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Adaptation to Climate Change:
Linking DRR with Microinsurance

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EU's Work in Phailin

When Cyclone Phailin struck the east coast of India in October last year, it left behind a trail of destruction, particularly in the coastal areas of Odisha where the lives of millions of people were disrupted. To make matters worse, heavy rainfall in the following days caused massive flooding in India's eastern belt, affecting some of the same areas already devastated by the powerful storm.

Photo: EU.ECHO 2013.

Cyclone Phailin Response.

Experts from the European Commission's Humanitarian Aid and Civil Protection department (ECHO) were deployed to Odisha even before the cyclone made landfall, in order to strengthen coordination among humanitarian agencies in preparation for a potential emergency response.

As a first step, ECHO started by responding to a funding appeal from the International Federation of the Red Cross and Red Crescent (IFRC) by providing over ₹ 81 lakhs (€96,748) to support the urgent needs of 15,000 affected families. In the meantime, comprehensive needs assessments by ECHO and its NGO partners in the cyclone and flood-ravaged areas revealed that marginalised communities, especially daily wage labourers and fishermen, were the worst hit. ECHO then allocated a further €3 million to address immediate and early recovery needs of these most vulnerable families.

The funds, channelled through two consortia made up of several international NGOs, are being used to provide shelter, food assistance, basic healthcare, water and sanitation services, and livelihood support. Over half of the aid is being provided through cash-based mechanisms – either cash for work programmes, or unconditional cash grants for those who are not physically able to contribute to the collective work, such as pregnant women, the elderly or disabled people.

Considering the region's vulnerability to cyclones and floods, Disaster Risk Reduction (DRR) components have also been included in the projects in order to enhance the resilience of these communities. Examples include the provision of flood-resilient shelters or the construction of elevated evacuation roads. ■

– Arjun Claire,
ECHO's South Asia Information Assistant

Risk Insurance in Odisha

The study '*Risk Insurance in Odisha*' examines recent experience with microinsurance – *Afat Vimo* (disaster insurance in Gujarati) in 2013 cyclone *Phailin* affected Odisha. It aims to gain insights into their effectiveness in reducing economic insecurity. The main objective of *Afat Vimo* is the convergence of micro mitigation, and micro insurance as a precondition for effective local, low-cost risk transfer against natural disasters. It protects people from the impacts of hazards on their assets by compensating policyholders for life and non life losses in 19 types of disasters with national insurance companies in the aftermath of a disaster. The scheme covered disaster-affected, low-income household at an annual premium that is approximately three days' of a household' income. Post cyclone *Phailin, Afat Vimo* policyholders were able to make claims as they had covered themselves under the policy to protect against loss and damage to their shelter, livelihood and household items. *Afat Vimo* has penetrated further into the communities of the poor, in order to accelerate the economic recovery of poor communities. ■

– Khyati Halani

MIA's Work on Climate Change and Microinsurance in India

In 2010 the UNFCCC Cancun Agreements stressed the need to develop climate change related disaster risk transfer measures which included focus on microinsurance and climate related research. Recently, at COP 19 negotiations in Warsaw (November 2013), the issue of mechanisms for climate related loss and damage, which is intrinsically tied with insurance, was a hot issue. But how can communities in developing countries, which are vulnerable to climate-related risks such as floods and drought, become more resilient? How can we enable the social protection of communities rather than waiting for decisions taken at global conferences?

Photo: Micro Insurance Academy.

Communities want to be involved in the design of insurance schemes. (Vaishali district, Bihar, India)

This challenging context informs a multi-year project called "Climate Resilience through Risk Transfer" (short RES-RISK) spearheaded by the Micro Insurance Academy (MIA) and BASIX Training and Consulting Ltd. The collaborating organizations have been entrusted by the Climate Change and Development Division (CCD) of the Embassy of Switzerland in New Delhi to design and implement a project that will enhance the resilience of vulnerable communities to climate change. By developing and testing microinsurance solutions in India the aim is eventual global replication for these developed solutions.

Activities for phase I (2012 - 2014) of the project entail the implementation of climate change microinsurance approaches in two locations: flood and water logging prone Vaishali district in the state of Bihar and drought-prone Ahmednagar district in Maharashtra. RES-RISK addresses demand side issues such as low insurance awareness and the limited understanding of the risks faced by the target communities. While also accounting for supply-side issues such as insurance packages that do not address the relevant risks, or are perceived to be too costly. Bundled insurance packages are being designed that will cover agriculture, livestock and health – all risks exacerbated by climate change, which are often simultaneously affected when a disaster strikes. The goal is for communities to absorb aspects of the risks through risk pooling. Meanwhile other risk segments will be ceded to commercial underwriters to increase the financial sustainability of these schemes.

Involving target communities in the design of insurance business processes and packages is a novel approach to climate change adaptation. Their needs, priorities and willingness to pay are identified and matched through baseline studies and participatory tools. Communities are equipped to operate their own mutual aid schemes by way of rigorous capacity building and training. The RES-RISK project also creates cutting-edge knowledge on the impact of climate change on crops risks, on fresh water availability and coping strategies of rural communities. These findings are shared with the scientific community, practitioners and policy makers to instruct meaningful dialogue on developing impactful solutions. Partnership engagement at every level is an opportunity to spur discourse on the impacts of climate change related risks on low income communities. ■

– Micro Insurance Academy,
New Delhi, India

Role of NRSC in Better Response during Cyclones

National Remote Sensing Centre (NRSC) has an active programme of EO information support for disaster management under ISRO-DMS (Disaster Management Support) Programme.

Major Challenges were faced during the Odisha Super Cyclone of 1999, which was one of the worst cyclones. Due to heavy destruction, communication lines and power supply was badly affected. NRSC acquired Radsrsat data and provided information on inundated areas in the form of maps, reports. The information was updated on alternate day basis. This information was used various central and state agencies for relief, health, defence services for understanding the impact, for air dropping of food packets, management of resources for relief operations, etc. Since then a number of developments in (a) operational efficiency including emergency data product generation (in 1 hour, after data acquisition) in IMGEOS of NRSC, (b) availability of microwave data from India's RISAT-1, (c) the existence of a very popular dissemination mechanism for geo-visualisation under BHUVAN (bhuvan.nrsc.gov.in) and the experience of providing near real time information in earlier cyclones has created an experience base to plan NRSC response during cyclones.

Recently, Cyclone Phailin hit Odisha coast Gopalpur in Ganjam district on October 12, 2013, leaving a trail of destruction to property and human lives. NRSC started monitoring the situation right from the formation of cyclone in Bay of Bengal and made necessary arrangements for helping Odisha Government. NRSC provided information towards preparedness, response and recovery.

Towards preparedness, NRSC made available information on low lying areas as well as the inundated area during 1999 super cyclone to help the administration for better understanding and preparedness. In addition, NRSC through its satellite based acquisition capability of ResourceSat-2, CartoSat-1,2 and RISAT-1 ensured repeated coverage of the likely impact area. The foreign satellite operators were also requested for data planning & supply for more satellite observations. International Charter for Space and Major Disasters was also activated for support.

