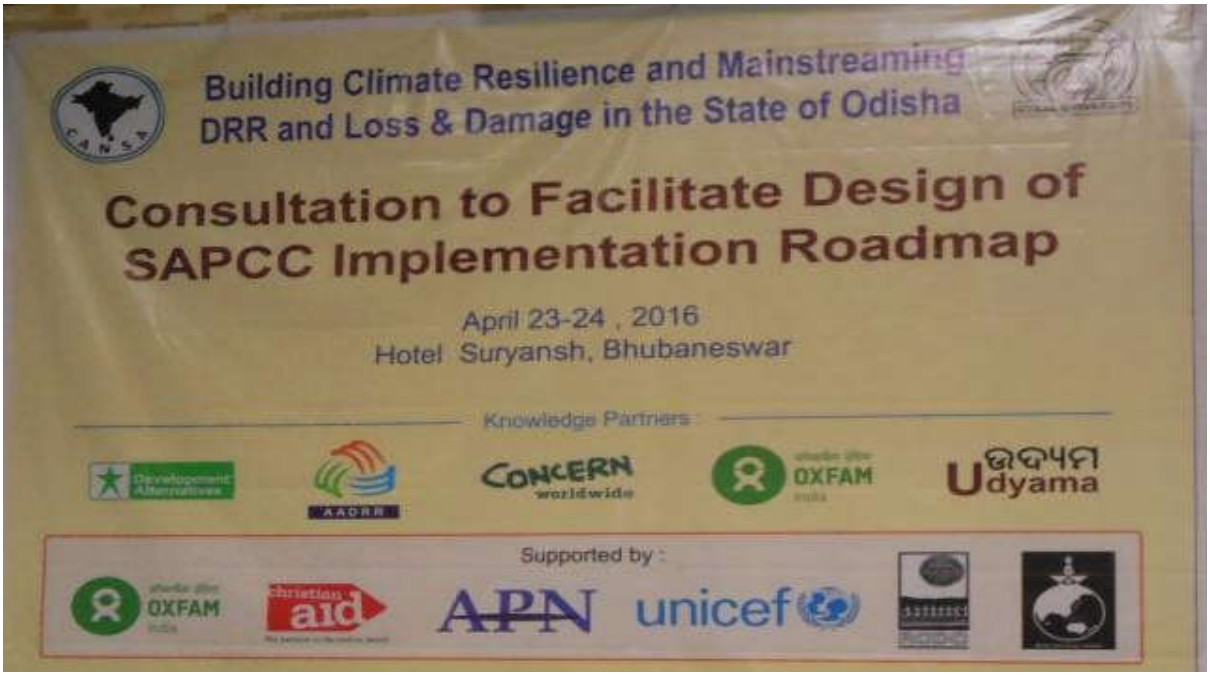
Outcomes Report

Building Climate Resilience and Mainstreaming DRR in the State of Odisha

Consultation to Facilitate Design of SAPCC Implementation Roadmap



April 23rd - 24th, 2016

Hotel Suryansh, Bhubaneswar

Consultation Partners

Organised by	
	Climate Action Network South Asia (CANSA) c/o Development Alternatives B-32, TARA Crescent, Qutub Institutional Area, New Delhi-16 www.cansouthasia.net
	Utkal University Bhubaneswar- 751004 Odisha www.utkaluniversity.nic.in
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1. Introduction

Odisha counts as one of the poorest states of India as well as one of the most vulnerable geographical regions. The state is impacted by series of natural disasters every year alternating between flood, drought, heat wave, cyclone or a combination of all. With 480 km of vulnerable coastline to cyclonic storm, consequent surge and nearly 10% high erosion-prone zone, the state has a long list of disasters. The population is largely rural and its occupation is agrarian and/or fishing with high climate sensitivity. Slow onset disasters such as soil salinity and degradation in soil and water quality are also increasingly becoming prominent.

Considering the vulnerability to climate change because of social, economic and environmental reasons, it is essential that the law makers, academics, media and community be mobilised and sensitised. The communication is even more important in the light of changing climate regimes of Paris Agreement, Sendai Framework on Disaster Risk reduction (SFDRR) and Sustainable Development Goals. At the state level, the government has completed first phase of its State Action Plan on Climate Change (SAPCC) in 2015 and second phase draft SAPCC for 2015-2020 is awaiting approval. The implications of all above-stated global frameworks and study are of high relevance warranting urgency of action and convergence.

For this purpose the state consultation “Building Climate Resilience and Mainstreaming DRR in the State of Odisha” has been organised by Climate Action Network South Asia (CANSA) in partnership with Utkal University, UNICEF, APN, Christian Aid, Oxfam, Udyama, Development Alternatives, AADRR, Concern Worldwide and Water Initiative Odisha.

