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S A F E T Y N E T S F O R A L L

Comprehensive Climate Risk Management: Can social protection be a leverage?

Insights from an on-ground pilot

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UNFCC- Standing Committee of Finance
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ADB HQ, Manila, Philippines**

WHO ARE WE

How

Innovation

Product /
Process
Design

Market
Research

Rough to right loop

Market Creation

Capacity
Building

Data
Warehousing

Impact
Research

Policy
Advocacy

Longevity

Metrics

Safety

Nets

For

All

Safety nets for all *in collaboration with*



AGENDA

Leveraging Social Protection (SP) for Climate Change losses

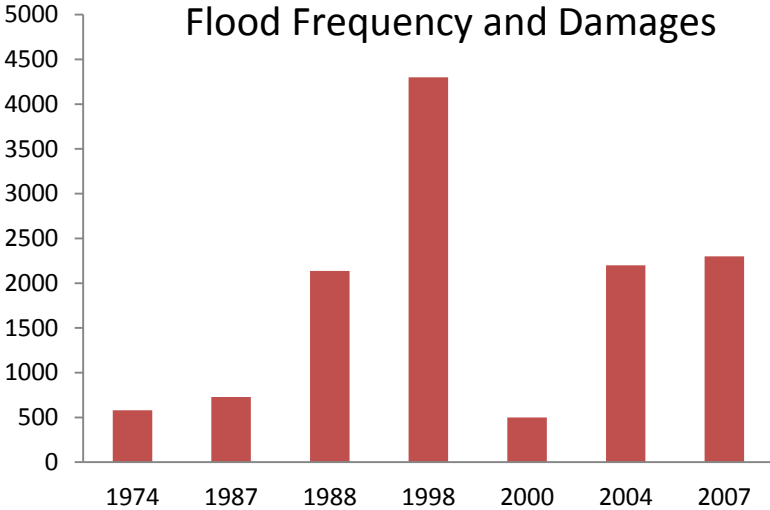
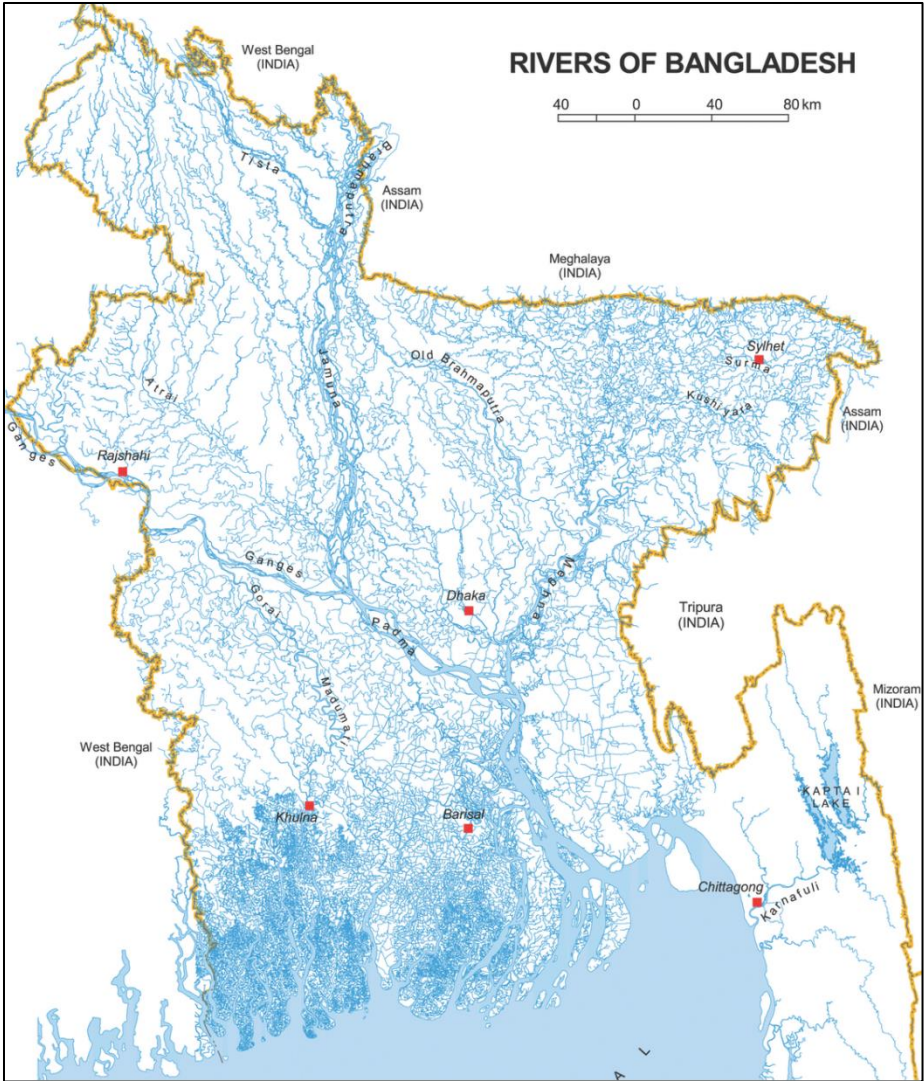
	Context	Outcome
Forecast & Finance	<ul style="list-style-type: none">• SP budgetary shortfall• <u>Limited knowledge of probability and severity</u>	<ul style="list-style-type: none">• Poor financial longevity• <u>Poor Budgetary forecasting</u>
Distribution & Delivery	<ul style="list-style-type: none">• Poor ID and Targeting• Fractured distribution and delivery	<ul style="list-style-type: none">• Leakage of benefits• Missing the scale-opportunity• Poor accessibility, further <u>aggravated post catastrophe</u>
Product Design	<ul style="list-style-type: none">• Limited cover for loss and damage• Delayed cover	<ul style="list-style-type: none">• Inconspicuous impact• <u>Aggravation due to delay</u>