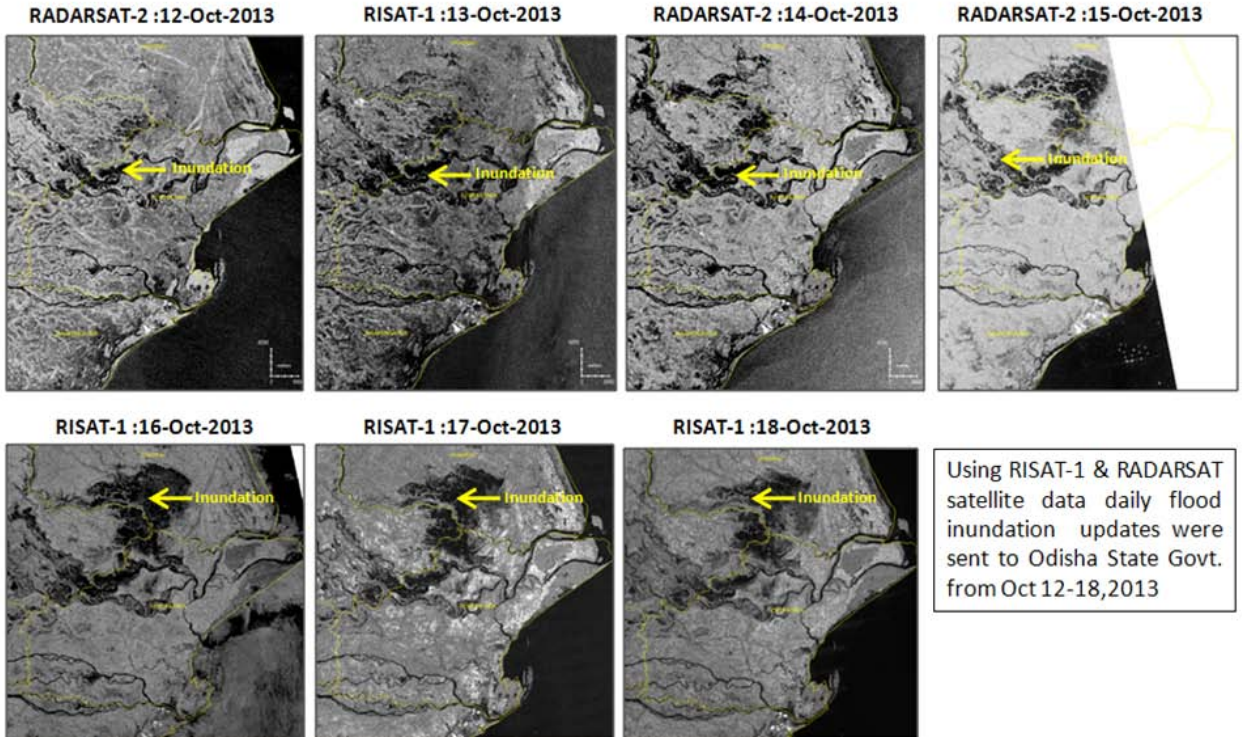

Figure 1. Show the RISAT-1 & Radarsat-2 images for daily (October 12-18, 2013) monitoring of the inundated areas in Odisha (Black colour indicates water extent)

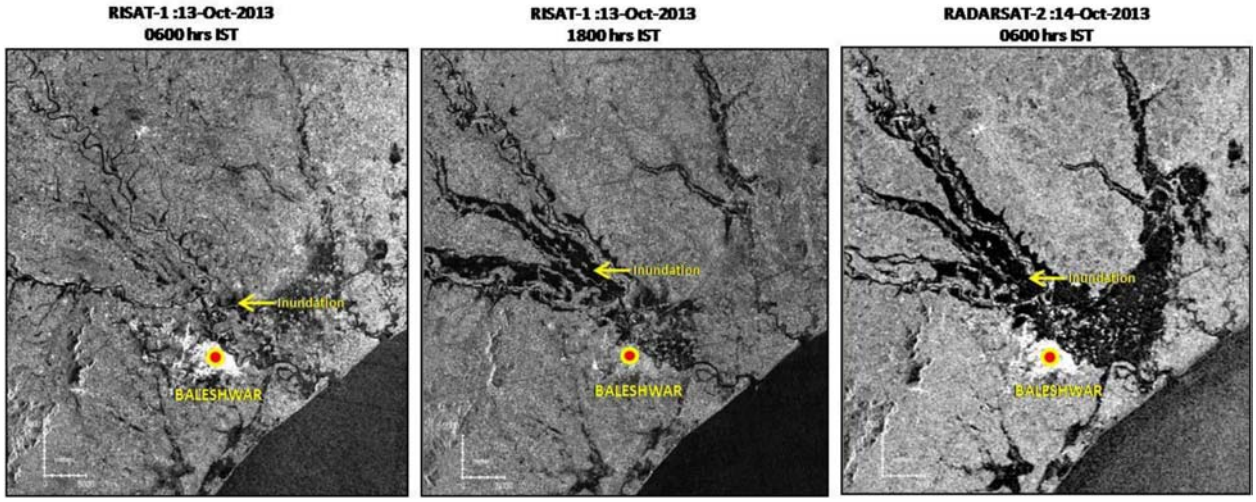

Figure 2 show the RISAT-1 & Radarsat-2 images for 12-hourly (October 13-14, 2013) monitoring of the floods in Burha Balang river in Balasore District, Odisha (Black colour indicates water extent)

Daily Monitoring: Right from day one, i.e., October 12, 2013 onwards, NRSC provided information on daily basis October 12-18 (refer Fig-1(a-e) to Odisha government. Information was provided on extent of inundation, recession, persistence and maximum extent in the form of maps, list of villages, etc. In addition, the information was uploaded onto BHUVAN, which was very helpful for Odisha Government in identifying the inundated villages and for undertaking relief operations.

12-hourly Monitoring: With the availability of RISAT-1 descending (morning) and ascending (evening) coverages, in addition to coverages from other satellites, NRSC has provided 12-hourly updates (refer Fig-2 for critically affected Balasore and Ganjam districts. This helped the State government departments to manage the relief activities. The information provided over BHUVAN has helped in identifying the inundated villages and for air-dropping of food packets for the affected population.

Additional geomatic information on land cover, infrastructure and also use of EO data for crop damage and mobile applications for uploading ground information could be integrated. Additional outputs and capabilities are being added for future. ■

– Vinay Kumar Dadhwal, Director, National Remote Sensing Centre (NRSC), Indian Space Research Organisation (ISRO), Hyderabad, India

UPCOMING EVENT

ALNAP
Strengthening humanitarian action through evaluation and learning

29th Annual Meeting

Engagement of crisis-affected people in humanitarian action

ALNAP's 29th Annual Meeting will take place in Addis Ababa from 11 to 12 March 2014. Over two days, the meeting will address the topic of Engaging crisis-affected people in humanitarian action. The objectives of the meeting are to:

- Identify 'who is doing what' on the theme of engagement of affected people in humanitarian response.
- Share and improve understanding of the benefits and challenges of engaging affected people in humanitarian response.
- Share and improve understanding of best practice in developing and implementing approaches for engaging affected people in humanitarian response.
- Identify system-wide actions required to improve the engagement of affected people in humanitarian response.
- Identify actions that individual organisations can take to improve the engagement of affected people in humanitarian response. ■

for more information: http://www.alnap.org

Role of Insurance to Address Loss and Damage Associated with the Adverse Effect of Climate Change

Photos taken during the Typhoon Sendong which hit Cagayan De Oro last December 2011.

The Philippines is one of the most affected countries by climate change as it is very vulnerable to natural calamities. As a consequence, its residents suffer from typhoons and droughts every year. Statistics shows that in 2011, a total of 554 extreme climate events were recorded across the country.[1] Typhoon damages alone left 1,541 death tolls and affected 10 million individuals with more than $600 million worth of property damages. The economic situation of the communities is such that a single catastrophic event is enough to put the families into the poverty trap.

The government has established programs and initiatives to help reduce the consequences of climate change such as the Climate Change Act 2009 which was amended with the utilization of People's Survival Fund, and the Philippine Disaster Risk Reduction and Management Act 2010 with the utilization of Local Disaster Risk Reduction and Management Fund (LDRRMF). These laws specifically enable the design of relevant and appropriate risk-sharing and risk-transfer instruments such as insurance. One of its strategic priorities is to strengthen the crop insurance system as an important risk sharing mechanism to implement weather-based insurance system[2]. The LDRRMF specifically provides a fund for the payment of premiums on calamity insurance[3] which can be tapped for risk mitigation purposes through a meso level program (i.e. for LGUs) which will cover losses of the agricultural sector.