2. Inaugural Session

While delivering the welcome address, Prof. Kabir Mohan Sethy, Professor, Department of Geography, Utkal University spoke of the importance of knowledge and its management in dealing with climate change. He thanked the CANSA and other organizing partners to create platform for experience and knowledge sharing. Referring to the Bay of Bengal Forum which has been consistently raising climate changes issues and providing leadership in policy advocacy in the region, he insisted on continuous engagement with lawmakers, civil society and academia.

Photo 1: Sanjay Vashist is outlining the purpose and objectives of the state consultations

Sanjay Vashist, Director, CANSA explained the purpose and objectives of the state consultation He described the changing landscape of development and climate change discourse owing to the three global agreements in 2015. He elaborated on the Paris Agreement and referred to the signing in ceremony conducted in New York in April.

Photo 2: Prof. A.K. Das, Vice Chancellor, Utkal University is announcing the establishment of Climate Change Knowledge Centre

He stated that the implementation would be key to obtain the benefits from the positive elements of the agreement and the ongoing consultation would determine the contours for the state and nature of engagement of civil society with the government. He added that the agreement is only ratification away and India has a one year window to ratify the agreement.

While delivering inaugural speech in the workshop, Prof. Ashok Kumar Das, Vice Chancellor, Utkal University stressed upon the collective effort to tackle the issue. He called upon stakeholders to work in unison and implement the planning documents at international, national and sub-national level. By welcoming and admiring the effort of CANSA and partners to set up a knowledge centre in the university, he envisaged the knowledge centre to impart practical experience for students. He spoke of training students in the area of climate change that are problem solving and useful to people.

Photo 3: Dr. Vinod Menon, Founder Member, NDMA is pitching for state recognition of Climate Change Knowledge

While delivering vote of thanks Sarbajit Singh Sahota, UNICEF have emphasized on water security considering the disastrous drought situation in 10 states of India. He stressed upon restoration of conventional methods of surface water storage, rain water harvesting in urban areas and efficient use of water in agriculture. He added that domain activities need to be identified at the grass root level to ensure water security. He also touched upon the role of universities in providing socially relevant education and training.

Technical Sessions

3. Session 2 - Climate Impacts and Policy Actions

The session was co-chaired by Shri Amar Satapathy, Member Legislative Assembly, Odisha and Prof. S N Tripathy, Retired Professor, Department of Geography, Utkal University. While initiating the technical session, Hon'ble Member of Legislative Assembly, Odisha Amar Satpathy indicated the impact of climate change in the state. Recalling the devastation caused due to repeated cyclones, high impact on agriculture based livelihood and increasing summer temperature in the state, he called for forest conservation and creation of sustainable agricultural practices in the state. He then invited the speakers to discuss the session theme in detail.

Santosh Patnaik, CANSA presented the climate change predictions in Odisha and stated that the climate of the state is determined by the land locked Bay of Bengal where whether is

formed. He added that a slight change in the sea behaviour can have an immediate impact on the coast and the state which could be either extreme weather events such as cyclones and droughts. He said that 0.5°C can change the character of the monsoons which may cause less depression formation over the Bay, less rainfall and higher cyclonic activity. Climate change will have impact on rivers and deltaic system created by the Subarnarekha, the Budhabalanga, the Baitarani, the Brahmani, the Mahanadi and her distributaries, and the Rusikulya. The low–lying areas are vulnerable from inundation because of sea level rise. Fresh water inflow to coastal areas will be affected by rising sea water and salinity intrusion. The state also experiences increased risk from forest degradation and desertification.

Dr. Ambika Nanda and Sankuntala Nanda briefly described a host of climate impacts in Bay of Bengal and Odisha. Dr. Ambika while providing introduction to the presentation stated that disaster management is expenditure while disaster risk reduction is investment with benefits. The presentation highlighted the plight of people, particularly women and children of the state facing every day disasters in earning livelihood, fetching drinking water and collecting fuel for cooking and lighting. The presentation highlighted the need for innovative intervention and appropriate technology that promote livelihood diversification and last mile delivery of basic services.


Photo 4: Zeenat Niazi from Development Alternatives is explaining SDGs in the context of Odisha

Zeenat Niazi, Development Alternatives introduced the concept of sustainable development goals (SDGs). She stated that SDGs agreed last year aim to eradicate extreme poverty and hunger, achieve universal primary education, promote gender equality & empowerment of women and improve health conditions. She added that all the three dimensions of sustainable development namely environment, economy and society are interlinked. However, to attain the 17 goals and 169 targets to be achieved by 2030 would require support from developed countries in terms of technology, finance and capacity building. She mentioned that 0.7% of global GDP to support the developing countries in building resilience and sustainable development. She stated that without addressing climate change and inequality, sustainable development can't be reached. Business as usual approach will not help in achieving SDGs. Developing countries need radical changes in their development approach to achieve the desired goals and targets.

