir Bhatt	Honorary Director, AIDMI	Paper Presenter
4.	Dr. Dillip Pattnaik	Secretary General, SAYCC	Paper Presenter
5.	Mr. Mohan Ku. Dash	Sarpanch, Satbhaya	Panel Member
6.	Vote of Thanks		

LUNCH: 1.00PM to 2.00PM

Technical Session 5: Climate Change and Gender/Inequality

Facilitator: Concern Worldwide/RCDC/JJS/Sushilan

Time: 2.00PM-3.30PM

1.	Ms. Sarojini Brahma,	RCDC	Introduction
2.	Prof. Asha Hans	Vice President, SMRC	Chair
3.	Ms. Bipasha Dutta	Eminence, Bangladesh	Paper Presenter
4.	Ms. Umme Salma	Concern Worldwide, Bangladesh	Panel Member
5.	Ms. Bhanumati	Balijori, Jagatsinghpur, Odisha	Panel Member
6.	Vote of Thanks		

Tea Break : 3.30 to 3.45 PM

Technical Session 6: Climate Change and CBA

Facilitator: Trocaire and Concern Worldwide

Time: 3.45PM-5.00PM

1.	Mr. Suresh Bisoyi	Director Field Operations, RCDC	Introduction to the session
2.	Ms. Padmavati Yedla	Officer-in-charge UNICEF Odisha	Chair
3.	Mr. Kailash Dash	Executive Director, RCDC	Paper Presenter
4.	Mr. Ghanshyam Pandey	Global Coordinator, Community Forestry	Panel Member
5.	Ms. Laura	Tro-caire, India	Panel Member
6.	Mr. Pramod	Rajnagar, Kendrapara	Panel Member
7.	Vote of Thanks		

14th July 2012 (Saturday) Day - 3

Plenary Session

Time: 9.00AM-10.00AM

1.	Mr. A V Swamy	Hon'ble MP, Rajya Sabha	Chair
2.	Mr. Tanvir Shakil Joy	Hon'ble MP, Bangladesh	Panel Member
3.	Mr. Mukul Sharma	Regional Director, South Asia Climate Parliament	Panel Member
4.	Mr. Sanjay Vashist	Coordinator, CANSA	Panel Member

Technical Session 7: Climate Change and Disaster Risk Reduction

Facilitator: AIDMI and Concern Worldwide

Time: 10.00AM-11.30AM

1.	Ms Mamata Sahoo	Concern Worldwide	Introduction to the session
2.	Mr. Mihir Bhatt	Honorary Director, AIDMI	Chair
3.	Dr. Kamal Mishra	UNDP/OSDMA	Paper Presenter
4.	Ms. Binapani Mishra	Secretary, SWAD, Puri	Panel Member
5.	Mr. G. Padmanavan	Emergency Analyst, UNDP, Delhi	Panel Member
6.	Mr. Anirudh Dey	Executive Director, PRISM, Kolkata	Paper Presenter
7.	Vote of Thanks		

Tea Break: 11.30 to 11.45AM

Technical Session 8: Climate Change and Governance/Policy Advocacy

Facilitator: Concern Worldwide/UNDP/RCDC/CANSA

Time: 11.45AM - 1.00PM

1	Mr. Ghasiram Panda	RCDC	Introduction to the session
2	Mr. Ambika Nanda	State Programme Officer, UNDP	Chair
3	Mr. Tirthankar Mandal	Programme Coordinator, CANSA	Paper Presenter
4	Mr. Charudutta Panigrahi	Executive Director, LDF	Panel Member
5	Mr. Sanjay Vashist	Coordinator, CANSA	Panel Member
6.	Vote of Thanks		

LUNCH : 1.00PM to 2.00PM

Panel Discussion on Plan of Action and Follow Up

Time: 3.15 PM - 4.15PM

1.	Mr. Saroj Dash	Concern Worldwide	Facilitator
2.	Dr. Ambika Nanda	State Programme Coordinator, UNDP	Chair
3.	Dr. Kabir Sethy	Deptt. of Geography, Utkal University	Panel Member
4.	Mr. G.B. Mukherjee	Concern Worldwide	Panel Member
5.	Mr. Kailash Ch. Dash	Executive Director, RCDC	Panel Member

Valedictory Session

Time: 4.15PM-5.00 PM

1.	Mr. Jagadananda	Commissioner, Right to Information	Chair
2.	Mr. Tanvir Shakil Joy	MP, Bangladesh	Guest of Honour
3.	Mr. Rajaram Satapathy	Resident Editor, Times of India	Guest of Honour
4.	Mr. Ranga Pallawala	Practical Action, Srilanka	Panel Member
5.	Mr. Dipankar Datta	Country Director, Concern Worldwide	Vote of Thanks

LIST OF PARTICIPANTS

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173	Rajaram Satapathy	The Times of India
174	Ambuja Bal	RCDC
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