Piloting Climate Insurance: Catastrophic Floods in Bangladesh

Ganges, the Brahmaputra, and the Meghna —annually drain a vast basin **12 times Bangladesh's area**

Flood (*Bonna*) is an annual recurring phenomenon beneficial for Bangladesh

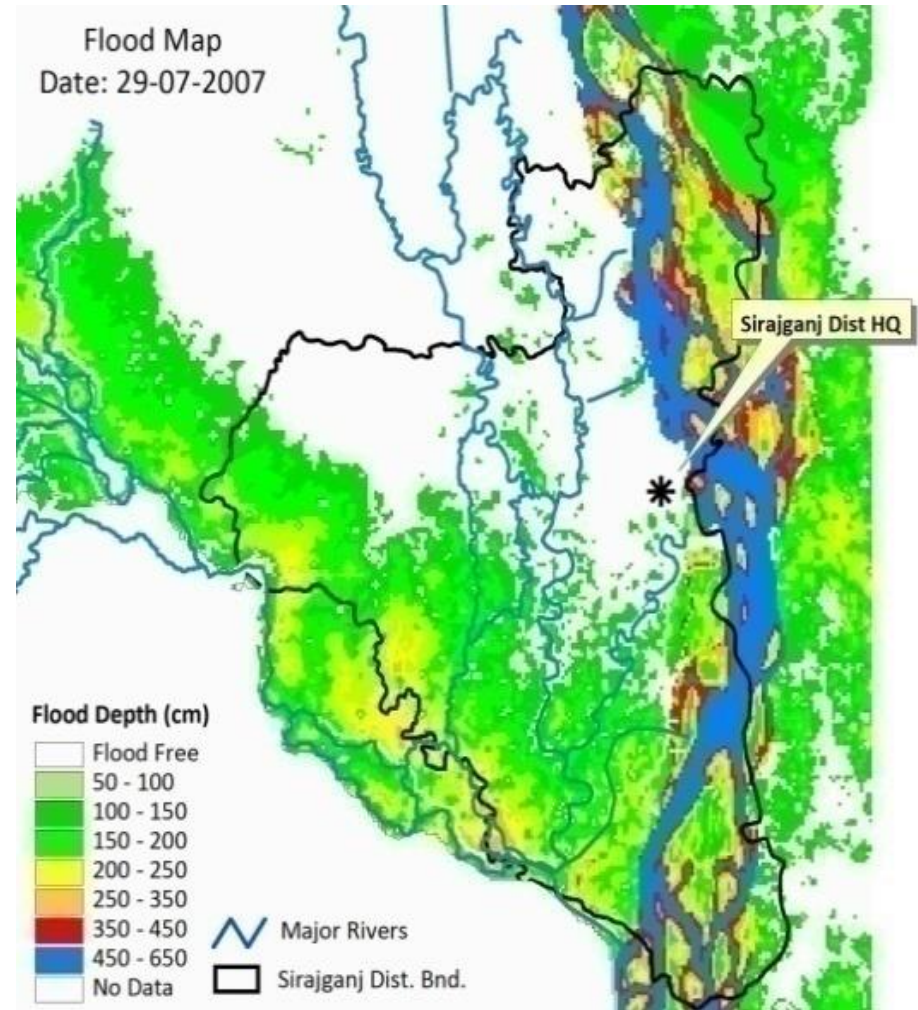
WHY



Meso-Level Flood Index Insurance

Project Details:

Design - RDRL, Institute of Water Modeling
Implementation – OXFAM, GB
Insurer - Pragati Insurance
Project Location - Sirajgunj , BD
Initiation - 2009



Leveraging Social Protection (SP) for Climate Change losses

Areas of Intervention: HOW

Forecast & Finance

- Modeling
- Spatial Pooling
- Risk & Finance
- Layer: Resilience & co-contribution
- Aid

SP strategies

Distribution & Delivery

- Resilience infrastructure
- DIGITISATION of
 - ID & Targeting
 - Partnerships for shock-proof distribution

Product Design

- Deepening of cover
- Customized to CAT. Risk- household portfolio
- Easily accessible claims
- Timeliness

Leveraging Social Protection (SP) for Climate Change losses

HOW

Forecast & Finance

AID: Market Creation
Cat modeling & assessment
Invest in Data infrastructure

Spatial Pooling

- Households & Business, income-groups
- Across risks and regions/across countries

Layering
Co-contribution

- L 1: Microinsurance on SP program
- L 2: Meso CAT insurance on Resilience Infrastructure & SP programs for increased severity