Dr. Vinod Menon introduced Sendai Framework on Disaster Risk Reduction in the workshop. He contextualised the SFDRR on the backdrop of Hyogo framework on DRR and highlighted the improvements made in the SFDRR. He said that risk management in SFDRR supersedes disaster management of Hyogo framework which focuses on post disaster relief and rehabilitation. Addressing the current risk and not creating new risks are the principles of disaster risk reduction. He added that institutional mechanisms should be in place to conduct disaster risk assessment of state policies related DRR. But he added that sub national initiatives to deal with DRR are limited by inadequate capacity, incoherent policy framework

and inexperienced workforce at the ground level. It is essential that the nuances of DRR be taken to communities who are most vulnerable.

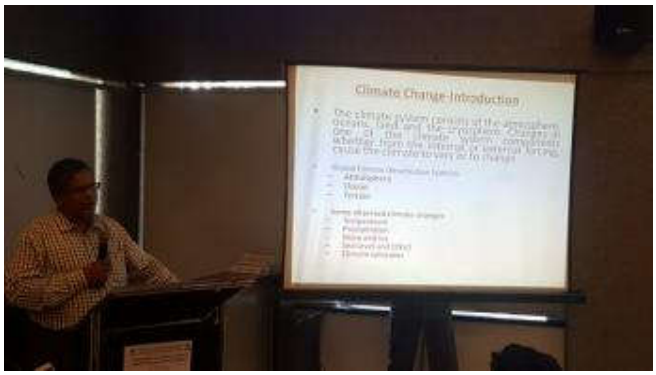

Photo 5: Dr. Sarat Sahu, Director, IMD, Bhubaneswar shared information on changing weather patterns in the state.

Dr. Sarat Chandra Sahu, Director, Indian Meteorological Department, Bhubaneswar shared the climate science behind climate variability and change in the state. He indicated that the mean annual temperature and mean maximum temperature has increased in Bhubaneswar and the same trend has been observed in areas such as Balasore and Titilagarh. Titilagarh recorded the highest temperature in the state surpassing 45^0C in the month of March 2016. He provided some useful tips and measures for increasing household energy efficiency and energy conservation measures.

The session co-chair Prof. S. N. Tripathy concluded the session by highlighting technicalities involved of climate variability and change and called for action on the ground.

4. Session 3: Adaptation and DRR in SAPCC in Climate Change Policy

Dr. Vinod Menon chaired the session that took up the SAPCC for closer analysis with regard to inclusion of DRR and Climate Change Adaptation (CCA). He stressed on the integration of the above mentioned with state policies and implementation for visible impacts on the ground level.

While reviewing adaptation and DRR in National Missions, Paris Agreement and State Action Plan, Sanjay Vashist provided an account of climate change negotiations and geopolitics surrounding the much anticipated Paris Agreement. He narrated the salient features of the agreement and identified relevant areas where the state action plan is relevant and need to learn from. He presented the findings from the UNICEF study report on '*Status of Disaster Risk Reduction and Climate Change Adaptation in Climate Change Action Plans: A Review of the State Climate Change Action Plans of Andhra Pradesh, Assam, Himachal Pradesh, Madhya Pradesh, Odisha, Sikkim, Tripura and Uttarakhand'.* The study finds that several measures have been proposed to deal with drought related water and food shortage risk. This risk related to mortality caused by heat related mortality has been poorly dealt with in the action plan with little attention to urban planning, sustainable cities and measures to reduce heat island effects. Overall, the study finds that SAPCC builds a good foundation for initiating holistic engagement with climate change and needs regular review to recognise new threats and risks. He struck out the role of knowledge management centre which is to implement the SAPCC and will conduct evidence based research. The centre will coordinate among state departments for efficient implementation of SAPCC.

Sustainable Development Goal and its relevance to the state was presented by Anshul Bhamra from Development Alternatives. She interlinked SDGs and state SAPCC implementation. She stated that for Odisha to be self sufficient to in food production, crop failure should be reduced, watershed management should be encouraged and the seeds should be climate resilient. The state had a target for 33 lakhs of irrigation capacity where as the achievement was only 1.2 lakh hectare net irrigation capacity created in 11th five year plan. She recommended using eco friendly fertilisers for improvements in production. In water & climate change, she emphasised on drinking water, irrigation and toilet facilities. In energy, the state should aim for universal access to electricity. Though the state has high potential for thermal, solar, wind, biomass energy, it faces electricity deficit. The funds collected from mining drives coal based energy rather than green energy while the sector has negative social and environmental impact.

Photo 6: Anshul Bhamra of Developement Alternatives is linking SDG and SAPCC implementation in the context of

Introducing Bihar Road Map on DRR, Mr. Asif Shabab from Bihar State Disaster Management Authority (BSDMA) described various processes that went into preparation of DRR profile of SAPCC. He explained that the community was involved in making the plan. The SAPCC has 18 milestones set for BDRR and the financial assistance is provided by government as well as private sector. He explained the Bihar state action plan on climate change which draws on SFDRR and grounds it to the realities of the state. He added that BSDMA is initiating ground level interventions in training, capacity building and multi-stakeholder participation in DRR planning.

