

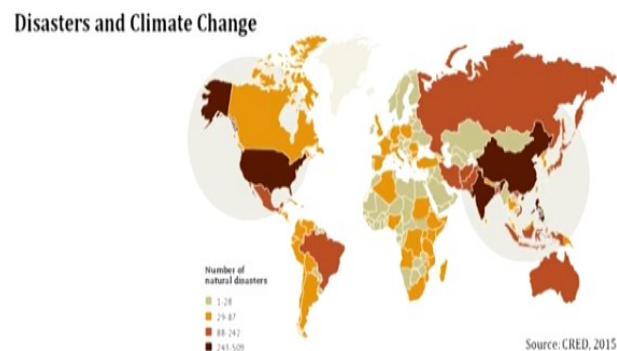
**Disaster Recovery and Build Back Better**  
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**Lecture – 06**  
**Culture, Climate Change Adaptation and Disaster Risk Reduction**

Welcome to the course disaster recovery and build back better, today we are going to talk about culture, climate change adaptation and disaster risk reduction. And we see about the relationship between disasters and climate change. Much of the scientific literature often does not relate that these two are interrelated because disasters they often triggered with an event, but whereas the climate change, it has a long-run mechanism into it.

And it has the impact is more from a long-run instances like when you see about the recent phenomenon, the recent concerns they are relating that the climate change is, directly and indirectly, related to the disaster risk. So let us see how the discussion is going on.

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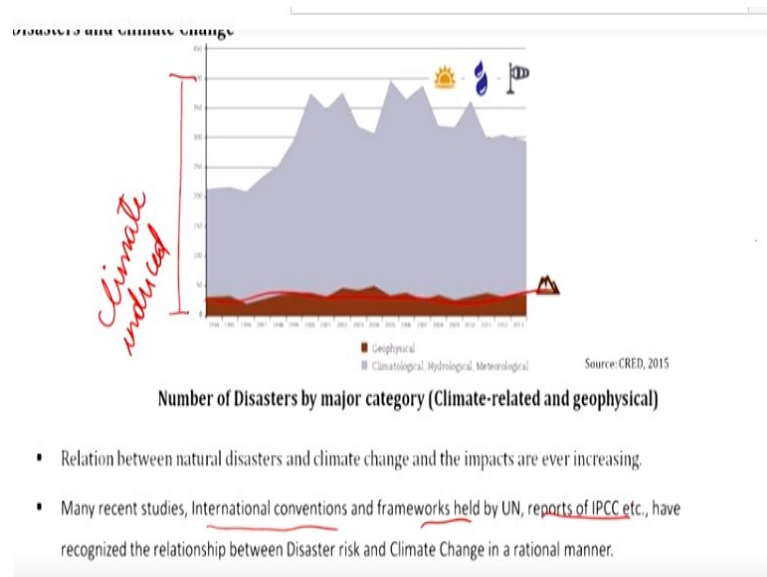
**Number of Disasters per country (1994-2013)**

- EM-DAT recorded nearly 240 climate-related disasters per year before 2000, compared to 341 per year after that date, a **44% increase**.
- This increase in disaster frequency was largely due to a sustained rise in the number of climate-related disasters such as storms and floods.

When we say about from the CRED report 2015, this is what the map you get the EM-DAT has recorded about 240 climate-related disasters per year before 2000. When compared to the 341 per year so that there is a 44% of increase and if you look at it when we see the number of natural disasters here, mostly in the Chinese you can see that China, India, Mexico the later on you can find part of Russian and African continents.

And also the northern part of the Canadian aspect. So you can see that these are the number of disasters and how they are very much prone.

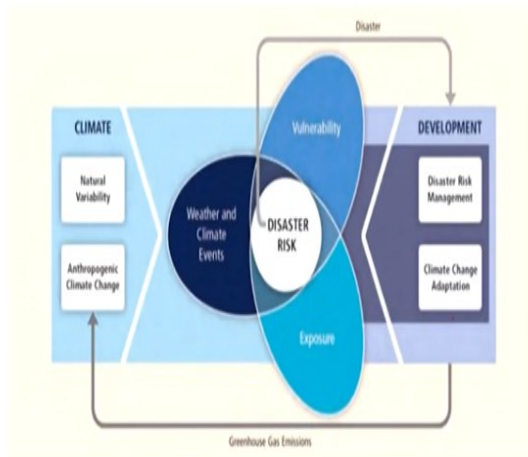
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If you look at the classification of the disasters, It is just a geophysical disaster which we are talking about the earthquake or the tsunami or these are most of the landslides which are more related to the geophysical aspects of it, and they are very less. But whereas here it is going almost these are climatically whether it is a hydrological or meteorological aspects so this is where the climate-induced. So there have been various studies which actually address that climate-induced disaster is on higher end.