In the microinsurance industry, in response to climate change, MicroEnsure Philippines has developed the following innovative microinsurance products, namely, Weather Index Insurance for agriculture, Calamity Insurance and MicroHousing Insurance for properties which is bundled with Personal Accident insurance to provide appropriate and affordable insurances to the poor and protect them from the financial risks they face. Calamity insurance is an index insurance product that is responsive at micro level which covers clients' residential property against 8 perils: typhoon, flood, earthquake, volcanic eruption, landslide, tsunami, fire and lightning. Just this year, MicroEnsure also provides for the catastrophic insurance through meso level approach.

On 2011, MicroEnsure Philippines has paid a total of 18 million pesos in calamity insurance claims (approximately $400,000) to help almost 1,800 families who suffered losses as a result of Typhoon Washi (Sendong) which allowed these families to rebuild and move forward after the devastation. This year, with the recent calamity, it has paid a total of 33 million pesos (more than $700,000) nationwide. These products had already proved an important competitive advantage for MicroEnsure's partners in the Philippines. Without access to appropriate low-cost insurance products, low income households are without a safety net and a single setback can cost them what little savings or capital they have. ■

– William Martirez
Country Manager, MicroEnsure
Insurance Brokers Philippines, Inc.

1 Mahl, Thomas (2011). Calamity Fund Protection, November 22, 2011.
2 National Framework Strategy on Climate Change.
3 Section 21, Republic Act 10121 or "The Philippine Disaster Risk Reduction and Management Act of 2010".

Loss and Damage: Times Ahead

New findings from recent research on the impacts of climate change has confirmed that households in vulnerable countries are already incurring severe loss and damage associated not only with extreme weather events but also slow-onset climatic changes, which will likely grow in the future.

Realising the gravity of the situation, the United Nations Framework Convention on Climate Change (UNFCCC) has been facilitating discussion on the issue this year. The expert meeting in Tokyo and the series of regional expert meetings in Addis Ababa, Mexico City and Bangkok are revealing intricate insights. Consensus seems to be emerging around increasing mitigation ambition to avoid future loss and damage as the very first step; greater success in reducing greenhouse gas emissions now means less loss and damage in the future. Second, avoiding loss and damage must be facilitating the ability of humankind to adapt and adjust to climate change impacts. The greater the extent of adaptation, the less residual loss and damage there will be.

However, residual loss and damage from climate change – that remains after mitigation and adaptation choices have been made – is certain to exceed anything yet experienced and requires urgent attention by the Convention. In order to deal with the residual impacts in a more efficient manner, some areas under the SBI work programme (WP) on loss and damage need to be strengthened through CoP 18 in December this year and beyond.

Assessing: A great deal of work needs to be done around this thematic area of the WP. There are major gaps is assessing current as well as potential future loss and damage, thereby impeding informed planning for climate compatible development. The Convention can play a role in supporting activities at the national level and facilitate a process of capacity building in assessing risk through establishing baselines, standard guidelines, developing monitoring mechanisms, institutional arrangements, and ensuring adequate funding for the process.

There is also a need for a better system of metrological services and information sharing mechanisms. For this, already established institutions can be mandated to expand their scope of work.

When assessing, non-economic informal losses should not be ignored in the process; efforts should be made to ensure a holistic picture encompassing all issues and stakeholders for informed policy making.

Thane cyclone, 2012. Photo: AIDMI

Approaches: It is becoming clear that many gaps exist for approaches to address loss and damage. While extreme weather events have been addressed through a mix of risk reduction, risk retention and risk transfer methodologies, much remains to be learned about approaches to manage slow onset climate processes. These approaches are least represented through our current knowledge set and will require creative thinking within as well as outside the convention.

Coordination: Considering the abundant resources utilised in developing various streams of thought process within the convention, it is pertinent to sync loss and damage with the existing processes as closely as possible. For example, the National Adaptation Plan process is of particular relevance to loss and damage, and can be used by countries to enhance their domestic efforts to assess climate risks and prepare accordingly. The Adaptation Committee, as well as the Standing Committee on Finance, and the Technology Executive Committee may contribute to a coordinated approach to loss and damage. The Convention should initiate a process of identifying existing processes within and outside the Convention, and clarify means of collaboration in order to mainstream the loss and damage agenda. ■

– Kashmala Kakakhel
Technical Assistance and Knowledge Management Coordinator, Climate and Development Knowledge Network (CDKN), CDKN Asia

1 Case Studies commissioned under the CDKN *Loss and Damage in Vulnerability Countries Initiative.*

Climate Change in the Indian Mind

India is one of the world's most vulnerable countries to climate change. Findings from a national survey of Indians conducted by the Yale Project on Climate Change Communication found that Indians already report high vulnerability to extreme weather events, which are expected to increase in frequency and intensity due to global climate change in coming years.

Perceptions about Changes in Local Weather Patterns

Almost half of respondents (46%) believe that annual rainfall has been decreasing in their local area compared to the past. Moreover, more than half (54%) of the respondents say that hot days have become more frequent compared to the past, and about a quarter (21%) say that droughts, and severe storms have become more frequent in their local area. Nearly 4 out of 10 Indians say that monsoons have become less predictable in recent years, which may influence peoples' decisions, particularly in a largely agriculture-based economy such as India.

A majority of Indians say they are very vulnerable to the impacts of 1 year-long severe drought or severe flood in their area, including negative impacts on their water and food supplies, health, and income. Conversely, Indians say they have a low level of adaptive capacity to deal with extreme weather events, as a majority (64%) say it would take their household several months to several years to recover from a severe drought or flood in their local area.

Global Warming Knowledge and Risk Perceptions

Only a minority of Indians (7%) say they know a lot about global warming, but when provided with a brief explanation, a majority (72%) agrees that it is happening and that it is human caused (56%). Many Indians also believe that global warming will have a variety of dangerous impacts, including more severe floods (35%), severe cyclones (32%), severe heat waves (45%), droughts and water shortages (45%), disease epidemics (45%), and famines and food shortages (46%).

Policy Support

Majorities of Indians support a variety of policies, including policies to save energy, water, and forests; promote renewable energy sources, reduce coal-fired power plants, increase local water supplies (adaptation), and, most of all, a national program to teach all Indians about global warming. A majority of Indians want to know more about this threat.

Global Warming's Six Indias

The study also found that there are six distinct audiences within the Indian public, each with its own unique beliefs and attitudes about global warming. The Six Indias are the Informed (19%), who are the most aware of climate change and its impacts, the Experienced (24%), who are most likely to say they have personally experienced the impacts of climate change. Three other Indias — the Undecided (15%), the Unconcerned (15%) and the Indifferent (11%) — represent different stages of understanding and acceptance of the problem. The final India — the Disengaged (16%) — know very little about climate change or its impacts, and are disproportionally rural and female, with a majority from backward castes or scheduled castes and scheduled tribes. Each of the Six Indias will require a tailored communication and education strategy to raise their climate change awareness, inform their decision making, and engage them in climate change solutions. ■

– Anthony Leiserowitz, Ph.D.
Yale University *and*
Jagadish Thaker, Ph.D.
National University of Singapore

EVENT

National Workshop on Migration and Global Environmental Change in India

UNESCO, the Government Office for Science (GOS, UK) and the Department for International Development (DFID) held a two-day workshop on Migration and Global Environmental Change in Delhi in India, on 4 - 5 March 2014.