Dr. Ambika Nanda presented his views on the role of private sector in building resilience and capacity building in the state. Being in the private sector himself and having experience of civil society, he reflected on the closer tie up of both stakeholders to bring lasting changes in society. He described the role of Tata Steel in making creative interventions that changed the livelihood profile of rural women from country liquor sellers to successful farmers. Tata steel helped women to create three layered homestead garden and created climate smart villages. He narrated the innovations made by young students in the Kalinganagar project area of Tata steel who found solar reeling machines as a weaving solution for traditional Tasar silk in the area. Tata steel also encouraged surface and sub-surface water for irrigation and drinking purposes, promote solar pumps, integrated family farming to ensure food security and solar lighting thus creating higher values by building partnership with the community and other bodies. It also created learning organizations for economical growth as well as literacy in the region. These efforts have reduced vulnerability and created opportunity for the poor because of which participation was ensured leading to the positive changes.

The presentations triggered a discussion pertaining to the integration of DRR and CCA into SAPCC. The climate policy interventions in the state need to be aware of the linkages and take steps to initiate such process at all levels.

5. Session 4: Vulnerable Odisha and its Ecosystem: Addressing Slow Onset Loss and Damage Events

Prof. S.N. Tripathy chaired the session and contextualised the discussion with the loss and damage Odisha experiences from successive cyclones and droughts. He invited Santosh Patnaik who described the loss and damage phenomenon in detail. Santosh stated that loss and damage occurs because of inadequate adaptation and insufficient mitigation measures. As it is true for climate change, the loss and damage (L&D) phenomenon impacts vulnerable harder than more resourceful developed countries. He narrated that L&D occurs because of rapid on setting and slow on-setting processes. L&D caused by slow processes are much more devastating as it happens gradually and affects more people than initially anticipated. UNFCCC identifies L&D processes as ocean acidification, salinisation, melting of glacier, and rise in temperature, desertification and land and forest degradation. He added that approaches considered for addressing extreme events will not work for slow onset events. For instance much hyped insurance is not an appropriate tool to deal with SOEs causing L&D as the premium is unaffordable for vulnerable and in violation of basic premises of concept of insurance.

Photo 7: Anoop from CANSA is describing approaches to deal with loss and damage.

Anoop shared the various approaches to deal with L&D processes in which he discussed risk transfer/sharing, rehabilitation or recovery. He discussed several other approaches such as requirement for climate modelling, research and development, innovation in technology and processes, data on impacts on agricultural productivity, livelihood and income and so on. He also emphasized on public and private finance and research alignment between public and private sectors to produce synergy for finding solutions. He stressed on new social safety funds and reallocation of existing funds to compensate for L&D. He called for land-use planning and agriculture efficiency to combat degradation and desertification. Overall resource management in the form of regulation of resource extraction, efficient use of resources, diplomatic tie up with neighbouring stated and countries with regard to resource extraction and use will be highly essential to manage L&D.

Ranjan K. Panda from Water Initiative Odisha spoke about impacts of drought and salinisation on agriculture in Odisha. He stressed on reward for forest and soil conservation as farmers, tribal and other indigenous people have been custodians of the resource. Industry has been rewarded for exploiting the resource and in a larger context economy is based on

resource extraction. The incomes of farmers have faltered which is evident from farmer suicides throughout the country. He said that farming as a profession is in decline as farmers are increasingly becoming agricultural labourers in their own land because of lopsided policy measures and constant resource degradation. He referred to the research conducted by WIO which shows increased evidence of desertification in the state owing to water shortage, mining and forest diversion.

The 1st day of proceedings concluded with the remarks of chair Dr. Prof. S N Tripathy who underlined conservation and sustainable development as way out for increasing environmental issues. He pointed out that business as usual approach is no longer an option for future well being. Loss and damage is another threat not discussed and unknown for long which is creating new challenges. Development paradigm needs to be redefined in order to tackle the issue and the strict adherence to the approaches mentioned during the session will have long term benefits.

Day 2

Rushati Das and Alokya Kanungo from Utkal University presented recap of the proceedings of the previous day. The delegates provided feedback on the proceedings.

