INSIGHTS - PURI

Integrating Climate Change Concerns into Disaster Management and Development Planning

THE CASE OF PURI, ODISHA

Odisha formerly known as Orissa is the eighth largest Indian state located on the east coast with a long coastline spanning 480 km and a huge forest cover of around 38% of state's geographical area. The state is endowed with rich natural resources which make it more vulnerable to climate change. Three fourths of the state's population depend on Agriculture, Forestry & Fisheries for their livelihood which are the most climate sensitive sectors. Being rich in mineral resources, the state has a predominance of energy & mining industries which contributes to local & environmental problems. The state has been experiencing extreme weather events in the past ranging from heat waves to cyclones, from droughts to floods taking away the lives of many people and causing massive damage to environment & infrastructure.

GEAG GORAKHPUR ENVIRONMENTAL ACTION GROUP
ISET
CDKN Climate & Development Knowledge Network
OSDMA ISO 9001:2008

CLIMATE & HAZARD PROFILE

India has a highly productive and fragile coastline spanning more than 7516 km. Climate change, related sea level and changing settlement patterns & urbanisation is increasing the vulnerability & exposure to climate extremes. Indian sub-continent being close to equator would see much higher rises in sea levels than higher latitudes. According to United Nations, nearly 40 million Indians will be at risk from rising sea levels by 2050. As per Working Group 1, contribution to IPCC's 5th Assessment Report, the coastal areas of Bay of Bengal and Arab Sea are likely to experience enhanced summer monsoon precipitation and increased rainfall extremes of landfall cyclones over the coming years (IPCC, 2013). Rising sea level and storm surges would lead to saltwater intrusion in coastal areas, adversely impacting the coastal ecosystem, key socio-economic sectors like agriculture, inland fisheries, degradation of ground-water quality, drinking water contamination and a possible increase in diarrhoea and cholera outbreaks as cholera bacterium survives longer in saline water (World Bank, 2013).

Puri is one of the coastal multi- hazard prone districts of Odisha. The geographical area of Puri is 3051 km^2 with a coastline spanning 150 km with ample marine and aquatic resources. Since Puri is located on the coast of Bay of Bengal, it enjoys the cool breeze flowing from the bay making the hot and tropical weather during summers tolerable as compared to other districts of Odisha.

Temperature remains modest from July to August. The South-West monsoon brings rainfall in the month of June which extends up to October. The average annual rainfall is about 1424.3 mm most of which falls between June to October. The average maximum daily temperature during summers is about 33°C and the minimum temperature is about 27°C. The monsoon temperature remains steady in the range of maximum 31-32°C and minimum 26-27°C. During winters, the mean daily maximum temperature drops down to 27°C and minimum to 18°C.

Potential hazards identified for Puri district are tropical cyclones, extreme precipitation, floods, water-logging, hail storms, earthquake, tsunami and heat wave. Cyclones and floods are the most prominent disasters faced by Puri. Cyclones have probability to happen twice in the year- in summer season from April to June and in late or post monsoon period from September to November. March to June is also the period of occurrence of fire and heat wave (*Source: DDMP, Puri-2016*). Cyclone data analysis has shown that Odisha alone had 48% of the deep depressions occurring in India.

Odisha is highly prone to disasters because of its geographical location. According to Odisha State Disaster Management Authority (OSDMA), in 95 of the last 105 years, Odisha has experienced disasters like heat waves, cyclones, droughts & floods (*Source: SAPCC Odisha*). In 2013, the cyclone Phailin brought torrential downpours, damaging winds of more than 220 kilometres per hour and storm surges of up to 3.5 metres to the eastern Indian states of Odisha and Andhra Pradesh. Major impacts of extreme rainfall and storm surges were seen in Odisha where low lying areas were inundated in the coastal districts including Puri. The cyclone caused massive devastation such as a large number of trees were uprooted, roads, schools and buildings got damaged & telecommunication, water supply & power lines were disrupted.

Huge devastation caused by disasters like cyclones and floods affect all the development facets of the state. The high vulnerability of coastal communities and fragile ecosystems to climate change and disasters needs to be considered while disaster management and development planning at district level. Integration and mainstreaming of the elements of climate change adaptation (CCA) and disaster risk reduction (DRR) into all development

and reconstruction plans of the states will enhance the social, economic & environmental sustainability.

According to World Health Organisation, disasters such as floods, droughts and storms kill more women than men in developing countries. Water-logging in coastal areas due to sea-level rise and storms has differential health effects in women and men. Especially pregnant women in coastal areas are vulnerable to saline water consumption which is aggravated by sea-level rise. Multiple roles of women as food producers, care givers and economic actors are affected due to climate change. Destruction of agricultural land during disasters put additional burden on women producers by increasing their labour and reducing income.

In Odisha, women and children are highly vulnerable to floods. Pregnant and lactating women are recognised as most vulnerable as they require special attention during disasters like floods, cyclones, tsunami and earthquake. Limited access to resources required for preparedness and adaptation like financial resources, education, health services and decision-making process make them more vulnerable to the impacts of climate change. Large numbers of women are engaged in agriculture sector in the state which is highly vulnerable to flood, cyclone and drought. Heat wave is another stress for women cultivators and even for the women working in houses. Less number of trained women staff, volunteers and frontline workers aggravates the vulnerability. Various social and health problems are caused due to lack of private spaces for pregnant and lactating women during disasters.

CCA-DRR IN INTERNATIONAL AGREEMENTS

The year 2015 was a landmark year for the United Nations and Global Development Agenda. The convergence of interests & global concerns for sustainable development, disaster risk reduction and climate change led to the formation of a new roadmap for a sustainable and safe world together.

