

Disaster Risk Management in a Changing Climate

Discussion Paper

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A contribution to the World Conference on Disaster Reduction in Kobe, Japan
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We must address some key barriers and challenges to integrate DRM and CCA.

Barriers to integrate DRM and CCAD.

1. Diverse institutional structures
2. Restricted financial frameworks.
3. Short term thinking.
4. Access to relevant information.

Challenges to integration.

1. Elevating the priority of DRM and understanding its sense of urgency
2. Improving communication between all actors and providing effective systems to convey information.
3. Sharing experiences, tools and information.
4. Developing a programmatic approach to coordinate and align strategies, actions and financial resources .

Structural barriers can be overcome...

Diverse Institutional structures.

- ❑ The institutional arrangements in which climate change, development and disaster risk management experts operate are usually different, have different orientation and priorities and use different strategies.
- ❑ Institutions responsible for disaster management, climate change and development initiatives have been designed to respond to different needs and to respond to different constituencies. Thus the difficulty in coordinating agendas and strategies.
- ❑ Some of these institutions lack authority to implement policy decisions in areas other than their specific responsibility.

Structural barriers can be overcome...

Where are experts typically affiliated?

- ❑ Disaster management experts are typically institutionally affiliated to national civil defense offices designed to protect the inhabitants of a country. These civil defense or civil protection institutions are in turn sub-units of larger bureaucratic structures.
- ❑ Climate change experts are usually institutionally affiliated to national resource conservation and energy institutions and to academic research centers.
- ❑ Development experts are members of usually larger national institutions (Ministries of social development) mainly designed to eradicate poverty.

Structural barriers can be overcome...

Structural barriers at the international level.

- ❑ The UNFCCC negotiations need to increase its focus on climate change adaptation.
- ❑ Adaptation issues are largely attended to by the same ministerial delegates, who dealt with mitigation issues.
- ❑ Policies and measures concerned with disaster management, climate change and sustainable development are dealt with in different international political frameworks for a which are not coordinated nationally and internationally.
- ❑ Thus, there is limited synergy on response and minimal exchange of information.

Financial resources operate according to different rationale

Restricted financial frameworks.

- ❑ Although many disaster management institutions have adopted a preventive approach to manage the risk of disasters some institutions have still their financial resources legally restricted and are bound to be used only to finance relief efforts.
- ❑ Many national institutions dealing with disaster response can't **divert funds earmarked** for disaster management to finance preventive initiatives.

We must find a balance on financial resource allocation.

Balancing resource allocation

- ❑ There is an imbalance in the level of funding spent on natural disaster relief and reconstruction in comparison to what is spent on disaster prevention.
- ❑ UNESCO suggests that for every \$100 spent by the international community on risks and disasters, \$96 go to emergency relief and reconstruction, and only \$4 on prevention
- ❑ It is paramount to provide incentives for integrating risk reduction measures can be strengthened within the development context, given that the reduction of risk would benefit the sustainable achievement of development objectives.

Present decisions might affect the future well being of society

Short term thinking

- ❑ Often risks to investments are not considered for the full life-time of the project, discounting the impacts of climate change.
- ❑ DRM and Climate change adaptation criteria must be included in the Life Cycle Assessment of a project to make sure that future impacts are taking into consideration.

Information is a key ingredient for successful disasters risk management

Information for prevention ?

- ❑ Accounting for climate risks within the development context is often hampered by lack of information, lack of information dissemination and implementation of appropriate response structures.
- ❑ It is paramount that information is efficiently collected, and user-friendly systems to access and disseminate information are put in place.
- ❑ The main challenge lies in appropriately accessing and communicating information⁽¹⁾,
- ❑ It is important to recognize both local and traditional knowledge and knowledge networks.
- ❑ Communicating available information is an important challenge. We need to communicate information clearly and show its usefulness so people can make better informed decisions.

(1) Forecasting information needs to be provided in a format that is useful to vulnerable groups, e.g. farmers.

We need to create systems to access and disseminate information.

Sharing information represents a great challenge.

- ❑ Information concerned with disaster risk management and adaptation to climate change is inherently complex,
- ❑ Such information must describe the biophysical characteristics of the disaster, and
- ❑ Also provide environmental and socioeconomic information of underlying risk factors.
- ❑ Thus, it is necessary to have the commitment of climate change, disaster risk management and development experts to share their information, make it accessible to society, communicate it effectively and use it.