Photo 9: Siddhant Das, Principal Chief Conservator of Forest, Forest & Environment Department, Government of Odisha is presenting the usefulness of algae in carbon sequestration

Siddhant Das, Principal Chief Conservator of Forest, Forest & Environment Department, Government of Odisha gave his remarks on the proceedings of the workshop. He said that though renewable particularly solar and wind has potential, still coal will dominate the national energy mix for coming decades. He described grid parity of coal based energy system which renewable is yet to match. He stressed on enhancing efficiency of thermal power plants to reduce emission levels. In addition he shared the GHG reduction potential of micro algae by producing biodiesel and manure substituting fossil fuel and chemical fertilizers in reference to National Aluminium Company (NALCO) pilot project. He described that Algae has potential of sequestering up to 250 ton of CO2 / ha/ year where as a plantation could sequester about 2.5 ton of CO2 / ha/ year. Algae has advantage over plantation as algae growth can be enhanced by 10 to 20 times in field conditions by increasing CO_2 concentration and can tolerate up to 2000 ppm of CO_2 concentration. Reliance on coal was contested among the delegates as the subsidy component and negative externalities were raised.

6. Session 5: Low Carbon Development: an agenda towards higher Human Development Index in Odisha

Chaired by Prof. Kabir Mohan Sethy, the session discussed low carbon initiatives in Odisha and its implications in the state. Dr. Birupakshya Dixit of Practical Action India has shared success stories of mitigation initiatives. He presented solar, wind, biomass and hybrid (solar

and wind) solutions providing irrigation for agriculture, rural electrification and energizing rural enterprises for livelihood diversification. Practical Action implemented improved cook stove in rural households and schools to reduce fuel wood use and reduce indoor air pollution. Besides there are some innovations such as solar carts, ordinary plastic bottles used as solar water bulbs and use of faecal sludge to produce biogas and manure presented in the workshop.

Jagannath Chatterjee from Regional Centre for Development Cooperation (RCDC) presented CCA and DRR best practices from coastal Odisha as implemented in the Paribartan project. The project was implemented in Kendrapara and Jagatsinghpur district of Odisha. He took note of climate impacts in coastal Odisha on life and livelihood because of recurring incidences of includes sea level rise, salinity intrusion, displacement, flooding, drought and cyclones. The project interventions are aimed at enhancing resilience of community by increased capacity of state and non-state actors, community members and pilot projects demonstrating practical ways of adaptation that feeds to the promotion and sharing of lessons learnt with policy makers and relevant stakeholders. RCDC along with partners built community institutions, empowered women by providing appropriate training and capacity building, built task force and piloted mitigation/adaptation initiatives. Integrated rice - fish agriculture, homestead gardens and mangrove nursery as alternative livelihood options were promoted. Transportable fuel efficient stoves were provided and rain water harvesting was practiced in the villages. The series of steps taken have increased resilience against disasters in the area.

Mr. Gokulananda Ojha of India Development Project (IDP) presented climate smart village project in the workshop. IDP is a non government organisation located at Fakirpur and Akhupal village in Ghatgaon block of Keonjhar district of Odisha. IDP has been actively engaged in Ghatgaon, Anandapur, Joda, Harichandanpur, Saharpada blocks of Keonjhar district since last 20 years. The organisation has been active in agriculture & animal husbandry, afforestation & eco-development, community organisation and income generation programmes. The tribal people are the most marginalised ethnic groups in the district and about 52% tribal people live below poverty line. The majority of tribal live in rural forested areas and 90% are engaged in agriculture and collection of non timber forest produces. The right to basic resources such as land, forests, water have been seriously eroded by development projects, land invasion and government regulations. Considering the high vulnerabilities of tribal people, training on disaster preparedness, watershed management and flood control activities during pre and post-disaster period and fire fighting to control wild fire in the forest is needed.

Photo 10: Delegates present in the Odisha state consultation

Odisha Disaster Recover in the district of Ganjam after the Cyclone Phailin was presented by an official from Odisha State Disaster Management Authority. He stated though appropriate ground level action has resulted in no casualty during Cyclone Phailin and Hudhud in coastal districts in Odisha. He added that to assist people who are impacted by cyclone and are vulnerable, disaster

resilient houses are built in Ganjam and Puri district. The house building project aims to build 16,000 houses from the 1100 Cr funds received from The World Bank. Owner driven construction of houses are ongoing where ecological principles have been adhered to. He said that the occupants of the houses have access to solar light, smoke less cook stove, paved block roads for easy percolation of water, saucer shaped drains, space for kitchen garden and colony plantation is encouraged in the area. The occupants are supported by unique insurance plan. However, the question was raised for massive extraction of local resources for construction which will have negative consequences on the ecosystem itself. The questions were raised whether alternative methods of rehabilitation and support are considered.

