Strengthening Resilience in a Changing Risk Landscape

The Second Arab Conference on Disaster Risk Reduction

15 September 2014

UNISDR
The United Nations Office for Disaster Risk Reduction
Gradual progress across all Priorities for Action......

but increasing physical damage and economic loss
Reduced mortality risk, rising economic loss risk

Cyclone mortality risk and economic loss risk
Globalising disaster risks

Produced capital stock in Southeast Asia and cyclone wind hazard (50 years return period)
Disproportionate impacts on low income countries

For a similar number of people exposed to the same intensity of cyclone 17 people would die in Philippines for 1 person in Japan.
Lost public investment

Losses in 21 countries in Africa, Asia and Latin America from 1989-2011
Invisible risks – more than 90% weather-related

Proportion of infrastructure damaged in extensive disasters in 56 countries and 2 Indian states, between 1970 and 2011
Escalating losses

Total economic losses (1981 – 2011) in million US$ for selected countries
Disasters in the Arab Region

- **Economic damage, 1980 – 2014 (EM-DAT):**
  - USD 11.4 billion from hydro-meteorological events
  - USD 12.8 billion from geophysical events
- **Population affected, 1980 – 2014:**
  - Almost 65 million (50 million from drought)
  - Over 183,000 killed
- **Floods:**
  - 2003 flooding in the Jordan River entire season’s crops lost
  - 2008 floods in Algeria, Morocco and Yemen displaced over 25,000 people
Apply probabilistic risk assessment to design DRR interventions

1 = high probability and low or moderate losses
2 = medium probability and moderate or high losses
3 = low probability and high losses
4 = low probability and very high losses
Earthquake Losses - with 250 years return period (USD)

- United Arab Emirates: 14 billion
- Algeria: 9 billion
- Lebanon: 5 billion

Preliminary results (forthcoming GAR 15 global risk assessment)
The resilience challenge

The risk financing gap in Honduras
Hidden risks.....revealed?

- Disaster risk is a feature of the contemporary economic landscape largely through investment decisions.
- 70 - 85 percent of total investment is made by the private sector.
- Disaster risk is determined by these investments and the degree to which disaster risk is internalized in the capital stock or assets produced.
- These investments have largely increased disaster risk.
- As a consequence, the wealth of countries has repeatedly been eroded by disasters.
- This affects the competitiveness and sustainability of economies.
Simulation of economic growth and cyclone exposure
The European Commission Environment for Science newsletter summarized the report findings as follows:

“Droughts and floods can significantly damage economic growth, recent research has found. A 1% increase in the area affected by drought can slow a country's gross domestic product (GDP) growth by 2.7% per year and a 1% increase in the area experiencing extreme rainfall can reduce GDP growth by 1.8%, according to the study...”
So if countries (and businesses) can:

1. **Accurately identify and measure** contemporary patterns and trends in disaster risk at the national, sub-national and sectoral levels

2. **Increase** our understanding of the **causal factors of risk** and of it’s **consequences** for human and economic development

3. **Assess the progress** being made towards achieving the HFA

National and sub-national institutions can:

4. **Propose policy initiatives** to address gaps and challenges, and promote risk-sensitive public and private **investment**
Pivotal DRM Responsibility for Finance Ministries

• Ensure the *optimal allocation of resources for DRM*
  – Including assessing *cost-effectiveness of major public financial investments in DRR*

• Address *financial vulnerabilities within the economy*

• Ensure proper *fiscal management of disaster risks*

• Establish *clear rules for post-disaster financial compensation*

• Ensure the *soundness and resilience of the financial sector with respect to disaster risks*

OECD 2012
• Capacities for DRM often limited.
• But the skills required are similar to management of other types of high value public financial transactions.
• Many governments undertaking disaster risk financing and insurance (e.g. Colombia, Mexico, Philippines) have established links to:
  o public debt management,
  o fiscal risk management, and/or
  o asset and liability management
• As they also involve risk assessment, analysis of cost-risk trade-offs, and use of market-based financial instruments.
However, integration not systematic...

• 2011 – 38 percent of all countries reported systematically incorporating risk reduction into national and sector-level public investment systems (HFA Monitor).

• 2013 – 52 percent report systematic incorporation.

• 2013 – 56 percent state that costs / benefits of DRR are incorporated into public investment planning.
DRM in Policy and National Public Investment.

• India
  o Legislative and institutional arrangements require DRM to be integrated within the federal investment planning process.

• Peru and Costa Rica
  o Sophisticated methodologies and comprehensive risk analysis toolkits to serve their national systems of public investment planning.

• Mexico – FONDEN
  o Annual budget allocation (0.4% of federal budget)
  o Covers 100% of federal losses and 50% of local losses, through risk transfer and risk retention.
  o Retains the first USD 1bn in (extensive) losses
# State of Tabasco, Mexico

<table>
<thead>
<tr>
<th>Event description</th>
<th>2007</th>
<th>2010</th>
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<tbody>
<tr>
<td>Combination of Front Cold no. 4 with constant rains associated with Tropical Storm &quot;Noel&quot;</td>
<td>17</td>
<td>13</td>
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<td>Persistent rains during the months of August and September, mainly as a result of Hurricane Frank, the tropical wave 25, Tropical Depression 11-E and Tropical Storm Matthew.</td>
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<td>Number of municipalities</td>
<td>6,500 equivalent to 73% of the state network</td>
<td>1,250</td>
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<td>Km. of Roads</td>
<td>93,000</td>
<td>33,000</td>
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<tr>
<td>Agricultural hectares affected</td>
<td>123,000</td>
<td>30,000</td>
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<tr>
<td>Houses affected</td>
<td>2,820 million of dollars (9.5% GDP state)</td>
<td>569 million of dollars (1.7% GDP state)</td>
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<tr>
<td>Estimated damages and losses</td>
<td>22,700 million</td>
<td>25,520 million</td>
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<tr>
<td>State GDP</td>
<td></td>
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