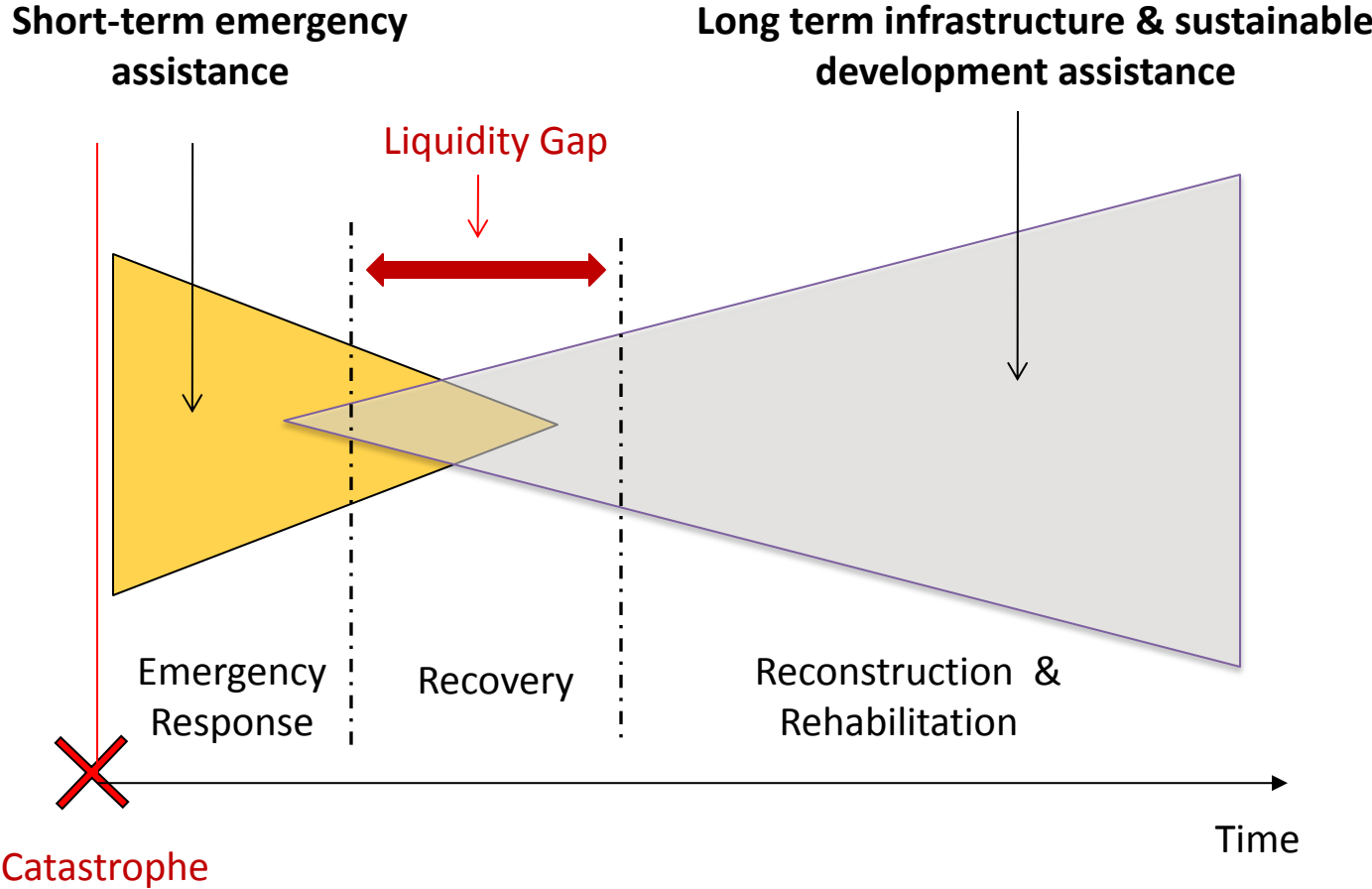
Aid

- Co-finance 'unknown risk'

Piloting Climate Insurance: Catastrophic Floods in Bangladesh

Financing immediate Disaster Relief