7. Session 6: Low Carbon Development: An agenda towards higher Human Development Index in Odisha

The session was chaired by Mr. Akhsaya Kumar Biswal, Regional Manager, Oxfam, India. The first presenter, Sanjay Vashist while outlining low carbon initiatives in India and mapping its relevance to Odisha stated that the carbon footprint of the developed country is way too high than the developing countries. The developed countries have low population but their consumption is high which eats up the development space of developing countries and puts a high risk on the environment. He said that carbon emission should be reduced in order to reach at the desired ambition - 1.5°C. New technologies need to be transferred to developing countries and also adopted to reach the targets. He enumerated the series of low carbon initiatives of the central government including drafting of SAPCC in most States, levy of carbon tax as 'Coal Cess' which becomes the source for mobilising climate finance from domestic sources which is to the tune of 17,000 Cr by 2014. He added that the 8 missions are under implementation. Major heavy industries are involved in emission trading in the form of Perform – Achieve – Trade Scheme. In its INDC, India has declared to reduce emission intensity of GDP by 33 – 35%, over 2005 levels, by 2030. The government has also announced 175 GW renewable energy goals by 2022 (100 GW Solar; 60 GW Wind; 10 GW Hydro and 5 GW Biomass). The energy mix will have lesser coal (50% by 2030) against 65% in 2015. He added that low carbon policy options will have significant co-benefits in the form of cleaner air, water and other ecosystem services which need to be factored in while making decisions on low carbon policies.

Panchanan Kanungo, former finance minister of Odisha presented renewable energy scenario in Odisha and implications in the context of SDGs. He called for 100% electrification in the state so that benefits of energy reach to all. He called for to break free from coal and to find new resources such as micro hydro and pico-hydro projects using waterfalls in the state. He invited the attention of planners to undertake such exercises to solve energy needs of off-grid households. He referred high temperature in the mining areas of Odisha with dwindling ground water resources. He called for alternative sources of energy such as solar, micro hydro and biomass based energy services. He gave an example of a 300MW of biomass power plant producing electricity near Puri, Odisha.

Pravas Ranjan Mishra of Oxfam India presented his work on renewable energy initiatives in Odisha and the upcoming campaign related to renewable energy (RE). He shared that Oxfam India's current strategy is economic justice which advocates "Fair Sharing of Natural Resources'. The target is to provide livelihoods for marginalised communities through rights

over natural resources specifically land, minerals and energy sources in its operational area by 2020. In order to achieve it, Oxfam India has encouraged RE for livelihood and has increased community literacy on RE. RE was used in irrigation, creating community engineers and produced an e-platform for knowledge centre (core.net.in/demo). It also organised collaborative campaign on RE with Rahagiri and ensured community participation in all its initiatives.

8. Session 7: Climate Finance for Effective Implementation of SAPCC

Mr. Sarbjit Singh Sahota from UNICEF chaired the session that provided an overview of climate finance opportunities. Anoop from CANSA presented accessing international climate finance opportunities in Odisha in which he enumerated various sources of international, bilateral and multi-lateral funds. He specifically described Green Climate Fund which invests and drives investment into low emission and climate-resilient development. He gave an account of project proposal based on fund allocation. He stated that NABARD acts as the focal point for GCF in India and provides capacity building support to create project in pipeline. He described in detail the mode of accessing the funds – through direct access or by through multi-lateral agencies such as The World Bank and other financial institutions.

Photo 11: Sarbjit Singh Sahota, UNICEF is providing summary of the session

He also described National Adaptation Fund which has a budget provision of Rs. 350 Crores for the year 2015-16 and 2016-17 with an estimated need for Rs. 181.5 Crores for financial year 2017-18. The aim of the fund is to assist state and Union territories that are vulnerable to the adverse effects of climate change. He described the projects that have been granted for funding in Odisha and other states.

Dr. Ambika Nanda presented the role of private sector in climate finance. He quoted the mission statement of Tata Steel whose basic purpose of doing business is for the betterment of community around. He added that private sector creates higher values and is interested in building partnerships with like minded stakeholders. He stated that private sector would be a useful ally as they have resources, capacity and network to plan and implement action measures. He stated that Tata Steel provide scholarship to students and promote innovation. He called for youngsters and students to come forward to be part of "FutuREady". It is a flagship program by Tata Steel to support youngsters with promising ideas on renewable energy by providing necessary funds and resources. Young Minds to get the ideas developed and funded. He outlined some of the issues of private sector and civil society which includes lack of trust, no model approaches to work together and difference in work culture.

Mr. Sarbjit Singh Sahota, UNICEF summarised the session by stating that State Knowledge Management Centre is a great initiative in the Eastern region which will drive climate action

in the state. He however quickly added to put into work various other measures to implement the SAPCC in the state.

9. Session 8: Summary Session

Prof. Sethy, Utkal University presented the key recommendations obtained from all the technical sessions.

Photo 12: Prof. Sethy is presenting the recommendations obtained from the workshop.

The key recommendations are

State Action Plan on Climate Change

- Centre needs to build its work on international agreements that can be good start for national and sub-national agenda.
- Centre needs to emphasise framing and supporting implementation strategies.
- Centre could play or support nodal coordinating agency in State development and mainstreaming the climate agenda.
- Role of diverse stakeholders need to be defined in SAPCC.
- Long term planning and implementation of SAPCC needs to be aligned with community needs.
- Fund mobilization training programmes need to be organised for diverse stakeholders including government agencies.