Sendai Framework for Disaster Risk Reduction (SFDRR) was adopted at the Third UN World Conference in Sendai, Japan, in 2015 to which India is a signatory country. The framework aims to a achieve a global outcome to substantially reduce disaster risk and losses in lives, livelihoods and health and in the economic, physical, social, cultural and environmental assets of persons, businesses, communities and countries. The framework supports a more people-centred preventive approach to disaster risk and puts emphasis on the need of DRR practices to be multi-hazard and multi-sectoral, inclusive and accessible in order to be efficient and effective.

The UN Summit in 2015 adopted the 'Transforming Our World: The 2030 Agenda for Sustainable Development'. CCA, DRR & Resilience cut across different aspects and sectors of development. Twenty five targets of the new SDG Framework are directly or indirectly related to DRR in 10 of the 17 SDGs. The agenda identifies and asserts the immediate needs to reduce climate and disaster risk & emphasises resilience building of communities and nations to achieve the SDGs. Explicit references for DRR, CCA and resilience can be observed in goals and targets specially related to poverty, hunger, healthy lives, building resilient infrastructure, education, sustainable management of water, climate change, resilient cities and marine & terrestrial ecosystem.

Paris Climate Agreement (COP21) to which India is also a party, is a legally binding agreement adopted at the UN Climate Change Conference held in December 2015. The agreement called for a commitment to work together in order to safeguard the planet, promote sustainable human development and build more resilient and equitable world for all. The agreement is a first ever goal for global adaptation. Building on The Cancun Adaptation Framework 2010, which is based on DRR, this agreement considers enhancing adaptive capacity, strengthening resilience and reducing vulnerability to climate change.

There is a growing global consensus that CCA, DRR and sustainable development are linked to each other. The following diagram shows the synergies in three agreements:-

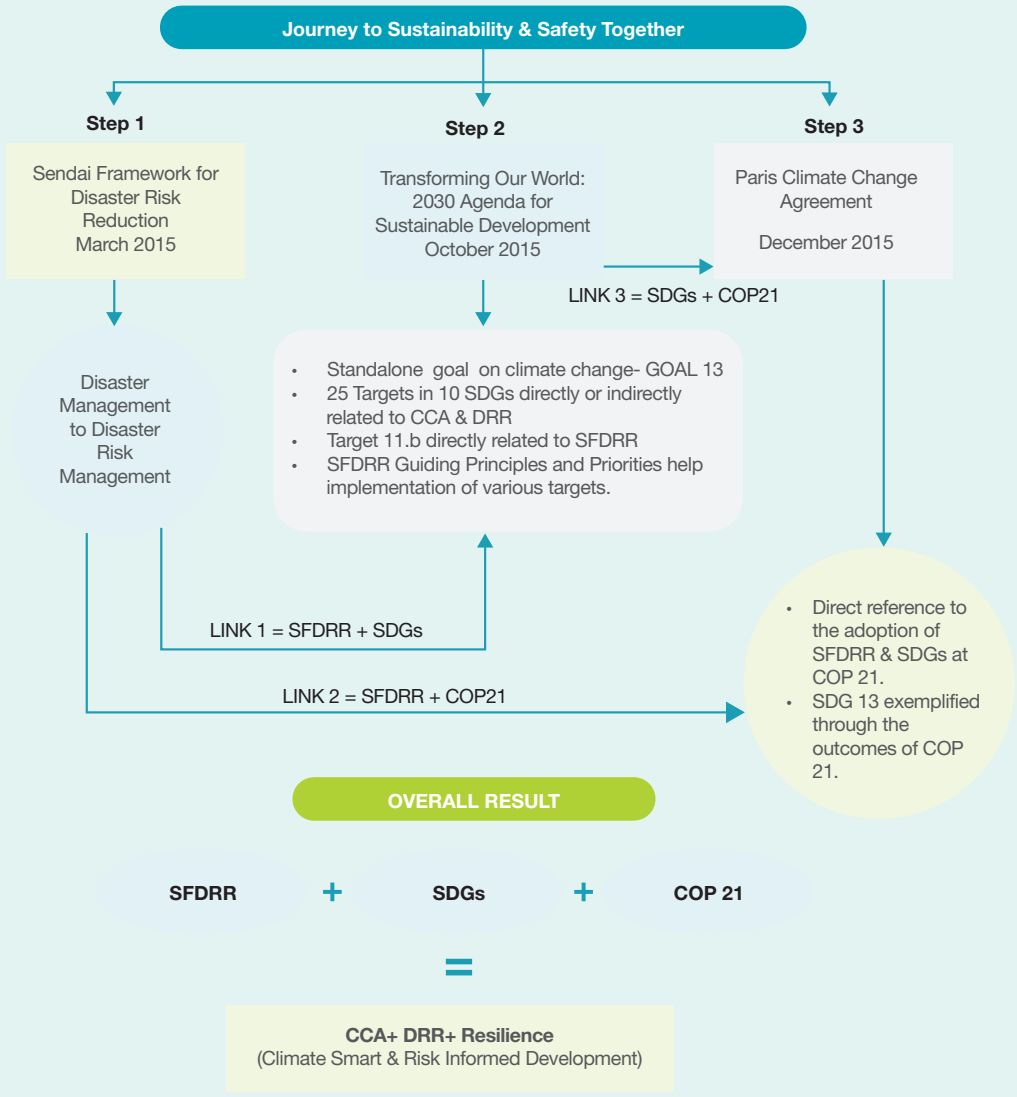

Figure 1: Synergies in SFDRR, SDGs & COP 21

Many evidences of linkages between the three agendas are observed while studying the SFDRR 2015-2030, SDGs 2030 and the COP21. All of them share a common aim of making the development sustainable. Commitment to the goals and their implementation must become a global priority. To ensure the achievement of SDGs, it is very important to consider current and future challenges caused by disasters and climate change.