The workshop explored how the findings of the Foresight: Migration and Global Environmental Change (MGEC), Final Project Report, The Government Office for Science, London (2011) and other analysis, informed the thinking and actions of experts and decision makers from policy, academia and other stakeholders with a specific interest in this topic and discuss the potential implications for India and neighboring countries. In particular, the event involved members from key sectors including planning, rural development, urban affairs, disaster management, science and technology, environment, tribal affairs, labor, agriculture, water resources to raise awareness and increase knowledge on the necessity to anticipate migration in the context of environmental change, as well as non-migration, into the national agenda. ■ *for more information: http://www.unesco.org/new/en/newdelhi*

Protecting Heritage from Disaster Risk

Francesco Bandarin Director of UNESCO's World Heritage Centre once expressed the complexities of protecting heritage from disaster risk stating: "commonplace is the idea that heritage, in particular cultural heritage, would constitute a liability in the face of disaster, either because it requires efforts and resources for its protection– at a time when attention should be devoted to saving lives and properties– or because it adds to the risk, especially within traditional settlements where buildings do not conform to modern engineering standards of safety"[1]. On the other hand Bandarin also offers an alternative viewpoint suggesting buildings', historic areas– constituting tangible and intangible– are facets of communities that have the transformative power and ability to "positively contribute to reducing risks"[2].

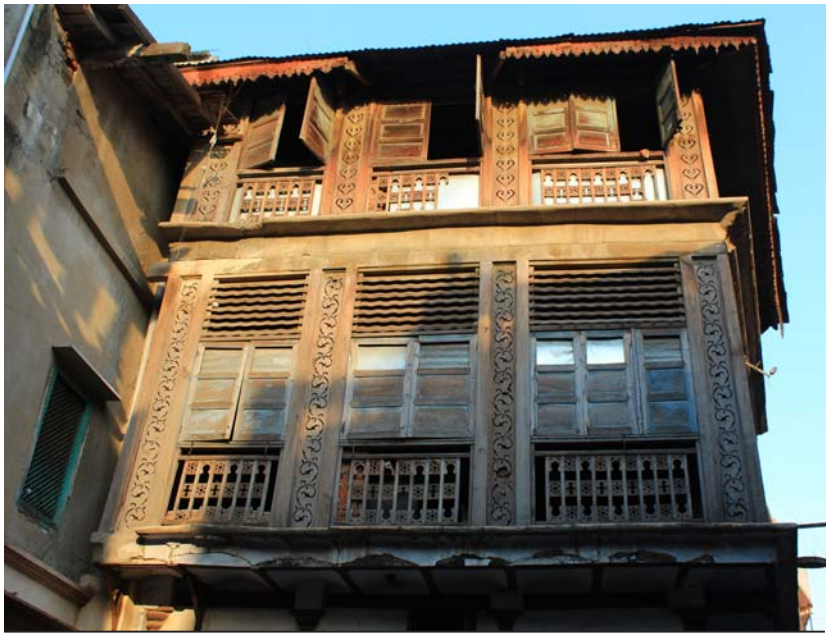

Photo: AIDMI.

A heritage structure in the Desai-ni-Pol, old city of Ahmedabad.

Cultural heritage is resilient in the face of vulnerability set in by natural or man-made disasters. The spaces of cultural heritage either in a building or via transcended discussions amongst people sharing oral histories emerge in disaster recovery enabling both psychological support and shelter. Cultural heritage is connected to the socio-economic fabric of communities[3]. People, that is, individual identities, inhabit, formulating larger communities in both pre-disaster times, moments of disasters and in post-disaster restoration. Therefore, it is imperative that their voices, in fact be the voice that preserves its own cultural fabric and intuitively maintains a sense of continuity. It suggested here as a step forward greater emphasis in protecting cultural heritage from disaster risk empower more deeply, people, comprising the centre of where the heritage lives[4].

Disaster risk planning policy at all levels of government and within civil society share a responsibility to the cultural heritage of a people in disaster preparedness. This responsibility could take form in surveying people and asking questions regarding traditional knowledge that they hold of the sites for restoration in post recovery. This responsibility could also be translated by conducting interviews with members of society on how sites, monuments and oral traditions can and would be utilized in times of disaster.

As people comprise of communities they must share in a responsibility to its ownership of valuable cultural heritage. Such interventions safeguard not only the physical and oral spaces but adhere to the growing need of community engagement in heritage disaster risk management. ■

– Paola Jani,
International Heritage Consultant

1 UNESCO. (2010). Managing Disaster Risks Resource Manual (pp.3). Paris; France: UNESCO.
2 UNESCO. (2010). Managing Disaster Risks Resource Manual (pp.3). Paris; France: UNESCO.
3 Universal Declaration of Human Rights (1948).
4 Rowlands, Jo. (1995). Empowerment Examined.Development in Practice, 5 (2), 101-107.

Institutionalising Climate Smart Disaster Risk Management in Women Based Organisation

It is widely recognized that climate change does not affect people equally. The related disasters and impacts often intensify existing inequalities, vulnerabilities, economic poverty and unequal power relations (Brody et al., 2008; IPCC, 2007). Differently positioned women and men perceive and experience climate change in different ways because of their socially constructed gender roles, responsibilities, status and identities, which result in varied coping strategies and responses (Lambrou and Nelson, 2010; FAO, 2010a).

Often, women are more vulnerable to climate change than men. There are many socioeconomic reasons behind this fact and is especially true for developing countries like India. On the other hand, women are active agents of adaptation in rapidly changing contexts who adapt to global changes in local contexts in ways that are appropriate, sustainable and culturally specific. It is imperative to have women in centre of research, policy and action on climate change adaptation if aforementioned disproportionate risks and consequences are to be adhered. This is not just a matter of justice and equality but makes good economic sense too.

Various agencies at governmental and nongovernmental level are proactively involved in reducing disaster risk and adapt to changing climate. However, given the complexity and range of issues involved with disaster risk reduction, climate change adaptation and development; it has become apparent that a lot more needs to be done to support and strengthen the government authorities' efforts especially at the ground level. Understanding the threats posed by climate change and disaster risk, Society of Women Action Development (SWAD), a local level humanitarian organization agreed the implementation of Climate Smart Disaster Risk Management Approach (CSDRM)[1] and became the first local level organisation where CSDRM approach is implemented. SWAD is a community based humanitarian organisation based in Puri district that specialises in the field of women empowerment and disaster preparedness and development. CSDRM approach is a tool that can be used by organisations at all levels to tackle disasters, poverty and adaptation through improved integration. The institutionalizing efforts by partners and stakeholders promote climate-smart work with focus on gender aspects.

The commitment and support of involved agencies resulted into initiation of concrete integration of climate smart component in the existing programmes including school safety to promote eco-friendly habits among school community and integration of climate education. SWAD developed a plan to promote diversification of livelihood as a means to reduce dependency on climate in existing programme on livelihood security. SWAD is facilitating risk transfer through microinsurance with technical support of AIDMI to experiment and retest disaster insurance for poor and disaster-affected communities against increasing climatic extreme events in coastal areas. The clients are living in flood prone areas and poor locations. The majority clients are from micro livelihoods related to both - farm and non-farm. Many of these clients were affected by recent 2013 cyclone Phailin, however due to coping mechanism - disaster insurance - their economic loss are reduced. Further study and actions are in progress to understand the effectiveness of the disaster insurance, replication and development as a coping mechanism to deal with climate change in poor coastal locations.

Photo: AIDMI

1 Harris, K., Seballos, F., Silva Villanueva, P., and Curmi, P., Changing Climate, Changing Disasters: Pathways Towards Integration (2012) Strengthening Climate Resilience, Brighton, IDS.

Further, the progress is assessed periodically by SWAD through monitoring and evaluation framework developed for the approach. As a result, SWAD institutionalized climate smart component in all their ongoing projects and their members (women) are gradually increasing their adaptive climate change capacity. These women, who also are mothers, teachers, and health workers, small and micro enterprisers, members of self help groups, are integrating the component of being climate smart in their work.