Odisha State Knowledge Management Center on Climate Change (OSKMCCC)

- Knowledge Centre for Climate Change at Utkal University constituted in partnership with CANSA and other organisations will be branded uniquely as OSKMCCC. It will be linked with OSDMA and other government bodies which also includes community involvement.
- 'Knowledge Centre' in Utkal University is recommended to be an autonomous body registered under Societies Registration Act 1860. Memorandum of Understanding to be signed between Utkal University and CANSA taking other agencies on board.
- Utkal University would pass a resolution in the relevant body (Syndicate, Senate, Executive Committee, Dept. of Government Departments, and Governing Body) for setting up the OKMCCC and submit a proposal for seeking state cabinet approval that would strengthen and scale up the Knowledge Management Centre for inputs into policy formulation and governance.
- Advisory board should be formed for OKMCCC and discourses should be reviewed.

- The knowledge centre will have flexibility to receive funds from multilateral and bilateral donors, Central and State governments, private sector, Trusts, charities, Utkal University alumni and Odiya diasporas etc.
- Financial and other resource will be mobilized for knowledge centre from all the other partners and organizations. Crowd funding should be encouraged to fund the knowledge center.
- The knowledge centre would initiate research on climate induced impacts in Odisha for policy guidance. The research conducted by the knowledge center needs to ensure equitable access of opportunities and sharing of resources in a climate constrained world.
- Partnerships with other state agencies need to be built to also provide practical experience to students.
- The knowledge center would take 'proactive approach' to build capacity of relevant departments of the university and state government.
- There is very less research in health sector and the knowledge center has to come up with new findings to deal with health issues
- The knowledge centre needs to make proactive effort to link university students with actual issues. Student exchange should be encouraged and students should be climate responsible.
- The knowledge center will initiate campaigns to raise awareness and inform stakeholders about issues of climate change.
- Other government and private universities and private organisations are to be linked with KMCCC.

Sustainable Development Goals

- Climate resilient Development" is a necessity. SDGs and climate agenda need to be implemented together for higher success rates.
- SDG should be based on the human development rather than economic development.
- SDGs need to be assessed in context of state agenda priorities.

Disaster Risk Reduction

- Agenda need to shift gear from disaster management to disaster risk reduction as an investment for future.
- Review and assessment of existing policies on disaster risk reduction suitability needs to be done.

Agriculture

- Research support is needed to calculate sustainable limit of resources and effective management strategies.
- Research guidance on land-use planning to enhance agricultural efficiency is necessary to avoid loss and damage from slow onset disaster events.
- Diversified livelihood models are required with the assessment of social-economical-ecological impact of such models.
- Issues related to water management and drought management to be prioritized.

Water

- Centre needs to prioritise water management as solution to address frequent drought in state.
- Issues related to water management and drought management to be prioritized.

Renewable Energy

- Decentralization of solar energy is needed for everyone particularly people living in off-grid areas.
- Solar and micro hydro electricity should be encouraged in the state.

Annex 1 Agenda of the workshop

Time (9:30 – 11:00): Session 1 – Inaugural Session

9:00 to 9:30 - Registration…

09:30 – 09:40	Welcome Speech – Dr. Kabir M Sethy, Professor, P.G. Department of Geography, Utkal University
09:40 – 09:50	Purpose and Objectives of Consultation – Sanjay Vashist, Director, CANSA
09:50 – 10:10	Key Note Address – Prof. Vinod Menon, Founder Member, NDMA
10:10 – 10:30	Inaugural Speech by Chief Guest – Prof. Ashok Kumar Das, Hon'ble Vice Chancellor, Utkal University
10:30 – 11:00	Vote of Thanks –Sarbjit Singh Sahota, UNICEF

11:00-11:15 - Tea Break

Time (11:15 – 13:00): Session – Climate Impacts and Policy Actions

Chair	Shri Amar Satapathy, Hon'ble Member, Legislative Assembly, Odisha, Prof. S.N Tripathy Retd. Professor, P.G. Dept. of Geography, Utkal University
11:15 – 11:35	Climate Science Predictions for Odisha – Santosh Patnaik, CANSA
11:35 – 11:55	Climate Impacts in Bay of Bengal and Odisha – Sankuntala Pratihari, Research Scholar & Prof. Kabir Mohan Sethy, Utkal University
11:55 – 12:15	Sustainable Development Goals – Anshul Bhamra, Development Alternatives
12:15 – 12:35	Sendai Framework on DRR– Prof Vinod Menon, Founder-Member, NDMA
12:35 – 13:45	Chair Remarks
12.55 – 13.00	Discussion

13:00-14:00 - Lunch

T**ime (14:00 – 15:30): Session – Adaptation and DRR in SAPCC in Climate Change Policy**

Chair	Prof Vinod Menon, Founder-Member, NDMA
14:00 – 14:15	Review of Adaptation and DRR in National Missions, Paris Agreement and State Action Plans – Sanjay Vashist, CANSA