DISASTER MANAGEMENT PLANNING AT DISTRICT LEVEL- INDIAN SCENARIO

As mandated by the National Disaster Management Act, 2005, a multi-tiered Institutional System was created by Government of India containing National Disaster Management Authority (NDMA) headed by the Prime Minister, the State Disaster Management Authorities (SDMAs) headed by the respective Chief Ministers and the District Disaster Management Authorities (DDMAs) headed by the District Collectors and co-chaired by Chairpersons of the local bodies. The primary function of these bodies is to facilitate paradigm shift from

the hitherto relief-centric approach to a more proactive, holistic and integrated approach of strengthening disaster preparedness, mitigation, and emergency response.

Moreover, in India, there are no formal and well laid out mechanisms for the urban which look at integration of National and State Plans on Climate Change and Disaster Management Plans in development programmes. There is lack of institutional coordination and convergence between climate change and disaster management departments. The DDMPs formulated at the district levels are mainly disaster-response-centric and the urban concerns are largely missing. The urban development departments are also not much involved in the DDMP formulation. Therefore, integration of CCA-DRR in the urban context becomes quite challenging.

Climate and Development Knowledge Network (CDKN), UK supported a scale up intervention based on Gorakhpur Model in Puri district of Odisha to address the above issues. The intervention is being jointly implemented by Gorakhpur Environmental Action Group (GEAG), the Institute for Social & Environmental Transition-International (ISET-I) and the National Institute of Disaster Management (NIDM) and it largely intends to integrate CCA-DRR components in district disaster management as well as various departmental developmental plans in Puri district. This document gives an overview of the intervention: -how it was developed, what were the key steps taken during implementation of various programmes under this intervention, what are the major outcomes and what factors contributed to its success. This intervention is an endeavour which will go a long way to guide integration and mainstreaming of CCA-DRR in district level disaster management & development plans.

The first phase of the CDKN-START programme was designed as a pure research initiative with the objective of making recommendations on how to incorporate climate change concerns into Gorakhpur DDMP. A training manual on integrating DRR and CCA in development plans of district level departments especially in the flood-prone context of Gorakhpur was developed in Phase-I and provided to all the district authorities of India. Drawing on the learning from Phase-I, the Gorakhpur model was scaled up to promote mainstreaming of DRR and CCA in development planning especially in diverse- and multi- hazard contexts in India. Puri and Almora in Odisha and Uttarakhand states, respectively were selected for this purpose. In order to be really effective and upscaled, the approach was recognized and accepted at multiple levels—district to state to national level to create enabling environment in form of supportive policies, procedures and systems.

In all this we envision more efforts are needed for capacity support across departments and multiple scales on interpreting climate analysis and carrying out the integration process.

> We referred and used the Training Module on Mainstreaming CCA-DRR into District Level Developmental Plans developed on the experiences of Gorakhpur district by NIDM, GEAG and ISET in our training programmes"
>
> Ms. Seema Mohanty, Odisha State Project Officer, UNDP

In India, the DDMA is mandated to develop and implement the District Disaster Management Plan (DDMP) every year in consultation with all line departments. The DDMA of Puri also prepares a DDMP every year but the plan does not take into account the concerns of CCA-DRR, the global perspective of Sendai Framework and Sustainable Development. Currently, the DDMP puts focus on emergency quick response and relief mechanism for district administration in case of any natural or man-made disaster in the district. There is a lack of understanding to mainstream the disaster risk management in the annual plans of various departments. The plan also lacks a systemic approach to identify climate and weather-related hazards and vulnerabilities. It puts focus on departmental resources which can be used in the post-disaster phase and does not give emphasis to mitigate disasters.

Puri being a religious destination faces significant in-migration because of various employment opportunities. But at the same time multi-hazards and various types of vulnerabilities are emerging in the district. The key economic sectors of district like agriculture, health and fisheries are adversely affected by prominent disasters like cyclones, heat waves and floods.

Figure 2: Multi-Hazard map of Odisha *(Source: OSDMA)*

To deal with these concerns, the primary objectives of CDKN supported intervention in Puri district are:-

- To demonstrate mainstreaming of CCA-DRR integration into departmental plans (DPs) and DDMP in Puri district as catalytic nucleus for the state.
- To identify and promote changes in plans, programmes and procedures of various departments at the state level.
- To build capacity of district and state level departments on mainstreaming CCA-DRR integration.
- To document and disseminate the key findings of the intervention so that it can be scaled-up to sub-national level to build the resilience of the most vulnerable.

THE INTERVENTION IN PURI DISTRICT

The first phase of pilot initiative started in 2013 with CDKN-START Project in Gorakhpur district of Uttar Pradesh. The initiative focussed on integrating climate change component in disaster management plan of district and the departments so that a robust plan of action can be developed by involving various stakeholders. This project not only developed climate smart DDMP and DPs but also built the capacities of various government departments on how to develop the plan and mainstream CCA-DRR concerns in their developmental plans. It reduced

the vulnerabilities and enhanced the capacities to build-back-better especially of the poor and marginalised by addressing the underlying causes of disasters. The initiative was based on the principles of Climate Resilience Framework (CRF) where the climate exposure, systems, institutions and change agents were assessed. The framework provided an over-simplified understanding of vulnerability issues and their root causes in the DDMP.

