

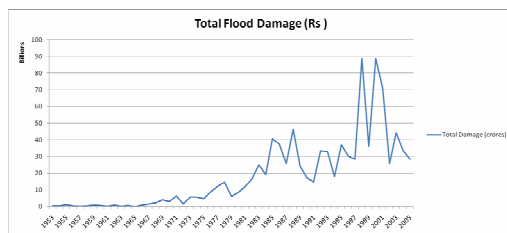
## Financing Disaster Management in India: Possible Solutions Javed Hazarika



## India's Vulnerability

- About 60% of total area prone to earthquakes
- 68% prone to droughts
- 12% vulnerable to floods
- 8.5% of the total landmass prone to cyclones
- Affiliated disasters like landslides, soil erosion, etc
- The challenge of terrorism and climate change

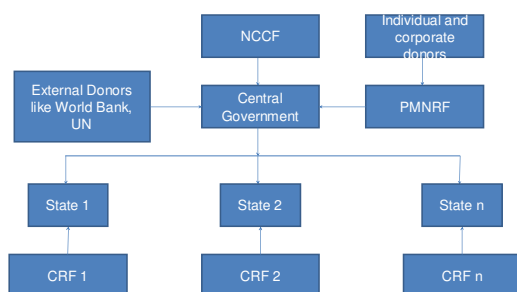
## India's Flood Losses



## Transition to current DM framework

1990	NFC recommended the creation of a state CRF
2000	The NCFR was discontinued and NCCF was created
2002	Mandate of DM transferred from Ministry of Agriculture to Home.
2003	NIDM started in 2003 for research, policy advocacy
2005	DM Act 2005 is passed and NDMA, SDMA's created.
2005	12 FC recommends CRF/NCCF to be continued and creation of NCCM to monitor calamities.

## Current funding arrangements



## Drawbacks in the current mechanisms

- Dependency on other multilateral organizations for high end losses
- Uncertainty in the losses and availability of funds
- Time gap between the relief fund application and relief
- Excess relief funds cannot be used for mitigation
- Negligible domestic catastrophe insurance market

## Slide 2

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**c1** Highlight the fact that a large part of population and infrastructures are exposed to major risks.

Review your last bullet, use more formal sentence.

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## Slide 4

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**c4** Will you describe/read this slide?  
Or just say there was an evolution?

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## Slide 5

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**c5** What is the idea you want to highlight here?  
Beside the different funds.

Actually what are the main points from the paper you want to draw people's attention to?

How are they presented in your ppt?

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**c6** What is your transition to the next slide?  
How about adding one slide to illustrate the transition?

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**Alternate options**

- Pooling
- Commercial insurance and reinsurance
- Capital markets
- Bank based solutions

**Pooling**

- Pooling among Countries
  - CCRIF
  - Earthquake and Hurricane are Covered
  - Countries pay premiums according to their risk profile
  - Index based payouts
    - Magnitude for EQ
    - Category of Hurricane
- Pooling within states
  - Diverse across geography and Catastrophes

**Commercial insurance and reinsurance**

- Government can
  - insure its funds
  - insure its public infrastructure
- Ethiopia
  - Index-based insurance
  - Contract designed by AXA Re
  - Premium paid by WFP
- Facilitate growth of private insurance market

**Capital markets**

- There are many instruments linking catastrophes to capital markets e.g. cat bond, ILW
- Cat bond is linked to a catastrophe
- The issuer does not pay the principal or interest to the investors if a catastrophe occurs.
- The FONDEN in Mexico.
  - Mexico issued a cat bond in 2006
  - It covered earthquake risk
  - Renewed in October 2009

**Catastrophe bond**

The diagram illustrates the flow of funds in a catastrophe bond structure. Reinsured pays a premium (1) to the SPV. The SPV issues notes (2) to investors and receives cash proceeds. The SPV invests these proceeds (3) in investments, which provide principal and interest (2) back to investors. The SPV also enters into a swap agreement with a swap counterparty (4), receiving investment earnings and paying scheduled interest. In the event of a catastrophe, the SPV makes a contingent claim payment to the reinsured and receives investment earnings from the swap counterparty.

Source: Swiss Re Capital Markets

1. Reinsured enters into a contract with SPV
2. SPV hedges the risks by issuing notes in capital market
3. Cash from selling notes is invested in high end securities
4. Investment returns can be swapped by a counterparty

**Bank based solutions**

The diagram shows two paths for bank based solutions. On the left, an agreement with a credit agency leads to a catastrophe event, which results in contingent credit. On the right, credit linked with some external insurance leads to a catastrophe event, which results in waiving off of the credit.