However, the results achieved were not without challenges. Since SWAD is a project based organization its resources are limited and so are the time frames for the project. The team members are divided into small teams who work on specific projects. In addition, skills and knowledge of members are limited on CSDRM approach as it is implemented at local level for the first time. The team took these challenges as opportunities to learn and grow; and used participatory tools (as recommended by partners) for assessment and integration. The team prepared a short and long term plan of actions in the line of ongoing campaign and activities before successful integration.

The women are disproportionately affected by disasters, because of pre-existing gender inequality and discrimination. But women are determined to assume leadership in promoting disaster risk reduction and climate change in their communities and beyond if given a chance.

In considering how sustained educational and technical support may be accomplished most effectively, there may be some value in taking a cue from the three primary principles of McDonald's global burger marketing strategy - famously referred to as: 'location, location and location'. In the case of developing deep and sustained understanding for the commitment and engagement of disaster risk reduction, it may be altered to 'education, education and education' which is only possible through women involvement. ■

– Binapani Mishra, SWAD *and*
Vishal Pathak, AIDMI

INFORMATION SHARING

Climate Change in Northeast India

The Northeastern India, which is an important biodiversity hotspot in the world, is expected to be highly prone to the consequences of climate change due to its geo-ecological fragility, strategic location vis-à-vis the eastern Himalayan landscape and international borders, its trans-boundary river basins and its inherent socio-economic instabilities. Environmental security and sustainability of the region will be greatly challenged by these impacts. Under the influence of global climate change, even high rainfall regions are facing drought like situations in the recent years. The impacts of climate change on regions like northeast India is less explored and less known till date making the future scenarios more uncertain for vulnerability assessment and risk management.

Extreme precipitation events (heavy rain storm, cloud burst) may have their own impacts on the fragile geomorphology of the Himalayan part of the Brahmaputra basin causing more widespread landslides and soil erosion leading to shallow river bed and thus frequent floods. Natural resources are being exploited abundantly for economic development of the region. Cutting of rich forests in wasteful and unsustainable commercial logging and slash-and-burn clearing for agriculture can increase uncertainty. 'Forest Cover Change Matrix, 2011, (13)', reveals that there has been a decrease of 17 sq km of dense forest, and 154 sq km of moderately dense forest, and an increase of 152 sq km of open forests in the Assam over 2009. Besides exploitation of natural resources, rapid industrialization, increased number of vehicle traffics and over population also has adverse affects on climate change.

Global warming and climate change are the most prominent causes for the glaciers in the Himalayas to retreat at an average rate of 15 meter per year. Under warming environment the Himalayan glaciers are expected to melt faster leading to increased summer flows and flooding initially for a few decades followed by progressive reduction in flow as the river-feeding glaciers recede and disappear from the head streams. Widespread water scarcity in the river basins like those of the Indus, the Ganga and the Brahmaputra is a serious problem on the cards.

Climate change has an adverse impact on natural resources, economic activities, food security, human health and physical infrastructure. The habitats of the region are dependent on natural resources. Therefore, the threat is greater for the communities residing in such areas for livelihoods. In the wake of such a shift in climate in the region, there is an urgent need for reassessment. The community, governmental and nongovernmental

organizations, and schools must start forestation programs.

In order to keep pace with the dynamic world, advanced technologies are utilized which possess threat to the environment and the habitats. Therefore effective mitigation plans should be implemented to reduce the threats at a greater level. In the words of Dr. Partha J Das, an environmental researcher, "Responding to climate change requires action on three fronts: strengthening 'autonomous adaptation' to the impacts of current and future climate change at the community level; 'planned adaptation' which happens at the government level; and building up a knowledge base and policy advocacy. However, it is this knowledge base which is not percolating to the community levels. We need to make all these three components of understanding climate change work together to develop effective policies and programmes to mitigate climate change. Ultimately, good policy should be based on good science". ■

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– Himadri Changmai,
Dibrugarh, Assam

CLIMATE CHANGE

Climate Variability and Climate Change Disaster Risk Scoping Study for Gujarat

The issue of Climate Change Adaptation (CCA) has always ranked high on the agenda of any agency involved in the field of disaster risk reduction. For, climate change is known to exacerbate the severity and incidence of disasters. Consequently, a meeting on the *Linkages between Disaster Risk Reduction (DRR) and Climate Change* was held under the Chairmanship of Vice Chairman, NDMA on 18-12-2013 at NDMA Bhavan. The All India Disaster Mitigation Institute (AIDMI) was also present at this meeting and gave critical insights on the linkages between DRR and CCA.

To corroborate the link between Climate Change and Disaster Risk Reduction, the Gujarat State Disaster Management Authority (GSDMA) carried out a district level Climate Variability and Climate Change Disaster Risk Scoping Study for Gujarat. The purpose of this scoping study was to appraise the effect that climate change can have on the lives of the people in the state.

Within this broad purpose, the specific objectives of the scoping study were:

1. To assess the evidence and impacts of recent deviations of climatic conditions
2. To examine whether climate variability and change could have a significant impact on the population, economy and infrastructure in Gujarat, largely through the potential changes in patterns of flood, drought, cyclone and storm surge, extreme rainfall events and sea level.
3. To formulate a plan to adapt to these changes, to mitigate their impacts and to reduce vulnerability.

The scoping study makes use of Global Circulation Models and Regional Climate Models in its methodology. The findings of this scoping study have been reported as the Potential Impacts of Climate Change. Within this section, the impacts of Climate change, temperature rise, Precipitation and sea level rise have been reported on human health, agriculture, forests, water resources, coastal areas and species and natural areas.

This scoping study is seminal in many ways. For, it helps in estimating enhanced risk in different physio-climatic regions. This scoping study would also help to outline a way forward for a detailed district level climate variability and climate change risk assessment and adaptation plan. These measures would in turn help in the formulation of a concerted road map to tackle the impacts of climate change through meaningful interventions in policies, regulations, institutional arrangements and economic measures in the state of Gujarat.

AIDMI fully appreciated the effort of GSDMA and suggested certain measures for a way forward. Among the important suggestions was that of carrying out similar scoping studies in other states and then have a comparative analysis between different states. Another important suggestion from AIDMI was to use more data and information from the SREX and AR5 reports. ■ **– Kshitij Gupta**

Immunising Natural Disaster Impacts with Natural Infrastructure

Amongst the most productive ecosystems on the planet, coastal habitats ensure the well-being of a large percentage of the countries' population, regulating global climate and contributing to the essential adaptive capacity of coastal communities. The tsunami of 2004 was a rude reckoning of how vulnerable communities really are in the face of extreme and unpredictable changes in their environment. The future depends on our capacity to manage human uses and impacts on coasts, in order to avoid compromising our resilience to natural disasters.

In lieu of this, Mangroves for the Future (MFF), a regional initiative implemented by IUCN in India, promotes investment in marine and coastal habitats as necessary, natural infrastructure. In addition to actively restoring and rehabilitating life-sustaining habitats as mangroves and seagrass beds through community-based models, MFF India projects facilitate and guide management and policy towards long-term sustainability of coastal ecosystems.

Orissa, on the east coast of India, has experienced extreme contrasting weather conditions in the past few decades; Kendrapara, where several MFF projects were implemented, has been one of the worst hit districts. Even as the struggle to develop resilience continues, conventional processes of adaptation are proving insufficient. According to local communities and land records from 1930, seven coastal villages, collectively known as Satabhaya, once existed in a corner of Kendrapara. By 2000, five of these villages had been swallowed up by the sea. The remaining two villages (along with several others along the coast) are in danger of a similar fate; they have already re-located numerous times, leaving their original positions approximately 1.5 km inside the Bay of Bengal.