Learning from the successful "Gorakhpur Model of Climate Smart DDMP", in the second phase, GEAG and ISET-I implemented an intervention in Puri district in collaboration of DDMA- Puri following the principles of CRF from the first phase of initiative. Invaluable inputs were provided by NIDM in the entire process. The overall objective of the intervention was to make recommendations on how to incorporate CCA-DRR concerns in the DDMPs and DPs. The DDMP of Puri was typically based on past experiences but under this intervention, a forward looking approach was undertaken which incorporated the changes in the nature of disasters due to changing climate.

The process of CCA-DRR integration at the sub-national level was a step by step process wherein engagement with DDMA and the line departments was done. Two rounds of Shared Learning Dialogues helped in identifying key vulnerabilities at the time of pre-, during- and post-disasters and the resilience options and mechanisms required to overcome these vulnerabilities. Based on this, the departmental plans were revised with inter-departmental convergence. These revised departmental plans were then taken into consideration and a revised DDMP was formulated with the integration of CCA-DRR concerns.

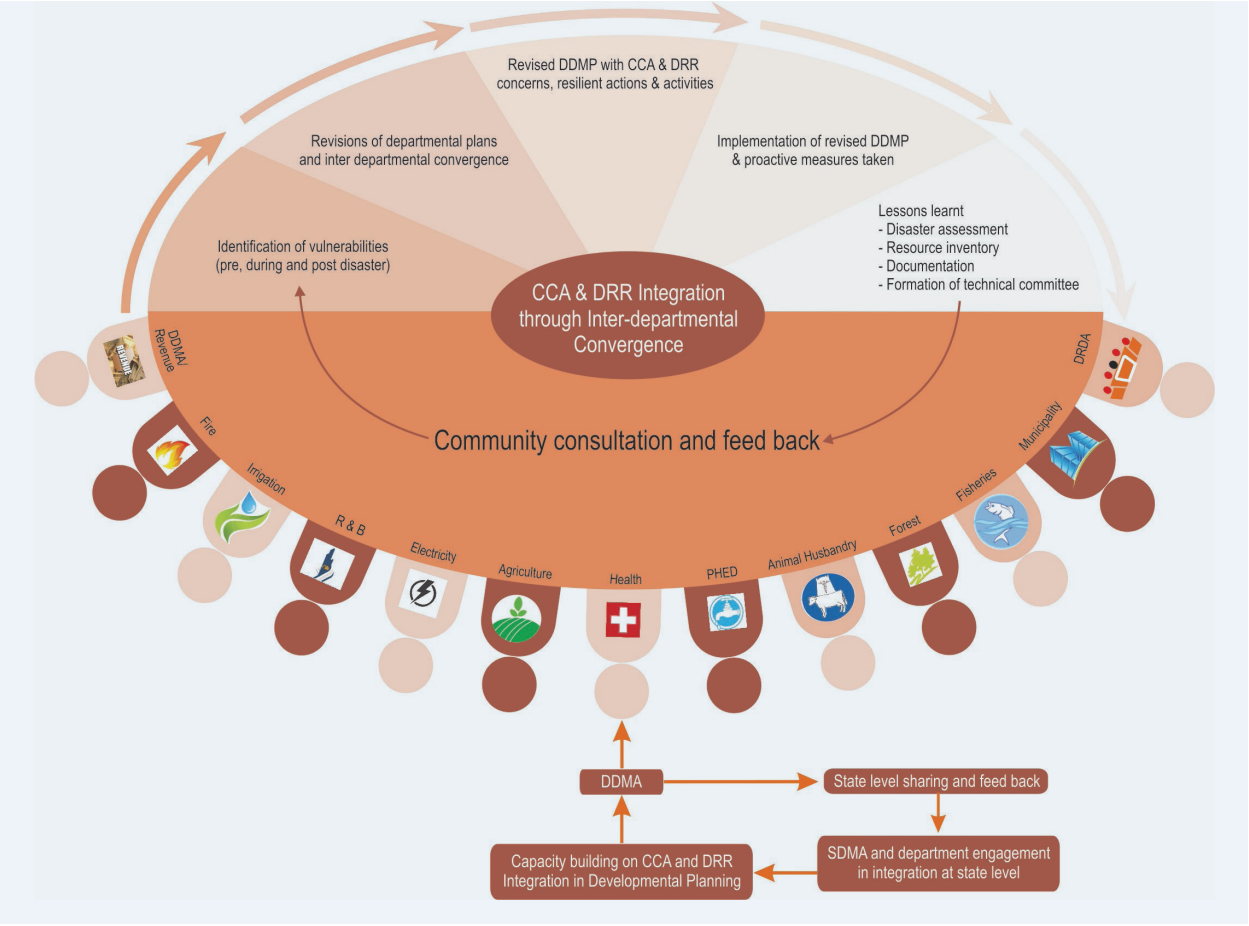

Figure 3: Process of CCA-DRR Integration at Sub-national level in District Puri

The CRF is an analytical, system-based approach with an aim to build networked resilience that is capable of addressing emerging, indirect and slow-onset climate impacts and hazards. CRF helped in sound understanding of vulnerability in a comprehensive way as inter-

relationships exists between climate exposure, systems, institutions & agents. The framework explained the key characteristics of vulnerability under each component of systems (flexibility, redundancy and safe failure), institutions (rules, laws and regulations) and agents (capacity to learn and reorganise in government, academia and civil society organisations and community groups). With the help of this framework, the issues of vulnerability were communicated to district level departments.