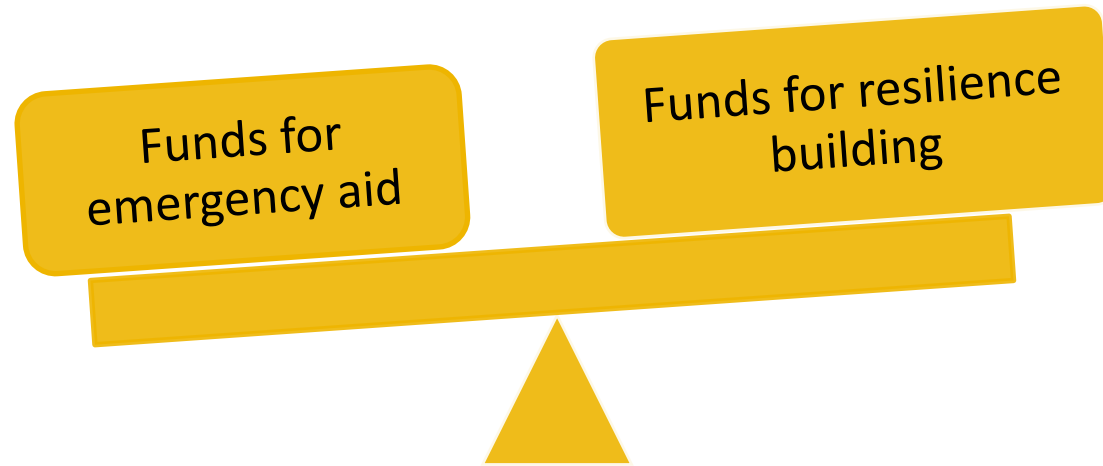
Flood Risk Management: Risk Reduction – Risk Transfer



Adapted from [CCRIF: Application of risk analysis & modeling in insurance sector](#)