Hard solutions such as sea walls are often the first point of recourse when considering the protection of India's coastlines to rising sea levels and erosion. Only now is attention being paid to the development of soft solutions such as mangrove forests, against extreme weather events. MFF India, in partnership with The Environment Protection Training and Research Institute (EPTRI) mapped the coastline of Orissa, as well as Karnataka, Kerala, Tamil Nadu, Andhra Pradesh, to understand the current status of existing coastal vegetation (particularly mangroves and associated intertidal flora) and the extent of human activity related impacts on these. Non-mangroves were also documented in the study and provided an additional understanding of the potential for future activities. Efforts at mixing agriculture, plantations and silviculture were documented as success stories, both with regard to protection and with possibilities for livelihood generation. It was observed that beyond the direct actions of the coastal populations, coastal ecological degradation is highly affected by economic activities on the mainland.

Crucially, the project demonstrated the success that could be achieved in minimizing the impact of storm surges inland through the development and careful planning of natural infrastructure; these soft solutions have been globally proven to be sustainable and cost effective. The information and maps provide a useful toolkit for Forest Departments and practitioners in developing a framework for increasing resilience of coastal communities to natural disasters. ■

– Nisha D'Souza,
Small Grants Officer, Mangroves for the Future (India), IUCN

© MFF India 2012.

Bhitarkanika mangroves.

Enhancing Safety and Market Opportunities for SME by Promoting Best Applicable, Green Technology

Competitive small and microenterprises (SME) prove to be more resilient against any kind of risks - be it natural or economic. In a country like Peru, 96% of all companies are SME, but their average lifetime sums up to about one year. One way to make this economically vulnerable sector more competitive and thus socially, environmentally and economically complying with the respective regulations, is to enable it to profit from best applicable, environmentally sound technology (BAT). If BAT is part of a sustainable approach, extending impact by allowing the companies to further implement safer working standards, it can reduce overall risks for the employees as well as for the company itself. However, BAT is often linked to a substantial investment. That's where the problem usually starts.

Big banks do usually not lend credits even to medium enterprises due to relatively high risks. The customers are often unknown to the banks' management. Moreover, their equity capital may not be sufficient. And in case of credits for new technologies, there is additional risk that BAT – e.g. a water saving unit or an efficiency tool – is not capable of guaranteeing the previewed return on investments (ROI) – simply because in the respective country some of the BAT possibly have not proven their performance in terms of ROI or increase of production quantity or quality yet.

In the last couple of years, best practice in Peru, Colombia and Vietnam has shown that despite these concerns, BAT can be transferred to emerging countries while keeping the risk for financing institutions and the investing SME on an feasible level. Important for the banks when lending "green credits" to SME is a powerful refinancing partner that is able to grant a guarantee in case of the debitor's failure. In Vietnam this guarantee is even more important than in less regulated countries like Colombia. The "Green Credit Line", fostered by Swiss Economic Development Cooperation (SDC) as well as partner banks in the corresponding countries, operates with a guarantee of 50% to the banks as well as a reimbursement element. Companies that reduce their Green House Gases (GHG; or another indicator fixed beforehand) to more than 30% thanks to a Green Credit Line based investment in BAT within the production process, will get 25% of reimbursement related to the total amount of the approved credit amount. Contrarily to other green credit products, this line does not operate with reduced interest rates. It is therefore a market driven tool that does not undermine sustainability principles.

Hitherto, most of the Green Credit Line projects achieved a ROI of about 2 years or less and a considerable share of them reduced GHG to more than 50%. Whilst a good payback performance is important to the lending bank, companies investing in BAT strive for a fast ROI, better competitivity, better preparation for future environmental regulation by law or enhanced access to new markets. In the same time, SME investing in green technology want to have a guarantee that the new tool does not change the product quality at any time. In order to alleviate the concerns and demonstrate enhancement of safety and new market opportunities by investing in BAT, SDC works together with local Cleaner Production Centres (CPC) that do managerial consultancy and measure the GHG reduction after implementation of the tool.

In the last decade, dozens of SME in Vietnam, Colombia and Peru have profited from this innovative pilot approach towards strengthening the private sector and thus reducing its exposition to risks and unsafe working conditions. In Vietnam, some cases even prove that thanks to such scale-up investments, small companies indeed get more possibilities to and access new markets even abroad, but also to enhance their safety standards within the company by bringing social benefits to the employees. One best practice example from Peru, a medium size company that could implement ISO 14'001 and OHSAS 18'001 thanks to investing in BAT, shows its potential to result in sound safety management. ■

– Andreas Pecnik, M.A., Environmental Technology and Management, University of Applied Sciences Northwestern Switzerland (FHNW), Former Intern of AIDMI (2003 and 2005)

LOSS AND DAMAGE

Bangladesh: On the Forefront of Loss and Damage Research

It is clear that mitigation and adaptation efforts alone will no longer be sufficient to prevent loss and damage from climate change impacts. While all countries will experience losses and damages, the South Asian region is particularly vulnerable. Given that the issue is relatively new, research has only started to emerge in the past few years. Increasingly it is being recognized that in order to better address and assess the losses and damages resulting from climate change, a more comprehensive set of approaches needs to be developed and implemented at the international, national and local levels. In the past few years the International Centre for Climate Change and Development (ICCCAD) based in Dhaka, Bangladesh, has been on the forefront of research to enhance understanding of loss and damage. Most recently, a milestone was reached at the nineteenth Conference of the Parties, held in Warsaw in late 2013, when the Warsaw international mechanism on loss and damage was established. It is hoped that the establishment of the Warsaw international mechanism will provide developing countries with support to address loss and damage, reinforce the importance of loss and damage research and remove the political sensitivity that was previously associated with the topic.

With an overarching aim to enhance capacity on loss and damage, ICCCAD has facilitated research with national climate experts and researchers in a number of fields, producing technical papers on a number of topics including microinsurance, approaches for addressing loss and damage, addressing loss and damage from both extreme events and slow-onset loss and damage at the local level, and the legal and institutional contexts for addressing loss and damage – all in the national context of Bangladesh. The work on loss and damage in Bangladesh has also enhanced stakeholder engagement on the issue, facilitating a discussion on how to promote cross-sectoral collaboration and integrate the adaptation and disaster risk reduction agendas to address climate change more holistically and comprehensively.

The team also took part in numerous international meetings and workshops, both regionally and globally, engaging and strengthening dialogue with researchers, practitioners and other key stakeholders and decision makers within the field. In March of 2013 ICCCAD and partners launched the Asia Pacific Forum on Loss and Damage to disseminate research and provide a platform for an exchange of knowledge and best practices on loss and damage. Work to develop a website for the Forum is currently underway. A bi-monthly newsletter will be produced to profile research in the region. Researchers are encouraged to send information about their loss and damage-related work to: lossanddamageforum@gmail.com. ■

– Shababa Haque, Erin Roberts, Stephanie Andrei *and* **Saleemul Huq,** All with ICCCAD, Bangladesh

CASH TRANSFER

Use Cash Transfer for Haiyan Relief and Beyond

The Cash Learning Bulletin - CaLP supports cash coordination in Typhoon Haiyan Response.

In addition, as more and more agencies respond to the typhoon, CaLP recognizes the urgent need to share information to find common approaches and to maximize resources. Responding to a request from the community of practice, CaLP has created a webpage where useful resources (e.g. the latest UNOCHA situation report), up to date news from the Philippines CWG, (including a terms of reference (TOR) meeting minutes and a schedule of planned meetings), as well as case studies, such as Cash Transfer Mechanisms in the Philippines, and tools, including the CaLP Coordination toolkit, can be found.