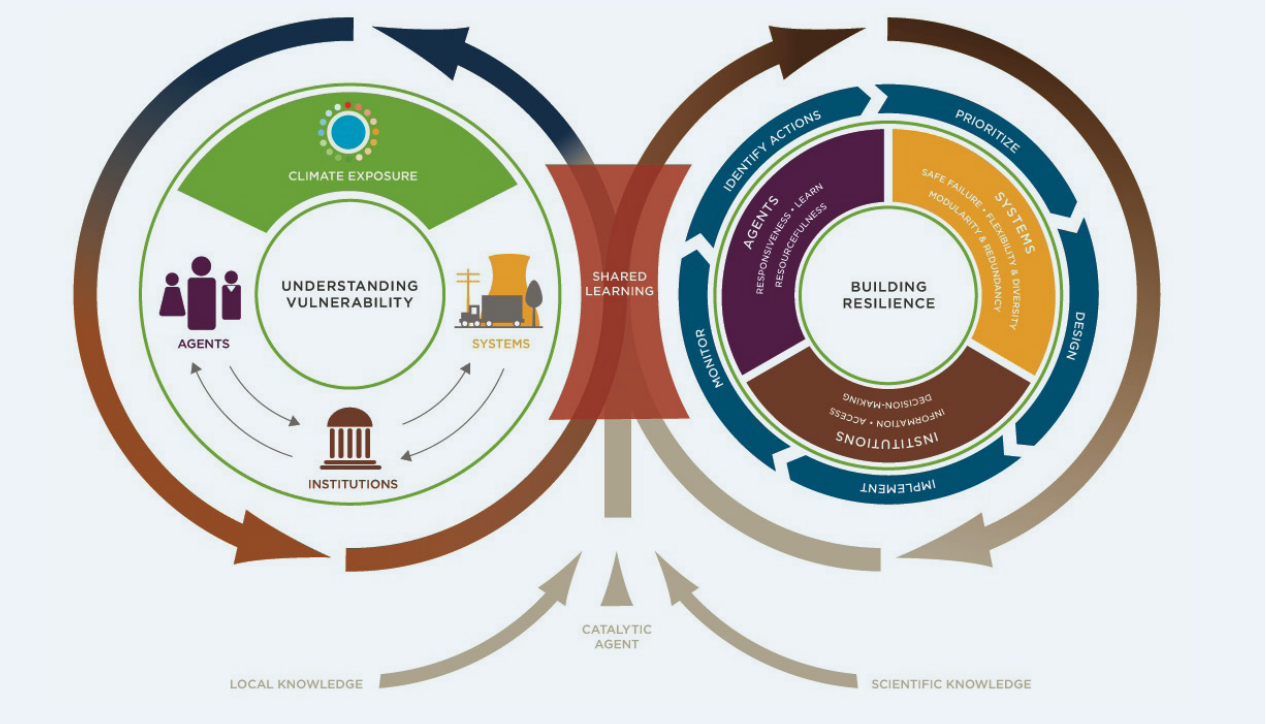

Figure 4: Climate Resilience Framework

(Source: Moench, et al., 2011. Catalyzing Urban Climate Resilience)

The intervention in Puri demonstrated practical and effective ways to mainstream integration of CCA-DRR in a multi-hazard context especially addressing the vulnerabilities of poor and marginalised. Following is a flow chart showing the major activities under the intervention in Puri:

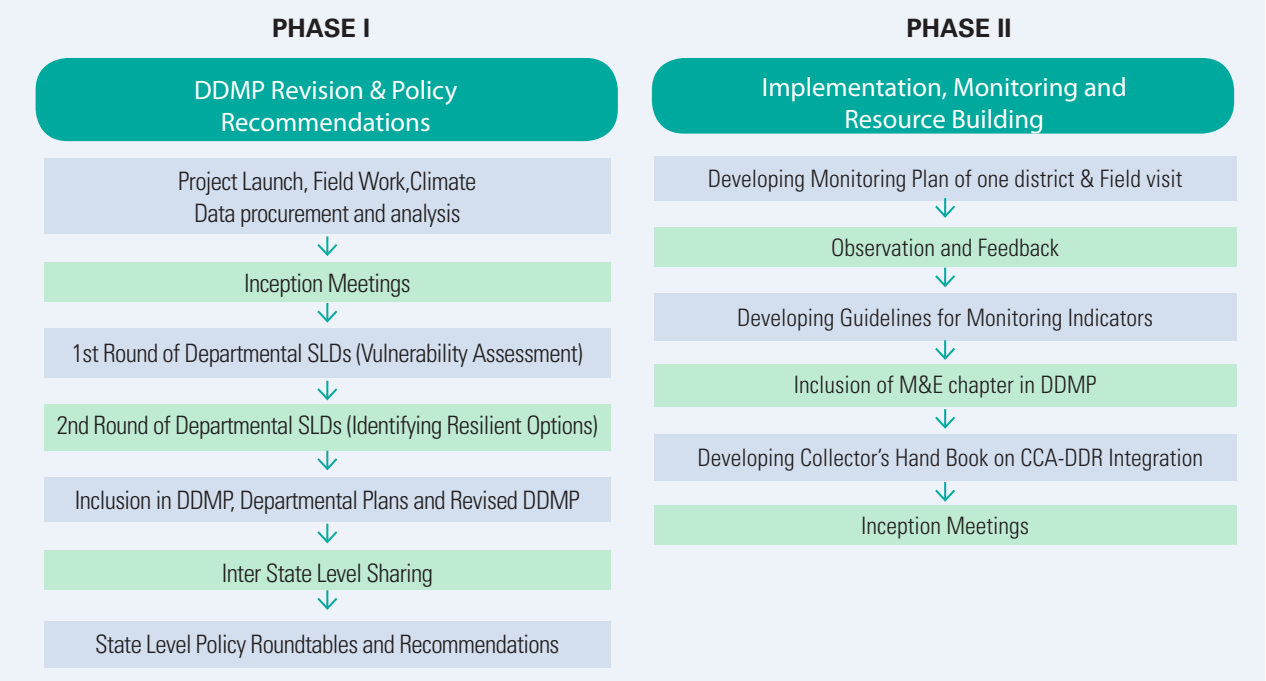

Figure 5: Major activities under the intervention

COMPLEMENTING THE CRF, SHARED LEARNING DIALOGUES (SLDs) AND COMMUNITY CONSULTATION WERE USED IN PURI DISTRICT

SHARED LEARNING DIALOGUES

SLD is a reiterative, cross-scales and cross-sectoral process that fosters learning and sharing by bringing together external scientific/ conceptual knowledge and local technical/ traditional knowledge. Two rounds of SLDs were carried out with 11 line departments in Puri. Prior to the SLDs, State Level & District Level inception meetings were held which provided valuable insights, especially, into macro and meso inter-sectoral issues of Disaster Management.

Figure 6 District Level SLD on CCA-DRR Integration in Puri District

The objective of the first round of SLD was to understand intra- and inter- sectoral issues of vulnerabilities and gaps in capacities specifically in the context of disaster risks.

The second round of SLD was aimed at understanding ways to address the underlying causes of vulnerability and risks considering the scope and thrust on various activities of the departments as outlined in their Annual Departmental Plans.

At core, the SLDs promoted greater understanding and development of shared visions of perceptions, needs and issues across diverse departments and stakeholders at various levels.

COMMUNITY CONSULTATION

Following the principles of SFDRR which advocates for a more people-centric preventive approach to disaster risks, community consultations were carried out in blocks & villages of Puri district under the guidance of emergency section. Five vulnerable rural blocks, one urban municipal ward & two villages facing frequent multi-hazard were selected for community consultation on the basis of Hazard, Vulnerability & Capacity Risk Assessment (HVCRA) Framework developed after consulting the line departments & District Emergency Cell. Tools like check list for discussions, hazard ranking using Participatory Rural Appraisal (PRA), HVCRA matrix and social cum resource map etc. were used in the process.

Figure 7: Community consultation in Astaranga Block of Puri District

Key information & knowledge generated from community consultation:

- Identification of block wise hazards and exposure to climate change and disasters.
- Assessment of seasonality of hazards using PRA exercise.
- Analysis of history of hazards in the blocks.
- Vulnerability, Risk & Capacity Analysis in consultation with the community and block level officials
- Sharing of experience by community members helped in climate threshold analysis.

This led to a more comprehensive and effective DDMP of Puri district in view of climate change through validating the information in DDMP and including community voice in planning. Community consultation enhanced the awareness among various stakeholders

by their direct engagement with development of disaster management plan and establishing a process for regular up-gradation of it in future.

Finally, by effective use of CRF, SLDs conduction, community consultation, using climate data and analysis and analysis of departmental plans & budgets, the DDMP of Puri district was revised. The newly formalised DDMP of Puri district provides technical support for strengthening capacity of stakeholders including communities and institutions for fast-track implementation of the planning frameworks on CCA & DRR.

This climate-sensitive DDMP includes a mitigation plan which is updated with insights from structured process of two rounds of consultations with key line departments (SLDs) on issues of mainstreaming CCA-DRR. Further, results from specific analysis on cyclones and extreme precipitations, and consultations with communities from select blocks/ villages/ urban areas contributed to the updation. On this basis, the mitigation actions of selected climate-induced disasters were revised and categorised into four priority areas of SFDRR.