Piloting Climate Insurance: Catastrophic Floods in Bangladesh

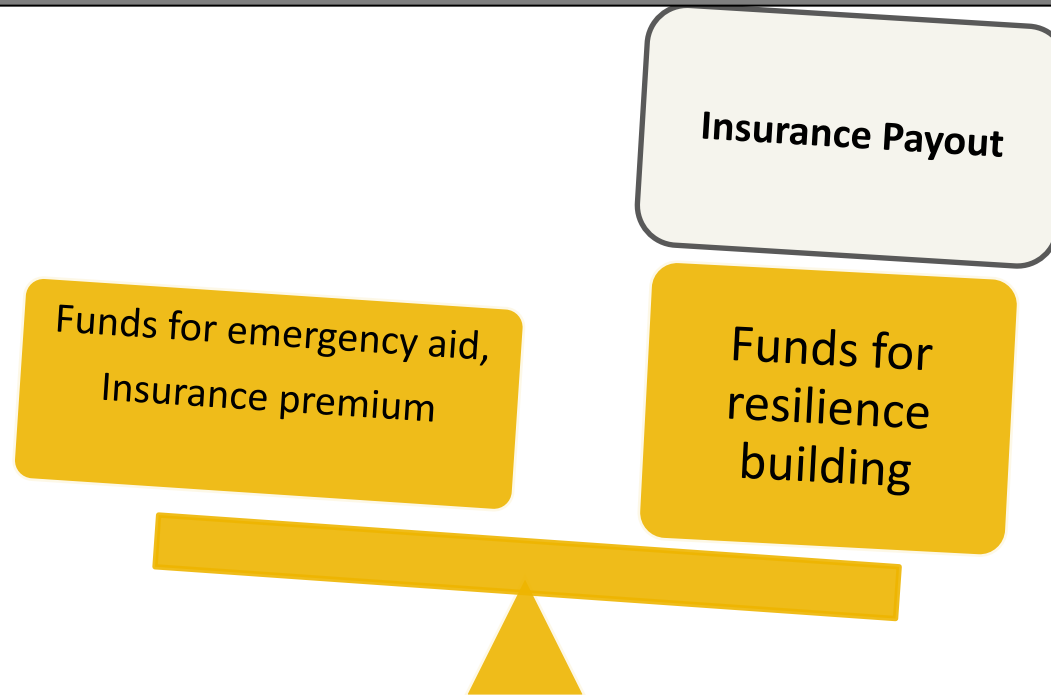
Unlocking finances for Resilience Building



Significant amount of money locked in disaster relief funds need to be unlocked for resilience building

Piloting Climate Insurance: Catastrophic Floods in Bangladesh

Unlocking finances for Resilience Building



Insurance can help unlock the money that is kept for relief and use it for climate change adaptation and mitigation