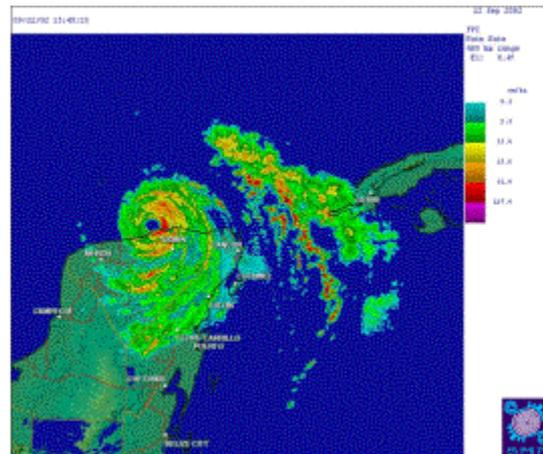
How do decision makers face the barriers and challenges to integrate DRM and CCA ?

How do decision makers face existing barriers and challenges to integrate DRM and CCA ?

**The case of the
Isidore Hurricane in Mexico.**

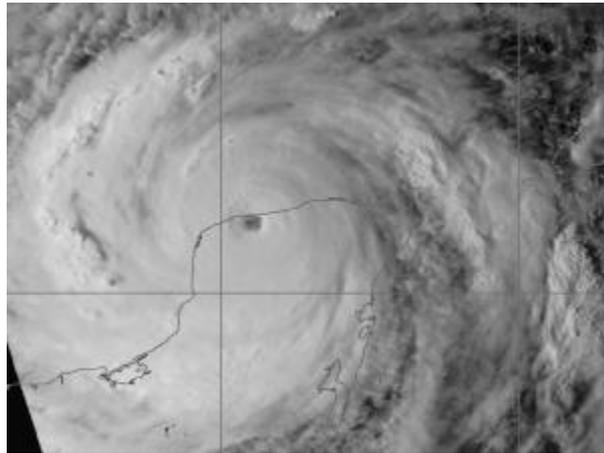
Isidore reached the Island of Can Cun on 20th September 2002.

- Isidore reached category II of the scale Saffir-Simpson, 120 km North of the – East of Catoche Cape, QR., with winds of 185 km/h, some up to 220 km/h.



Isidore lasted 288 hrs passed through 3,490 Kms. and reached speeds of 250kM/h.

- ❑ “Isidore” impacted land on Port Telchac, approximately 45 km East of Progreso Port, Yuc. in Category III of the scale Saffir-Simpson with maximum sustained winds of 205 km/h and even 250 km/h. .



The impact Of. Isidore was disastrous

Isidore's toll

- ❑ 500,000 people directly affected and many casualties.
- ❑ Economic damages were calculated at 1,000 Million dollars.
- ❑ At least 100,000 families lost their homes, and jobs and the productivity of their ecosystems was severely affected.
- ❑ The environment was severely degraded.

(1) After Isidore ended people invaded near by forests to search for building materials creating great deforestation in an already damaged Region.

Were we prepared to face Isidore?

Mexico's approach to disaster management.

- ❑ National Economic Development Plan (NEDP).
 - ❑ Sustainable Development “key philosophy.”
 - ❑ Preventive approach to natural disasters.
- ❑ Institutional arrangements.
 - ❑ Ministry of Interior, SEMARNAT, Universities and research centers.
 - ❑ FONDEN.
- ❑ Clear understanding of link between CCA and DRM.
 - ❑ After Hurricane Paulina attention was given to climatic information.
- ❑ Some relevant information existed.

Mind set in Mexico before Isidore?

Questions to be asked.

- Is climate change taking place in the Yucatan Peninsula?
- Have people been forced to adapt to a new climate?
- What is the likely physical framework to which societies and economic sectors have to adapt?
- What can be said about the likely direction of climatic change (qualitatively and quantitatively)?
- For which regions is there a fairly established understanding of climatic changes (which parameters)?
- For which regions is the direction of climate change highly uncertain?
- How do projected climatic impacts compare with existing environmental vulnerabilities in Yucatan?

Mind set in Mexico before Isidore?

Questions.