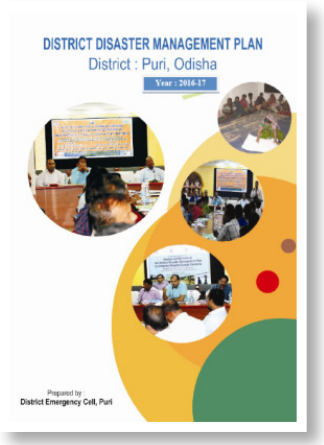

Figure 8: Revised DDMP of Puri, 2016-2017

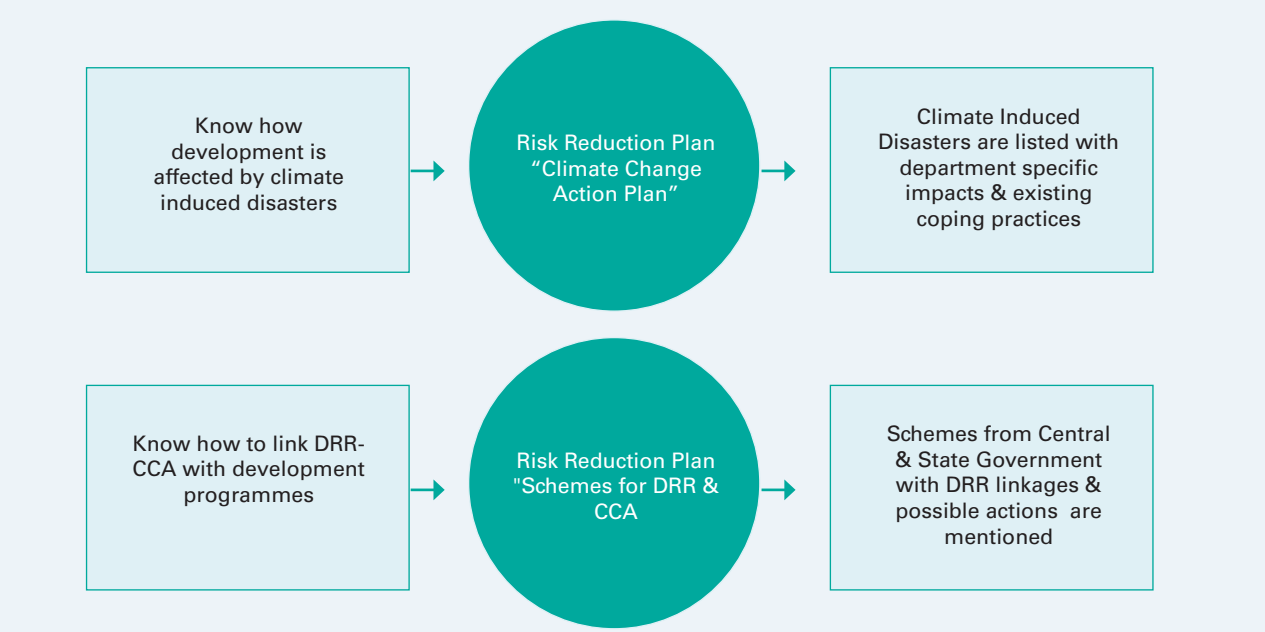

Figure 9: CCA-DRR in Puri DDMP

Heat Wave

Large numbers of districts in Odisha including Puri are highly vulnerable to heat waves. The state saw a death toll of 67 in the year 2015 due to dehydration and heat stress. The new DDMP of Puri provides specific measures & approaches to deal with heat stress to serve the aim of bringing down the heat causalities down to zero which is common to Odisha State Heat Wave Action Plan (OSHAP). The OSDMA has recently updated the old OSHAP in view of increasing death tolls. This plan puts more focus on adaptive and resilience building measures. The new DDMP of Puri considers the similar approaches for heat wave resilient construction and adaptation measures.

DEPARTMENT WISE KEY RECOMMENDATIONS

(Source: SLD Reports, Puri)

Health & Family Welfare

- There should be an earmarked fund for additional 30 % procurement of essential medicines for emergency situation.
- 10-20 % of medical and paramedical staff position is vacant in coastal areas. It needs to be filled immediately.
- There is an immediate need to cover all the coastal area CHCs with alternate power back up system.

> "Emphasis on strengthening the capacity of all vulnerable PHCs and Sub-centres should be done by making them better equipped with power back up, communication alternatives and other essentials"
>
> Dr A Mohanty, ADMO, Puri

Forest Department

- Urban forestry programme should be allowed by Puri Municipality by way of land allocation and funds.
- Need for training of lower level staff such as Rangers and Forest Guards and specific budgetary allocation for the same.
- Mechanised way of plantation is required rather than traditional methods.

Agriculture Department

- Weather advisory for the farmers will be very useful. It will help them to take necessary steps in input, cultivation, irrigation and harvesting.
- Water harvesting structures such as check dams on canal may improve the water table in drought prone areas.
- Procurement and distribution of the quality seeds in time needs to be ensured at district level.
- Budget provision in capacity building of farmers should increase up-to 20-25%.

> "Emphasis should be given on providing timely farm inputs to the farmers and making water available for dry season irrigation so that they can adapt to the unprecedented weather changes. Irrigation department should work on ensuring irrigation facilities in consultation with the Agriculture department"
>
> Sri S. Chandrashelkhar Rao, Deputy Director Agriculture, Puri

Irrigation Department

- The operating "rule curve" of Hirakud dam needs to be aptly revised or a new dam should be constructed downstream of Hirakud for flood control in the deltaic areas of Puri district.

"Inter-state cooperation needed for understanding risks. For example, rainfall of Chhattisgarh is closely related with the Mahanadi inflows for district Puri"

Mr Gagan Kumar Biswal, Executive Engineer, Irrigation department, Odisha

Road & Building Department

- Increase the funding to repair and maintain all roads every 3 years.
- Changing the road material from Bitumen-Tar road to Cement-Concrete roads would improve the longevity of the roads.
- Design changes need to be introduced considering climate change impacts, new flooding levels and discharge quantum (for culverts).

Electricity Department (CESU)

- Under-ground cabling in town areas is required.
- Shift from MS poles to GI poles for better strength and longevity is required
- Covered breaker rooms should be there to ensure continuity of power supply during events of lesser intensity.
- 33 kV and 33/11 kV control rooms should be gas and air insulated
- H-Pole structure for 33/11 kV lines for better stability and longevity is required

Animal Husbandry

- Field staff people with knowledge of animals care are required.
- Additional non-departmental and non-technical activities add to the burden and efficiency of the working of department. Therefore, technical & man-power resources are required for these additional responsibilities.
- Go-downs should be constructed at Block level for cattle feed storage.
- Given the unique variation and geographical nature of Puri, a focused research of animal's adaptability in Puri environment is preferable.

- Re-emergence of disease after vaccination needs scientific probing.

Fisheries Department

- There is a need to develop departmental contingency plans.
- The damage and loss assessment post disaster should be done together with the fisheries department, as the assessing personnel are not aware of the fish species lost, its value and other technical issues involved.
- Escalation of mechanization of 100% DAT operated boats, may be planned together with SDRF for better coordination of activities.

