Climate-related disasters and index-based risk transfer

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Global economic losses due to floods in 1990-2019

409 catastrophes = loss of $232 billion
Disaster events claimed more than 11,000 victims in 2019
Record-breaking flood events globally the new normal

- Who is funding the deficit between insured and uninsured losses?
- Financial resilience as a component of DRM
- Role of catastrophe insurance in a sustainable development framework
Super “Cyclone” 20 May 2020

• Super Cyclonic Amphan was a powerful and deadly tropical cyclone that caused widespread damage in Eastern India, specifically West Bengal, and also Bangladesh in May 2020.

• Amphan's forecast track placed 38.9 million people in India and Bangladesh at risk of exposure to the storm's winds, according to the US Pacific Disaster Center.

• With 124 fatalities and causing US$13 billion of damage, Amphan is also the costliest cyclone ever recorded in the North Indian Ocean, surpassing the record held by Cyclone Nargis of 2008.

https://www.iwmi.cgiar.org/2020/05/using-maps-to-save-lives-when-a-super-cyclone-strikes/
“Data – essential first step for making agricultural insurance universally accessible among smallholder farmers”

- Poor insurance penetration for floods in Asia
- Insuring the uninsured i.e. parametric insurance
- Monitoring crop health using satellite data and digital innovation
- Better coordination among public and private sectors
- Ensure readily accessible financial instruments for smallholder farmers
How does Parametric Insurance work?

Parametric insurance is based on an independent parameter or index that is correlated to client’s losses.

- E.g., temperature, wave height, wind speed, etc.

Once a threshold is reached, payment is triggered automatically.

- E.g., wind speed 10% below 5-year average.

This product offers a seamless customer experience with an optimized insurance process and amplifies the scope of the insurable.
Index based flood insurance (IBFI)

Earth observation data and modeling tools strengthen scaling risk solutions in protecting poor and vulnerable people in developing countries

- Since 2017 pilot trials in India and Bangladesh over 7,000 households with total payout of $150,000 USD
- Insurance solutions could help bolster farming livelihoods, reduce post-disaster costs for governments and contribute to reducing poverty, achieving gender equality and underpinning food security.
Index-Based Flood Insurance in Kurigram District

GDIC developed the product partnering with World Food Program (WFP), OXFAM Bangladesh and National Development Programme (NDP)

Coverage: 1st July 2020 – 30th September 2020

**PARTNER**
- Key Partner: WFP & OXFAM
- Local Partner: National Development Partner (NDP)

**LOCATION**
Jatrapur Union & Raniganj Union of Kurigram District

**PREMIUM**
- @ 11.50% Net Premium BDT 4.1 million

**CLAIM**
- BDT. 5.4 million through bKash

**COVERAGE**
- 2,000 Household
- excluding permanent water body areas

**DATA PROVIDER**
- The International Water Management Institute (IWMI), Sri Lanka

**TECHNOLOGY**
- Satellite Image (MODIS)

**PERIL**
- Flood
Drought Surveillance System for South Asia

Information and Action

- Agriculture Stress monitoring using satellite indices

Knowledge

- Consultation and awareness on the digital tools and actionable information

Decisions

- Drought response strategies integration information and knowledge products for decision making process
Connecting Water Stress and agriculture production and its impact on food security

“A third of irrigated crop production faces extremely high water stress”
Thank you

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For more information contact a.giriraj@cgiar.org
Reading materials

IBFI Concept (YouTube): Index Based Flood Insurance: A more secure future for India's farmers


The article Raise their resilience, by Giriraj Amarnath on satellite-based insurance, was published in: Down to Earth’s State of India’s Environment 2020 report

The article Insurance helps reduce risk from flooding for Asia’s vulnerable rural smallholders by Giriraj Amarnath, was published on: Geospatial World

News: India’s water-logged farmers try out revamped flood insurance

Blog: First satellite-based insurance trial in Bangladesh helps farmers recover from flooding