- **What tools are available that establish a spatial and temporal understanding of climatic risks?**
- **What are the existing forecasting capabilities? For which regions are these reliable?**
- **Communication: How can scientific information be disseminated so that stakeholders are empowered to address climate risks? What are the tools needed by development planners? Do current scientific tools reflect these needs?**

What did we learn?

Lessons learned from Isidore.

- There was no preventive risk management strategy in place.
- Some information on climate change existed.....but was not properly communicated to decision makers and no effort was made to put it into action.
- The experience and information gained by Mexico after other similar meteorological events (Paulina, Gilbert,) was not used by development planners and/or disaster risk managers to reduce the vulnerability of Yucatan.
- Competing agendas. We were unable to coordinate institutional agendas.
- Preventive efforts received little support within the political environment.

What did we learn?

Lessons learned.

- ❑ There is a clear link between DRM, CCA and development.
- ❑ The demand for bringing together disaster prevention and adaptation to climate change was not supported by the institutional set-up. In fact, institutional fragmentation was encouraged.
- ❑ We were unable to use our own resources and apply our strategic approach.
- ❑ There was lack of leadership. Who was the champion of the cause?

Summarizing: It is time to coordinate all efforts to diminish the impact of natural disasters and climate change!!

Main Conclusions

- 1) **Integrative approach.** Given the influence of development processes on vulnerabilities to current natural hazards and climate change, it is paramount that risk management takes place within the development context.
- 2) **Significant benefits.** There will be significant benefits by coordinating the strategies and exchanging information, methodologies and tools between all experts and institutions working on disaster risk management. Particularly the information generated by climate change, disaster managers and development experts.
- 3) **Convergence of approach.** The converging focus of disaster risk management and climate change adaptation on addressing underlying vulnerabilities provides a significant opportunity for collaboration.

Summarizing: It is time to coordinate all efforts to diminish the impact of natural disasters!!

.....**Conclusions.**

- 4) **Pragmatic approach.** Climate change can benefit from the practical experience of disaster risk management. However, some effects on climate change are new and there is little experience in dealing with them. Thus the importance of coordination to address current and future challenges becomes more urgent.
- 5) **Non-regret policy approach.** Although there is still uncertainty on climate change we need to act with existing information and profit from positive past experiences such as the adoption of the Precautionary Approach to Environmental management.
- 6) **Existing experience.** There are some successful experiences in integrating DRM, CCA and development. Yet they are not systematic. We need more of them.

Summarizing: It is time to coordinate all efforts to diminish the impact of natural disasters!!

....Conclusions

- 7) **Addressing barriers and challenges.** To promote the integrated approach to DRM and CCA it is necessary to:
- ❑ identify and appreciate the information, experience and methodologies that disaster risk, climate change and development experts can provide and design a system to share such experience and knowledge.
 - ❑ overcome some institutional barrier (structural, managerial, information, financial) to facilitate the integration of experience, information and knowledge of development, climate change and disaster risk management experts.
- 8) **Leadership.** We must develop the leaders that will promote the proposed integrated approach.

Where do we go from here?

MOVING FORWARD...

- ❑ **Developing a Programmatic approach.** We need a programmatic risk management approach, to coordinate initiatives, actions, existing expertise and financial resources of disaster risks, climate change and other environmental hazards within the development context.
- ❑ **Improving communication.** It is of paramount importance to improve existing channels of communication between all experts dealing with DRM, CCA and development and finding ways to communicate more effectively.
- ❑ **Improving the institutional framework.** It is time for a radical assessment and improvement of institutional arrangements which today deal with disaster risk management and climate change.
- ❑ **Financing preventive measures.** Financial resources should become available for preventive efforts to reduce vulnerability.

Moving forward.....

- ❑ **Sharing information.** We need to improve existing systems to share and access information and commit ourselves to exchanging all relevant information when needed.
- ❑ **Developing competences.** Experts working on DRM, CCA and development require similar competences, tools and information. It is necessary to develop a comprehensive approach to capacity building for DRM, CCA, and development experts.

An opportunity to make the difference

There is no time to lose!!!!. We must act now in a coordinated manner to diminish the potential impact of natural disasters.

The World Conference on Disaster Risk represents a unique opportunity to adopt and endorse this integrative approach to DXRM and CCA.