District Rural Development Agency

- Training of all Panchayat members and departmental staff on disaster response is required.
- As being used in sand casting, MGNREGA money should also be used in draining out excess rain water from water logged areas.
- Convergence with other departments may be of great help such as drainage division of irrigation department can be used to drain the water for water logged areas.
- Storage facility/fund for producer groups is required to be made available under livelihood mission.
- A 30-40% increase is required for all housing schemes to meet out higher construction cost of design as per local scenario such as raising plinth level in all low lying areas. RCC roof should to be mandated in all housing schemes.

Urban Local Bodies

- Puri Municipality as well as the notified area councils such as Konark, Pipli and Neemapara are the major urban hubs in the district which need attention in disaster management planning.
- Review and revision of the building regulations as appropriate considering cyclones (PKDA) is required.
- Construction of additional multipurpose cyclone shelters based on assessment of needs is required.
- Review is required for capacity of storm water drainage system and design drains that can optimally discharge the runoff from moderate to extreme precipitation events (Water Resources Department and Works Department, and Municipality).
- Alternative backup power for maintaining functionality of water supply system during disasters (PHED) should be provisioned.

KEY HIGHLIGHTS & TAKEAWAYS OF THE INTERVENTION

- Participation and level of engagement of officials in the state level & district level inception meetings and SLDs in Puri was overwhelming.
- Better understanding of intra and inter-sectoral vulnerability of key infrastructural assets and services.
- Technical and scientific knowledge on climate thresholds was generated through departmental consultations.
- Gaps in coordination and capacities that influence sectoral vulnerabilities were identified.
- Need of technical, organizational, financial and managerial requirements of the line departments were assessed.
- Qualitative & quantitative findings of SLDs and community consultations were used to upgrade the DDMP.
- Integration of CCA-DRR components in district disaster management as well as various departmental developmental plans.
- The intervention in Puri is in line with SFDRR, SDGs and the Paris Agreement, focusing on multi-hazard, multi-sectoral CCA-DRR practices with involvement of communities in disaster management planning and putting focus on softer options for mitigation and resilience.
- The Climate Smart DDMP of Puri which also puts focus on gender as a cross cutting issue, can be used as a model DDMP for other 30 districts of Odisha and can be scaled-up at national level.
- Climate analysis and climate threshold assessment of each department will help in risk management in future also.

KEY CHALLENGES IN CCA DRR INTEGRATION AT SUB-NATIONAL LEVEL

- Lack of capacities at departmental level to understand the concepts of CCA-DRR because of which the departments hardly contribute in the formation of DDMP.
- Lack of sensitization of state and sub-national level departments on international and national commitments and their key respective roles in integration & implementation
- Problems in fund allocations after dissolution of Planning Commission and formation of new Niti Ayog.
- Inter-departmental convergence areas are not properly identified at sub-national and state level, thus, not included by the departments in their annual developmental plans
- The experience gained through consultation and implementation process at district level hardly reaches the state level (vertical gap).
- Unavailability of ground level data at district level.
- The prediction of cyclone which is the most prominent disaster is difficult.
- Majority of actions in DDMP still seem to be response centric, therefore, role of departmental developmental activities in pre and post disaster phase are mostly ambiguous.

CAPACITY BUILDING NEEDS ON CCA-DRR INTEGRATION AT SUB-NATIONAL LEVEL

AT THE STATE LEVEL

- Orientation on SFDRR, SDGs, Paris Climate Change Agreement & inter linkages
- Training on integration of CCA-DRR with inter departmental convergence
- Establishing periodic review of planning and implementation

AT THE DISTRICT LEVEL:

- Capacity building on integration of CCA-DRR with inter departmental convergence
- Review of developmental plan implementation in view of disaster and climate risks on periodic basis under the aegis of DM & DDMA
- A monitoring and review mechanism of DDMP to be developed and enforced
- Climate data need to be generated at micro level and required infrastructure & capacity need to be built
- Deployment/fresh appointment of expert or nodal officer in emergency section and in other key line departments

THE WAY AHEAD

Training Manual on CCA-DRR Integration at Sub-national Level

After successfully updating the Puri DDMP in context of CCA-DRR, the intervention is looking forward for support from higher-level organisations (e.g., the National Disaster Management Authority and various ministries). The programme plans to share its experiences and strive for scaling up and replicating these efforts by capturing the programme experiences in the form of a training manual. The main aim of this manual is to promote & support training capacity building on mainstreaming of CCA & DRR integration into developmental planning processes with a special focus on sub-national and urban area contexts. NIDM being the national policy think tank & capacity building institute is bringing out this training manual along with GEAG & ISET-I to provide training & capacity building support to practitioners, policy makers, officials & academicians to pave a way to mainstream climate & disaster risks in developmental planning.

District Collector's Handbook

District Collector's Handbook on mainstreaming CCA-DRR will also be developed as a sort of quick guide (ready reckoner).There is tremendous potential for reducing vulnerability and risks through integration of DRR in national and state schemes through structured framework and operational measures which a collector can only help in proper implementation. It will give a quick overview of roles & responsibilities of collectors in disaster management and will guide the collectors on various issues of CCA-DRR mainstreaming into development planning of districts.

Research Papers

Further in the process, the initiative will come up with two research papers which will demonstrate how Climate Smart DDMPs like that of Puri can be used to implement State Action Plan on Climate Change (SAPCC) and what are the key approaches to mainstreaming CCA-DRR in development planning.

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