In view of this, CaLP has asked the community of practice to:

- Participate in the Philippines Cash Working Group
- Look at considering market components in initial agency assessments and analyse the feasibility of using financial infrastructures/delivery mechanisms or simply conduct a separate market/cash feasibility assessment.
- Start discussions with private sector or government counterparts about establishing pre-agreements around deliveries and targeting.
- Research previous cash-based interventions in response to typhoons in the Philippines, related to developing cash grants and vouchers, transfer values/rates and delivery mechanisms (beyond CaLP's existing resources). ■

ADB, Partners Aim to Protect Asia's Urban Poor from Climate Extremes

The Asian Development Bank (ADB), the Government of the United Kingdom (UK), and the Rockefeller Foundation are teaming up to help Asia's fast growing secondary cities protect their urban poor from the ravages of climate change.

"The region's cities are going through an unprecedented population boom and their poorest citizens are in the front line of an increase in extreme floods, sea level rises and other climate change-linked events," said Gil-Hong Kim, Director of the Sustainable Infrastructure Division in the Department of Regional and Sustainable Development at ADB. "This innovative partnership brings together a private foundation, a bilateral organization, and ADB — a multilateral development bank — to leverage and scale up solutions to protect some of the world's most vulnerable urban communities."

The three partners have agreed to roll out an innovative program, Managing Climate Risks for the Urban Poor, to help 25 secondary cities in the region counter the impacts of climate change, with a focus on the disadvantaged. The first six countries selected for inclusion in the program are Bangladesh, India, Indonesia, Pakistan, the Philippines, and Viet Nam — all with large urban poor populations.

Financing will come from a new Urban Climate Change Resilience Trust Fund, administered by ADB. A memorandum of understanding has been signed with the UK's Department for International Development (DFID) under which DFID will provide initial grant finance for the fund of $130 million equivalent, with the Rockefeller Foundation supplying $5 million. The US Agency for International Development has also expressed interest in supporting the Fund.

About 55% of developing Asia's population of more than 3.7 billion people is expected to be living in urban centers by 2030, and secondary cities — which are seeing some of the fastest population rises — are among the least prepared for tackling new climate challenges. Low income groups, who often live in informal settlements with few services and in hazard prone areas on river banks or along exposed coastlines, are the most at risk.

The program takes a new tack on urban climate proofing, adopting a more comprehensive approach than the piecemeal, opportunistic measures of the past. It will support linked activities, including assistance for incorporating climate change and disaster risk and resilience thinking into city plans. It will also provide technical assistance for preparing climate resilient infrastructure projects which benefit the poor, and it will fund knowledge gathering and research to exchange lessons learned and best practices on urban climate change.

Poor and vulnerable groups will be involved in the planning and investment decisions, along with other public and private stakeholders, and the infrastructure projects will be designed to attract additional public and private financing, and to have good potential for replication and scalability. The program will also consider "soft investments" in areas such as early warning systems, regulatory reforms, and other measures needed to tackle risks faced by poor and vulnerable communities.

The program's goals include the roll out of about 25 infrastructure projects and other resilience measures to protect around 1 million poor and another 1 million vulnerable people in the target cities by 2021. It also aims to leverage about $1 billion in investments from public, private and municipal sources. ■

Photo: AIDMI

Afat Vimo policy holder sharing his experience of recovery post cyclone *Phailin*.

EXPOSURE VISIT

How Resilient is India's Infrastructure?

Investments in infrastructure are essential for India's economic growth. But how resilient is infrastructure in India? Is existing infrastructure resilient to disaster risk? Are investments in new infrastructure addressing disaster risk? Perhaps to address this question the Prime Minister talked about investments in preparedness at the 5th meeting of NDMA but missed out on pointing the importance of resilience of infrastructure.

A total $700 million are put aside by India with Asian Development Bank (ADB) help to support national efforts to accelerate investment in the infrastructure that India urgently needs to ensure strong economic growth. But is this investment considering resilience of infrastructure against disaster and climate risk?

The Government of India estimates that $1 trillion in infrastructure investment is needed to achieve economic growth of 8.4% under its 12th five-year development plan, and expects nearly half of that to be financed by the vibrant private sector. But these projections do not account for the damage incurred by infrastructure by disasters. The humongous losses to infrastructure in the recent disasters in Uttarakhand Floods and Odisha Cyclone all corroborate this dismal fact.

Limited money is available to develop resilient infrastructure features for road, railway, airport, energy, or city development. More care is needed in reviewing investments in infrastructure to protect investments (and citizens) from loss and damage caused by disasters. All India Disaster Mitigation Institute (AIDMI) work finds that this need is especially pronounced in the North East India; high altitude towns such as Leh in Ladakh; coastal district headquarters such as Ganjam or Puri in Odisha; and large tracks of land that submit to regular flooding in Bihar and Assam.

AIDMI's district level work finds that project planning for infrastructure needs early risk audit in its formative stages of estimating investments. Hazard and vulnerability assessment need to be more focused on both, risk of disaster and climate change in these estimates. What lacks in local level project planning is focus on process that captures risk concerns, risk reduction as a clear goal, and defines targets to build resilience in infrastructure. There is challenge of partnerships and capacities for such planning: where are such capable partners in India? The recent 2013 Human Security: Humanitarian Perspectives and Responses Conference, October 24-27, 2013 in Istanbul concluded that to build human security for the citizens authorities must invest more and better in infrastructure that protects and expands human security.

The additional investments of millions cannot only accelerate economic growth but also protect this growth if the NDMA invites the large infrastructure investors to show evidence of their investments being disaster risk resilient. Such evidence will surely shape the agenda for the 6th meeting of NDMA to discuss resilience of infrastructure. ■

– Mihir R. Bhatt

RISK MANAGEMENT

A Climate Smart Disaster Management Reform in Odisha

The ideal of climate compatible development (CCD) has lately emerged as an enshrined goal of the global humanitarian community. The pursuit of this ideal is manifest in the reassessment of the priorities of various humanitarian agencies to take a more climate sensitive approach. Even, in the consultation process for a post 2015 framework for disaster risk reduction (HFA 2) the *Integration of Climate Change Adaptation with Disaster Risk Reduction for Sustainable Development* has emerged as a key area of action.

The All India Disaster Mitigation Institute (AIDMI) along with Intercooperation Social Development India (ICSD) and Climate Development Knowledge Network (CDKN) with the support of Institute of Development Studies (IDS), UK has recognized the importance of addressing the overlap between climate change adaptation and disaster risk reduction and collaborated on a research project called '*Getting Climate Smart for Disasters*' to address this overlap. This project aims to identify the institutional barriers that preclude the integration of CCA with DRR to suggest suitable policy mechanisms of overcoming or circumventing them. The key activities, findings and recommendations of this recently finished project (in the Indian state of Odisha and beyond) are discussed below:

1. A 'Climate Smart' Odisha Agriculture Policy

This research project has identified key aspects of the Odisha Agricultural Policy, 2013 should be suitably modified to address the vulnerability of agricultural sector to the impacts of climate change. These key aspects include a special focus on delta areas like the Mahanadi and Sundarbans along with the promotion of women's participation in and off farm livelihood activities.

2. Self-Assessment for Institutional Integration of Climate Change Adaptation across sectors

It is well-known that authorities/ departments like Water Boards, Public Works Department, Electricity Board, Education Board, etc. are crucial departments that play an important role in restoring essential services during extreme events. Therefore, there is an urgent need to make these crucial authorities/ departments climate smart or resilient to the adverse impacts of climate change. This research project has devised a self-assessment tool for organizations to help them assess their operational and institutional vulnerabilities to climate change and overcome them to become 'climate smart'.