And there is a need that we need to integrate that climate change and the disaster risk and how we have to work in hand-in-hand to work with it. And that is where like many of the international conventions, frameworks held by United Nations, IPCC the Intergovernmental Panel on climate change have recognized that there is a relationship between disaster risk and climate change in a rational manner.

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Linking CCA and DRR is one of the crucial steps to achieve sustainable development in the near future. Explaining

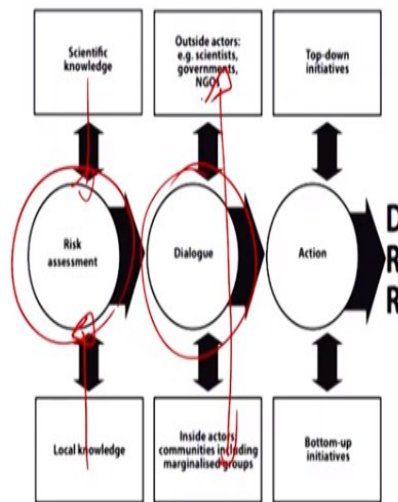
Similarly, the conceptual approach of the SREX report, where SREX which talks about putting the disaster risk in the center, and how the settlements are exposed and vulnerability component and also the long-run weather and climatic events put these settlements into vulnerable conditions, and how they are exposed, and on one side we have these greenhouse gas emissions which are on the continuous concerns.

And which is actually causing the anthropogenic climate change and also the natural variability. So which is subjected to the disaster risk and this is where the disaster and the development and this where they are interrelated, you know from Frederick Connie when he talks about the disasters and development are interrelated with each other, and that is where the development within which the disaster risk management and the climate change adaptation, how they can actually contributed to the disaster risk you know this is what the whole understanding. And the main important point here is linking the CCA climate change adaptation, and the disaster risk reduction is one of the important crucial steps to achieve the sustainable development.

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## Disaster Risk Reduction

- Concept and practice of reducing disaster risks through systematic efforts to analyse and manage the causal factors of disasters.



So this is one of the important indication that we need to integrate these two components. Disaster risk reduction and how it has been conceptualized when we have the concept and practice of reducing disaster risks through a systematic efforts to analyse and manage the casual factors of disasters. The first stage which talks about the risk assessment where the scientific knowledge also contributes in analysing the risk, and also the local knowledge also contributes in understanding the risk.

Whereas a dialogue when we talk about the communication part of it read inside actors outside actors actually they interface with each other, so that is where the NGOs the governments, the scientific community the policymakers and also the victims, the beneficiaries you know who are the inside actors the communities and the marginalized groups.

And then coming to the action which is again there should be an interface between the top-down initiatives on the bottom-up initiatives and how there is actually in holistically they contribute to the DRR (disaster risk reduction), so there have been a jargon in these terminologies of disaster risk reduction, disaster risk management.

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Begum et al. [2014] categorises two main components of Disaster Risk Management (DRM)

1. Disaster Risk Reduction (DRR)

2. Disaster Management (DM).

DRR is the concept and practice of reducing disaster risks through systematic efforts to analyze and manage the causal factors of disasters.

Disaster Management follows four different phases including mitigation, preparation, response and recovery. However, Disaster Risk Management (DRM) goes beyond DRR by adding a management perspective that involves prevention, mitigation and preparedness with response.

So Begum categorizes this into two main components one is DRM disaster risk management and within which the disaster risk reduction is one of the component, and the disaster management is another component. The DRR is a concept and practice of reducing disaster risks through a systematic efforts to analyse and manage the casual factors of disasters. Whereas the disaster management follows four different phases.

It talks about mitigation, preparedness, response, and recovery. So it goes that this DRM goes beyond the DRR by adding a management perspective which involves prevention, mitigation, preparedness, and with response. So this is how it has been understood by I mean different experts. For instance in India when we talk about climate change adaptation, there are national action plan on climate change which is from the Prime Ministers Council on climate change.

They are talking about Government of India have established the different national missions like for instance these eight national missions which talks about the solar mission, enhanced energy efficiency, sustainable habitat, water mission, national mission on sustaining Himalayan ecosystems, national mission on green India, sustainable agriculture and strategic knowledge for climate change.