## Slide 7

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- c8** Swap with previous slide.  
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## Slide 8

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- c9** Add on example beside the graph.  
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- c10** Highlight why it is not sufficient.  
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## Slide 9

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- c11** Add Example.
- Highlight limitations  
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## Slide 10

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- c12** Describe these solutions simply. (if possible!?)
- Add pros and cons of these solution.
- Show the solutions add to each other.  
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## Slide 12

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- c13** What is your comment coming w/ this slide.  
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## Domestic insurance market

- Advantages
  - Less burden on government budget
  - Insurer can manage risks better
  - Payouts will be certain and timely
  - It could be easy to enforce building standards and other safety norms
- Requirements
  - PP partnership is necessary for the growth of domestic insurance market
  - Create feasible environment for growth of insurance industry
  - Promotion through premium subsidies

Good practices : Insuring private assets

Country	USA	USA	Japan	Turkey
Risk(s) covered	Flood	Hurricanes	Earthquake	Earthquake
Name of the scheme	NFIP, USA	FHCF, USA	JER	TCIP, Turkey
Started	1968	1994	1966	2000
Compulsory/ Voluntary	Voluntary	Voluntary	Voluntary	Compulsory
Type of Scheme	Indemnity insurance	Index insurance	Indemnity insurance	Indemnity insurance
Differential premium	Yes	Yes	Yes	Yes
Subsidized?	Only for buildings constructed before NFIP	No	No	No
Risk borne by	Government	Government, Reinsurer	Government, Insurers, JERC	Government, Insurer

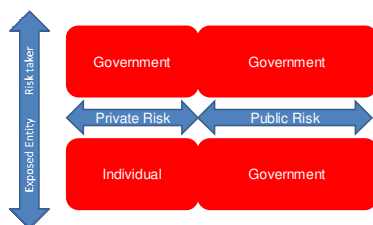
## Challenges for domestic insurance market

- **Legal hassles (for private ins)**
  - FDI can be only 26%
  - Current banking regulations not attractive to deliver loan-waiver schemes
- **Supply and demand problems**
  - Poor financial and importantly insurance literacy among the masses
  - Distribution to the people remains as a challenge.
    - Micro finance and micro insurance have struggled in delivering low-cost risk mitigation instruments to the poor
  - Insurance industry at a nascent stage
    - disaster and property data availability

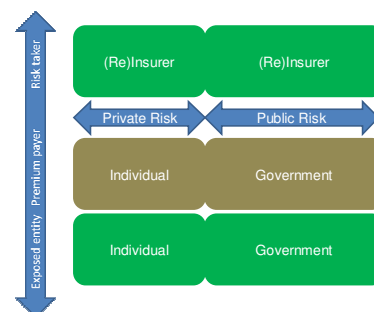
## The way forward

- Need to focus more on ex-ante strategies
- Needs to insure government funds and public assets
- Encourage domestic catastrophe insurance market
- Need a public disaster database for efficient catastrophe modeling
- Facilitate the growth of capital markets

## Current Scenario



## Ideal Scenario



## Slide 14

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**c15** Highlight main feature of each programm, a bit hard to read

Same for next slide

Maybe get back to this slide if necessary when talking about solutions.

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## Slide 15

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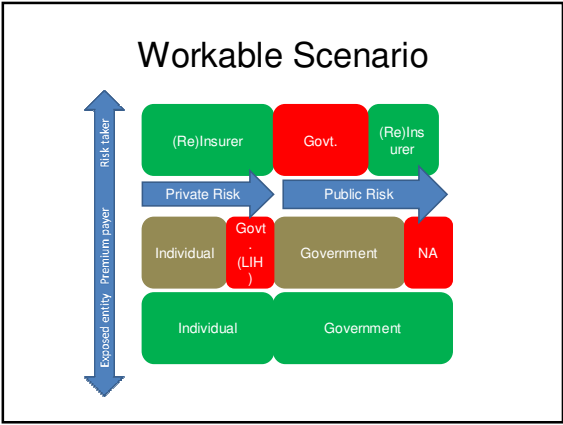
**c17** Split in two paragraphs:

Legal framework limitation

Distribution/Demand issue

Anything else in the challenges/barriers?

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Thank you for your attention!

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[www.ifmr.ac.in/cirm](http://www.ifmr.ac.in/cirm)