14:15 – 14:30	Bihar Roadmap on DRR – Mr. Asif Sahab, Bihar SDMA
14:30 – 14:45	Status of Odisha SAPCC – Ashok Singha, MD, C-TRAN
14:45 – 14:55	SDGs Goals to achieve mainstreaming Adaptation and DRR in State – Zeenat Niazi, Development Alternatives
14:55 – 15:15	Role of Private Sector in State Resilience Capacity Building – Ambika Nanda, Tata Steel CSR
15:15 – 15:20	Chair Remarks
15:20 – 15:30	Discussion

15:30-15:45 - Tea Break

Time (15:45 – 17:30): Session – Vulnerable Odisha and its Ecosystem: Addressing Slow Onset Loss and Damage Events

Chair	Prof. G. K. Panda, Emiritus Retd. Professor, P.G. Dept. of Geography, Utkal University, Dr. Ambika Nanda, CSR Head, Tata Steel.
15:45 – 16:00	Slow Onset Loss and Damage Phenomenon – Santosh Patnaik, CANSA
16:00 - 16:15	Addressing Loss and Damage at local and sub-national level – Anoop Poonia, CANSA
16:15 – 16:35	Implementing SDGs for Resilient Ecosystems and Society – Zeenat Niazi
16:35 – 16:50	Impact of drought and salinization on Agriculture in Odisha – Ranjan K Panda, Water Initiatives Odisha.
16:35 – 17.00	Chair Remarks
17.00 – 17:30	Discussions and Ideas

Day 2 – 24th April 2016

9:30 – 9:45 - Recap of Day 1 – Ms. Rushati Das, Research Scholar, Utkal University

9.45 -10.00	Special Remarks from Shri Sidhanta Das, IFS, PCCF

Time (10:00 – 11:00): Ongoing DRR Practices and Policies in Odisha

Chair	Prof. Kabir Mohan Sethy, P.G. Dpt. Of Geography
10:00 – 10:10	Technology to Eliminate Poverty - Dr. Birupakshya Dixit , Practical Action
10:10 – 10:20	Climate Change Adaptation and DRR best practices from Coastal Odisha – Jagannath Chatterjee, RCDC
10:20 – 10:30	Climate Smart Village – Gokulanda Ojha, IDP
10:30 – 10: 40	Experiences of DRR Measures in Odisha - Dr. Kamal L. Mishra, OSDMA.
10:40 – 10:45	Chair Remarks
10:45 – 11:00	Discussions

11:00-11:15 - Tea Break

Time (11:15 – 13:00): Session – Session 1 – *Low Carbon Development: an agenda towards higher Human Development Index in Odisha*

Chair	Shri Susanta Nanda, IFS, Director, Directorate of Horticulture and Mr. Akhsaya Kumar Biswal, Regional Manager, Oxfam, India
11:15 – 11:30	Low Carbon Development: Outlining the issue – *Sanjay Vashist, CANSA*
11:30 – 11:50	Renewable Energy Scenario in Odisha and Implications in the context of SDGs – *Sri Panchanan Kanungo, Former Finance Minister, Government of Odisha*
11:50 – 12:20	Sharing Oxfam India's work on Renewable energy in Odisha and the upcoming campaign - *Pravas Ranjan Mishra, Oxfam India*
12:20 – 12:45	Discussion
12:45 – 13:00	**Chair Remarks**

13:00- 14:00 Lunch

Time (14:00 – 15:30): Climate Finance Opportunities for Effective Implementation of SAPCC

Chair	Mr. Sarbjit Singh Sahota, *UNICEF* and Mr. Arvind Behera *(Retd IAS)*

14:00 – 14:20	International Climate Finance Opportunities – Anoop Poonia
14:20 – 14:40	National Adaptation Fund for SAPCCs – Sanjay Vashist, *CANSA*
14:40 – 15:00	Odisha State Finance Needs & Sources – Pradeep Mahapatra, Udyama
15:00 – 15:15	Role of Private Sector CSR in State Climate & Resilience Finance – Ambika Nanda, Tata Steel
15:15 – 15:30	**Discussion and Ideas and Chair Remarks**

15:30-15:45 - Tea Break

Time (15:45 – 17:00): Summary Session

Chair	Zeenat Niazi, *Vice President, Development Alternatives*
15:45 – 16:05	Recommendations for Climate Change Knowledge Centre at Utkal University – *Prof. Kabir M Sethy, Utkal University*
16:05 - 16:25	Remarks from Participants
16:20 – 16:40	Concluding Remarks, Sarbjit Singh Sahota, UNICEF
16:40 – 16:50	Vote of Thanks - *Sanjay Vashist, CANSA*

Rapporteurs – Ms. Rushati Das and Ms. Alokya Kanungo, Research Scholars, Utkal University

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