3. Institutionalizing Climate Change Adaptation in Disaster Management Planning

An important finding and recommendation of this research project has been the advocacy of the incorporation of climate risk component in disaster management planning. Under the ambit of this research project, the project partners involved the District Disaster Management Authority (DDMA) of Puri district (Odisha) in the Climate Smart Disaster Risk Management (CSDRM) process. The most ostensible outcome of these efforts was the integration of climate risk component in the district disaster management planning for Puri district of Odisha.

4. Amendments in the Micro Finance Institutions (Development and Regulation) Bill, 2012

An important recommendation of this project is to suitably amend the Micro Finance Institutions Bill, 2012 to empower micro finance entities to address the vulnerabilities of climate change. It's recommended that such entities should promote financial services tailor made to deal with climate change and to develop products and services that support disaster victims. The reserve bank of India (RBI) that regulates these micro finance institutions should oversee these amendments to the aforementioned MFI Bill, 2012.

5. Limitations of the National Land Utilization Policy

This research project analyzed the National Land Utilization policy to suggest appropriate changes. The analysis revealed a complete absence of climate change from mitigation of impacts and developmental planning. Other shortcomings of NLUP include lack of provisions for emergency response and recovery services along with temporary livelihoods for disaster victims.

6. Contributions to the Global Assessment Report 2015

As part of the *Getting Climate Smart for Disasters* project, AIDMI submitted a case study on risk transfer through micro-insurance for the poor and vulnerable population to the Global Assessment Report. This case study was based on the evidence gathered from disaster insured areas affected by 2013 Cyclone Phailin.

7. Championing of Disaster Micro-Insurance for Climate Resilience

An important activity undertaken by this research project was the fervent advocacy of microinsurance as an effective means of achieving climate resilience. At an expert meeting organized by United Nations Framework Convention on Climate Change (UNFCCC) 2012, ICSD and AIDMI encouraged policy makers at the regional level to promote and strengthen disaster insurance as an approach to address loss and damage associated with the adverse impacts of climate change.

8. Organizational Level implementation of CSDRM Approach

This research project saw the implementation of the CSDRM approach at the organizational level. The organization that adopted the CSDRM approach was the SWAD.

9. Advocating Climate Resilience for Children

An important recommendation of this research project is safeguarding children against the adverse impacts of climate change. Consequently, at the National Platform for Disaster Risk Reduction (NPDRR) the priority areas of action for building up the resilience of children to the impacts of climate change were discussed and deliberated upon.

10. Promoting South-South Cooperation for Climate Change Adaptation

In its position as a Centre of Excellence for South-South Citizenry Based Development Sub-Academies, AIDMI leveraged the findings of this project to advocate for greater South-South Cooperation in integrating CCA with DRR.

This research project has been completed very recently and its findings and recommendations have been disseminated. It is hoped that the findings and recommendations of this project will help in exploring the constraints and possibilities of the convergence of CCA and DRR for institutions of varying sizes at the state, national, regional and organizational level so as to meet the challenges of development, poverty alleviation and vulnerability reduction. Through this project, AIDMI has tried to carry out the mandate of the HFA 2 process aimed at integrating CCA with DRR. ■

– Khyati Halani

Cyclone Phailin Mitigation

Cyclone Phailin affected eight million people in the state of Odisha. However, with the accurate and timely action from government, local administration and various humanitarian agencies the death toll had been reduced and immediate relief and reconstruction work had been provided. Margareta Wahlstrom, a special representative of the UN Secretary General for Disaster Risk Reduction, presented a citation to Chief Minister Naveen Patnaik appreciating his government's efforts. UN would highlight Odisha's model in the international conference on disaster management in 2015. The table shows brief actions taken Government of Odisha, DEC and IFRC during and after cyclone Phailin strike.

Actors	OCHA's three pillar of strategic framework		
	Partnerships	**Service Provider**	**Reliability and Professionalism**
1 Government of Odisha[1,2]	• Collectors of the 14 districts in Odisha Alerted by Special Relief Commissioner • Under World Bank National Cyclone Risk Mitigation project- Cyclone shelter, mock drill • Coordination with Indian Army, Navy, Air force, NDRF, Donors, Local level organisations, Volunteers	• Better coordination among government officials- 1,073 relief camps opened • 873,000 people were escorted, Food and relief materials were stocked-up at shelters across the state • Different means of communication were exercised to reach out to large masses • Enabling environment for donors & DEC in relief work	• Meteorological forecasts were studied. Proper Communication strategy adopted • Right areas identified by local administration, People evacuated from homes to cyclone shelters work • Micro planning is done to evacuate masses and need assessments carried out in advance to carry out relief work
2 DEC (Disasters Emergency Committee)[3]	• British Red Cross, CAFOD, Chirstian Aid, Oxfam, World Vision jointly responded Phailin	• Active role in building cyclone shelters, evacuation of masses • Realised the need of ensuring water and sanitation, household requirements after Phailin	• Raised and allocated fund via different sources which was timely and effective
3 IFRC (International Federation of Red Cross and Red Crescent Societies)[4]	• Supports IRSC to respond and mitigate phailin risks. • Emergency Control Room Setup at National level • Carried out joint field assessment • Preparatory meeting and coordination with State Disaster Response Team (SDRT), District Disaster • Response Team (DDRT), and First Medical Responders (FMR)	• Water treatment units despatched to Odisha • Odisha state branch control room set up • 75 Red cross community cyclone centres opened up	• Train volunteers by IRSC helped in evacuation, relief, need assessment during Phailin strike • Clearly defined role of each partners and volunteers with increased accountability

1 http://in.news.yahoo.com/the-great-escape-103506320.html?page=all
2 UNEP Global Environmental Alert Services, Nov 2013
3 http://www.dec.org.uk/blog/india-cyclone-phailin
4 Disaster Response Emergency Fund(DREF) : Cyclone Phailine, 14 October 2013

– Gautam Bhut

Margareta Wahlstrom in India

Local leaders pinpoint key to early warning success

The Mayor of Berhampur, Ms. K. Madhavi receives a certificate of recognition from Ms. Margareta Wahlström, UNISDR.

Cyclone evacuation to become a global example

on'able Chief Minister of Odisha, Shri Naveen Patnaik receives the citation recognizing Odisha's effective cyclone preparedness from Ms. Margareta Wahlström, UNISDR.

Women felicitate ISDR

Margareta Wahlström from UNISDR met the local community of Puri district, Odisha in coastal India to understand their experience with risk transfer post cyclone Phailin and stressed to build further financial products and services for poor and vulnerable communities against extreme events.

ISDR explores women's leadership in disaster risk reduction

The women of Odisha, recovering from cyclone Phailin, presented a traditional *patachitra* (handmade art depicting joyous celebration) to Margareta Wahlström, UNISDR to thank the successful evacuation and early warning before the cyclone.

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Editorial Advisors:

Anshuman Saikia
Regional Programme Support Coordinator
ARO, IUCN (International Union for Conservation of Nature), Thailand

Denis Nkala
Regional Coordinator, South-South Cooperation and Country Support (Asia-Pacific), United Nations Development Programme, New York

Ian Davis
Visiting Professor in Disaster Risk Management in Copenhagen, Lund, Kyoto and Oxford Brookes Universities, UK

Madhavi Malalgoda Ariyabandu
International Strategy for Risk Reduction (ISDR) – South Asia, Sri Lanka

Mihir R. Bhatt
All India Disaster Mitigation Institute, India

Dr. Satchit Balsari, MD, MPH
The University Hospital of Columbia and Cornell, New York, USA

T. Nanda Kumar
Chairman, National Dairy Development Board (NDDB), Anand, Gujarat, India

ALL INDIA DISASTER MITIGATION INSTITUTE

411 Sakar Five, Near Natraj Cinema, Ashram Road, Ahmedabad–380 009 India. Tele/Fax: +91-79-2658 2962
E-mail: bestteam@aidmi.org, Website: http://www.aidmi.org, www.southasiadisasters.net