Toward a Regional Approach for Disaster Risk Finance in Asia

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Asia has seen some of the deadliest and costliest disasters in history.
Disasters generate different financing needs

2011 floods in Thailand – 70% losses from manufacturing sector
2015 floods in Myanmar – 55% losses from damage to infrastructure
2005 earthquake in Pakistan – 50% losses from reconstruction of private houses
Catastrophe risk insurance markets are under-developed in Asia

Non-life Insurance Penetration as a Percentage of GDP in Asia (selected economies)

Source: Based on 2014 data from Swiss Re Sigma and 2013 and 2014 data from AXCO.
Why Disaster Risk Finance?

- Minimize social, economic, and fiscal costs
- Ensure timely and efficient use of funds post disaster
- Reduce impact of disaster on longer term development
What is Disaster Risk Finance?

Disaster Risk Finance helps arrange financing in advance so that funding is available for rapid response, recovery, and reconstruction following a disaster event.

Disaster Risk Finance can serve a number of different stakeholders.
World Bank Disaster Risk Finance (DRF) Services

- Analytical & Advisory Services
- Financial Services
- Convening Services
World Bank DRF Advisory & Analytical Services

Governments
- DRF for Rapid Response Financing
- DRF for Budget Protection
- DRF for Resilient Livelihood
- DRF for Agriculture
- DRF for Property Cat Insurance

The Poorest
- DRF Analytics for Informed Financial Decision Making

Farmers and Herders
- DRF

Homeowners and SMEs

DRF Knowledge Management and Global Partnerships
# World Bank Sovereign DRF Instruments

<table>
<thead>
<tr>
<th>Insurance-linked Securities</th>
<th>World Bank CAT Bonds</th>
<th>World Bank direct issuance of CAT Bonds</th>
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<td>CAT/Weather Derivative</td>
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<td>Insures against weather- and geological-related losses, based on an index</td>
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<td>Insurance Pools</td>
<td>CCRIF / PCRAFI</td>
<td>Establishment of regional facilities to pool risks and reduce costs to cover against natural disasters in different countries</td>
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<tr>
<td>Contingent Loans</td>
<td>Investment DDO</td>
<td>Provides immediate liquidity following a pre-defined weather trend/event</td>
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<tr>
<td></td>
<td>CAT DDO</td>
<td>Provides immediate liquidity following a natural disaster</td>
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World Bank’s DRF engagements in Asia

Vietnam
- Sovereign DRFI
- Subnational DRFI
- Public Asset Insurance

Philippines
- Sovereign and Subnational DRFI
- Contingent Financing and Risk Transfer
- Public Asset Insurance
- DRF for Scalable Social Protection

Pacific Islands
- PCRAFI Insurance Program
- Pacific Resilience Program

Lao PDR
- Sovereign DRFI

Myanmar
- Sovereign DRFI

Cambodia
- Sovereign DRFI

Indonesia
- Sovereign DRFI
- Public Asset Insurance

Pakistan
- National and Subnational DRFI
- Post-disaster Cash Transfer

India
- Agricultural Insurance

Bangladesh
- Agricultural Insurance
- Sovereign DRFI

Sri Lanka
- Sovereign DRFI
- Contingent Financing

Nepal
- Earthquake Recovery and Reconstruction

Nepal
- Earthquake Recovery and Reconstruction

Pakistan
- National and Subnational DRFI
- Post-disaster Cash Transfer

India
- Agricultural Insurance

Bangladesh
- Agricultural Insurance
- Sovereign DRFI

Sri Lanka
- Sovereign DRFI
- Contingent Financing
DRF has been on the agenda of ASEAN for several years

2011 ASEAN DRFI Regional Forum, Jakarta, Indonesia
Disaster Risk Finance in the Philippines

Explored catastrophe risk transfer embedded within WBG lending to protect against highest layers of risk

Joint Catastrophe Risk Insurance Facility for Provinces (Under preparation)

Property catastrophe risk insurance pool with private sector and WB/IFC support (under preparation)

Sovereign Risk Transfer for budget protection

Risk transfer for subnational governments

Insurance of public assets

Insurance for homeowners and small business

Contingent Financing

Reform to allow use of disaster fund for insurance premiums for line agencies

National / Local Disaster Risk Reduction and Management (DRRM) Funds

Low Frequency/High Severity

World Bank CAT DDO ($500M) and JICA SECURE ($500M exhausted) contingent credit line for immediate liquidity

High Frequency/Low Severity

Emergency Funding

Reconstruction
Southeast Asia Disaster Risk Insurance Facility (SEADRIF)
The ASEAN+3 Finance Ministers Joint Statement in Yokohama, Japan on May 5, 2017 highlighted SEADRIF as a key initiative to strengthen regional cooperation on financial resilience against climate and disaster risk.

ASEAN+3 Joint Statement (para. 18). “[…] the initiative by Cambodia, Lao PDR and Myanmar to create the Southeast Asia Disaster Risk Insurance Facility (SEADRIF), with initial financial support from Japan, is key to establishing a regional catastrophic risk pool. We also welcomed the agreement of Cambodia, Lao PDR, Myanmar, and Japan to jointly conduct the feasibility study and the preparation for the establishment of the SEADRIF, with technical support from the World Bank. We invite other ASEAN+3 countries to join, and donor partners to support, this initiative.”
Cambodia, Lao PDR, Myanmar, and Japan established a Regional Technical Working Group (RTWG) on Disaster Risk Finance and Insurance to conduct the feasibility and preparatory work toward the establishment of SEADRIF.
SEADRIF - Flood Monitoring and Impact Assessment

OBJECTIVES

• Provide governments with **rapid, reliable, and relevant information** to make better risk-informed decisions before, during and in the aftermath of flooding

• Leverage **state-of-the-art** technology and advances in remote sensing to make best risk information accessible to governments

• Enable **Disaster Risk Finance** and risk transfer products, by providing the required hazard assessment and risk profiles
SEADRIF - Flood Monitoring and Impact Assessment

APPLICATIONS

- **Near real-time** flood monitoring, providing - days after an event - flood maps and number of people affected

- Design of market-based **risk transfer solutions**

- Rapid financial impact estimation, for **disaster response** and reconstruction

- Informing **longer-term fiscal planning** through estimation of future potential economic impacts

Modelled seasonality of a river basin. Dark green colors represent lower elevations and longer annual flood durations, while lighter colors represent higher elevations and shorter annual flood durations. Blue areas are permanently inundated.

source: usgs.com
TECHNICAL APPROACH

• Data collection, to build a set of historical flood losses with associated meteorological and hydrological data

• Hydrologic simulation, capturing topography and regions’ specificities, through the most advanced riverine and coastal flood calculation engines

• Satellite based monitoring: observation of water surface from radar and optical satellite data, using latest space technologies and imagery processing capabilities

• Integrated view: combining modeled and observed flood information with exposure data to enhance accuracy
Towards a Regional Disaster Risk Finance Facility in Asia

Proposed Structure for a Regional Disaster Risk Financing Facility for Asia
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