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NAPCC [16] document the focus is on eight national missions i.e.

National Solar Mission;

National Mission on Enhanced Energy Efficiency;

National Mission on Sustainable Habitat;

National Water Mission;

National Mission on Sustaining Himalayan Eco system;

National Mission for Green India;

National Mission for Sustainable Agriculture;

National Mission on Strategic Knowledge for Climate Change.



So these are different missions which were established by the Government of India and in order to address the sustainable development goals and as well as the climate change on the green aspects of it.

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Hyogo Framework for action 2005-2015 and the ongoing climate change negotiations (for eg. [13]) have led to a growing consensus amongst the policy makers, politicians and practice, towards a need for great attention to integrate DRR and CCA agendas both conceptually and as well as in practice at regional, sub-national, national and international levels.

UNISDR [19] recommends a functional linking of DRR and CCA within the context of poverty reduction.

And in fact, the Hyogo framework for action which talks about for the ongoing climate change negotiations have also led to the growing consensus among the policymakers, politicians and practice that there is a great need to integrate DRR and CCA. Not only by conceptually but in terms of practice both regional level, sub-national level, national, and international level.

And UNISDR also recommends the functional linking of DRR and CCA Within the context of poverty reduction because we are ignoring that poverty has to because there is a bottom level situations how we can actually communicate to them, how we can increase, how can address this poverty groups, who are the marginalized groups who are often affected by the disasters. And who have a bigger impact on these climate change impacts.

We mentioned about these eight missions, but the important thing one we have to do is every mission is have their own objectives, every mission has their own action plans, every mission has set up to deliver certain things. But unfortunately they are all talking about habitat and Eco-sensitive habitats and how they are interrelating how these different missions are interrelated to each other, how they are coordinating with each other, how they are cooperating with each other. This is one thing which we have to understand, and this is a very little focus in on disaster risk reduction. Because their each mission is focused on the green emissions, on climate change, in but how they are able to see the disaster risk reduction as one of the integral component within it.

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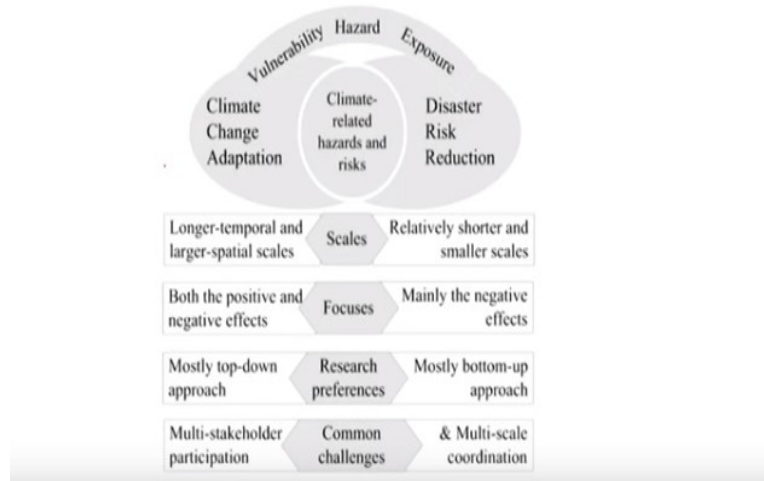
However, there is little focus on Disaster Risk Reduction and how we can integrate the DRR with these different missions within NAPCC.

Although, the action plan is an important tool, how these different missions can be coordinated with each other within which very limited indicators for DRR, that are to be integrated with CCA are not well laid so far.

So this particular aspect has not been laid so far.

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## Differences and Challenges for Integrating DRR and CCA



And before getting into any further discussion, I think we need to understand what are the major differences and challenges for integrating DRR and CCA. So one is you have John Berkman, and many other authors have listed out these are the fundamental differences and similarities you know how they are they have these challenges bringing them together.

One is the scales, because they two talk about different scales. The CCA talks about the more longer and temporal and larger spatial scales. Whereas disaster it talks more on the shorter and smaller scales you know it triggers by the event and it talks about the both positive and negative effects and whereas here the disaster is mostly focus on the negative impacts. The research preferences it is mostly on the top-down approach, but these are the preferences which mostly on the bottom-up approach.

Whereas the common challenges which has a multi-stakeholder participation and multi-scale coordination.

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