Strategies

Risk Management Framework

Risk Control

Risk Avoidance

Loss Prevention

Loss Reduction

Risk Diversification

Risk Financing

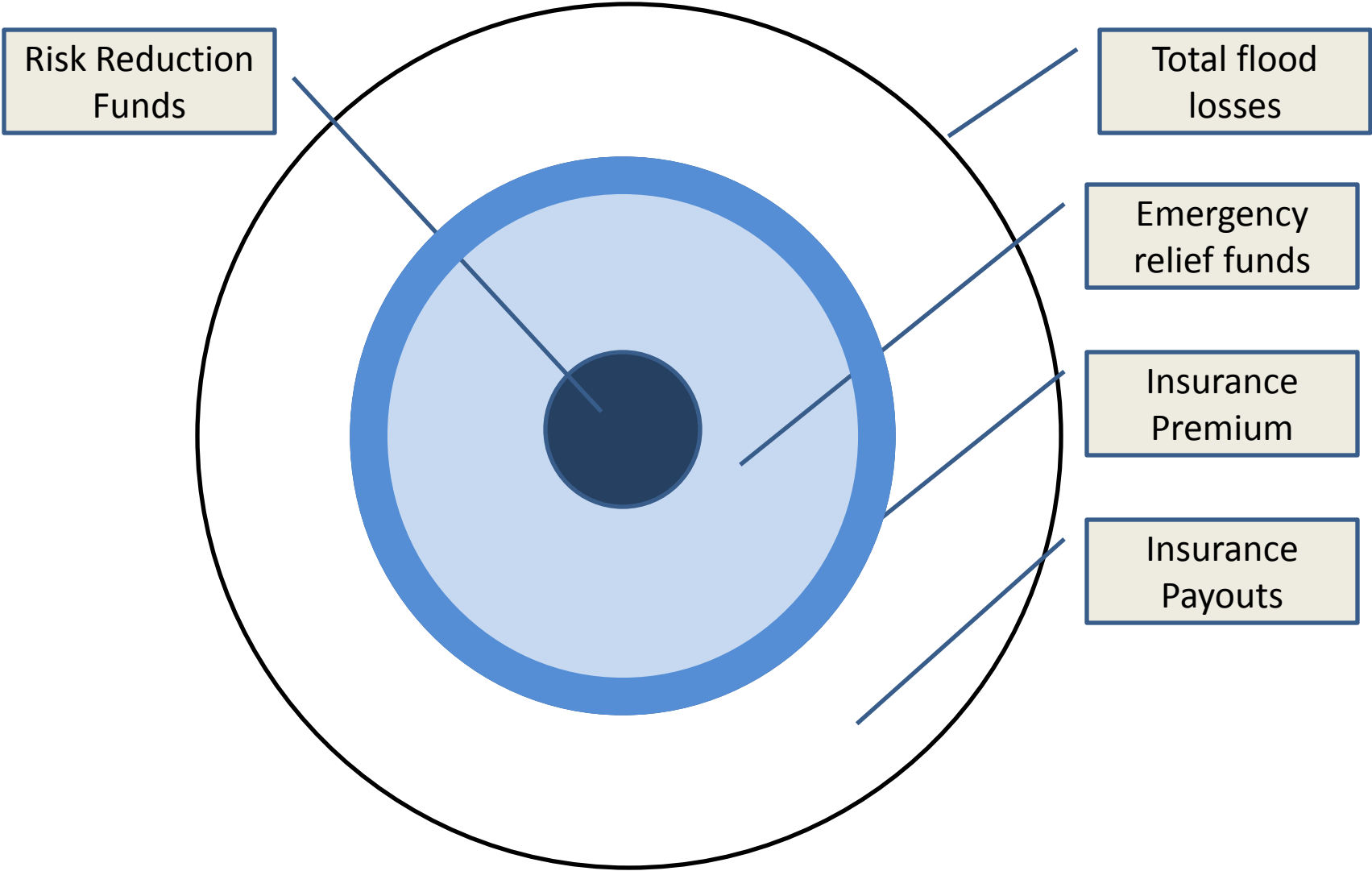
Loss Retention

Noninsurance transfers

Insurance

Promoting Preparedness

Role of Insurance



Significant amount of money locked in disaster relief funds.
Insurance can help unlock this money and use it for climate change adaptation/mitigation

Leveraging Social Protection (SP) for Climate Change losses

**Distribution
&
Delivery**

AID: Invest in ID and Monitoring infrastructure to Improve Targeting

ID & Targeting

- Biometric Identification, GPS tagging
- Spatial risk +Socio-economic targeting

Delivery

- Existing SP programs
- Existing aggregators (banks, mobile, agri supply chains)

Aid

- Co-finance 'tech back-end' to allow channel agnostic Claim delivery



RFID technology for cattle ID



Satellite data for agriculture loss assessment

Image 7: Poster design for Kothagiri region of Nizamabad



బోగో టోకీయో జనరల్ ఇన్సూరెన్స్ కంపెనీ లిమిటెడ్
నెట్వర్క్ కార్యాలయం: 4 వివేకాచారి వీధి, 2వ అంతస్తు, "బోగో టోకీయో"
ఫ్లోర్, పి.సి. రోడ్, 26, నల్గొండ (హైదరాబాద్) 500008
ఫోన్ నెం: 91-224-2377923, 2377924
ఇమెయిల్: www.tgi.co.in
కార్యాలయం నెం: 2826-237-9266 (లోకల్)

దక్షిణలో ఉన్న బడికల కార్యాలయం చిరునామా:

వర్షపాతం బీమా ఎన్ డి వి ఐ తో

ముఖ్యమైన విషయాలు:

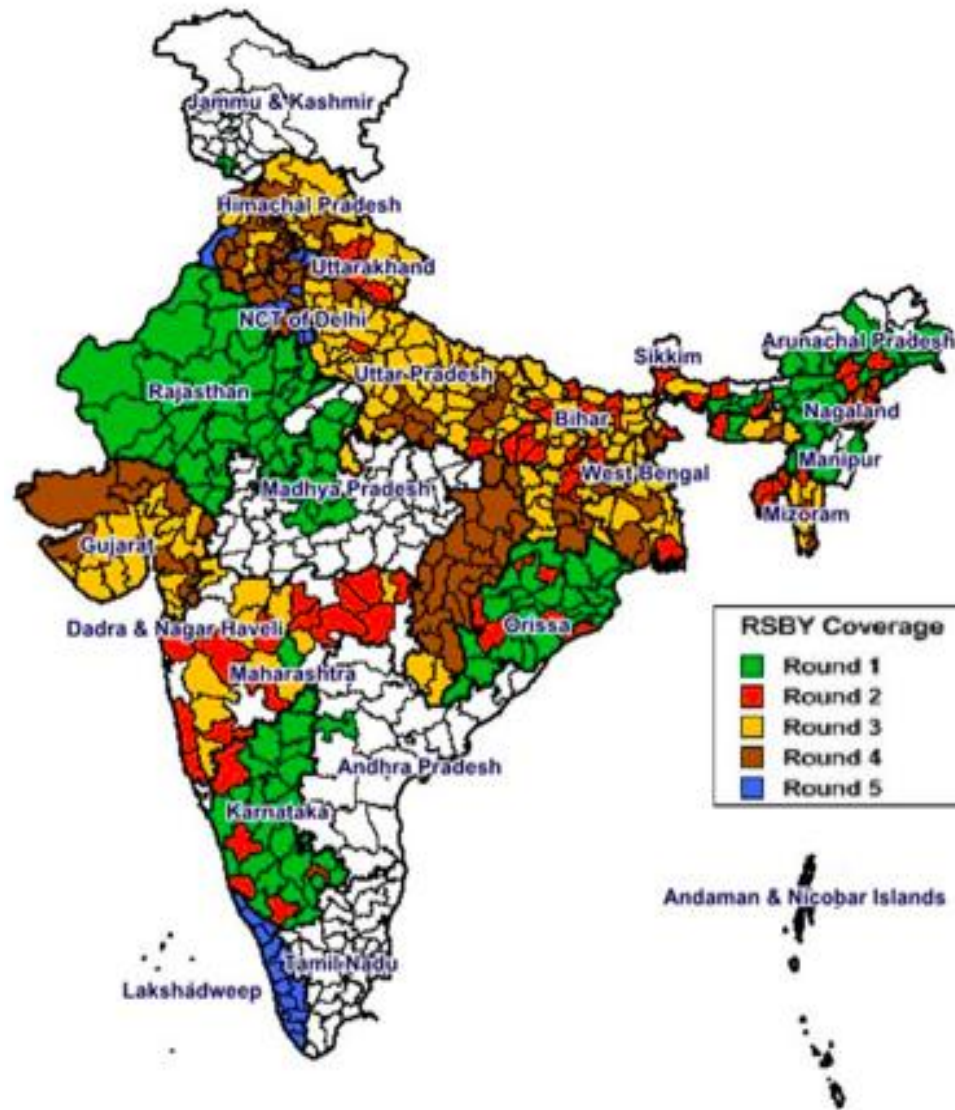
- మొట్టమొదటి ఎన్ డి వి ఐ అవకాశంగా ఇన్సూరెన్సు తీసుకోండి
- త్వరితంగా పన్ను చెల్లింపులను చేపట్టండి
- వర్షపాతం, హాజీతుగా క్లెయిమ్ చెల్లింపులను పొందండి
- వర్షపాతం, హాజీతుగా క్లెయిమ్ చెల్లింపులను పొందండి

ఇన్సూరెన్స్ కోసం:
9 899 999 9999
9 899 999 9999

RSBY Coverage across India

37 million active cards

9.7 million claim cases (till date)



OXFAM's strategy in Bangladesh

Community Resilience Building

RISK → Increased flood intensity and longevity

Raising Homes:

Higher and stronger foundations help protect homes



RISK → Floods contaminate water supply

Raised Tubewells:

Raising tubewells potentially preventing health epidemics during severe floods



OXFAM's strategy in Bangladesh

Community Resilience Building

RISK → Changing farming calendars, Sudden floods due to embankment breach.

Radio Forecast and Warning:

Weather forecasts, Special broadcasts alert



RISK → Severe and widespread floods

Rescue rental Boats, free access to poly covers

Rescue boats provided to the NGO Disaster

Management Cell



Leveraging Social Protection (SP) for Climate Change losses

Product Design

AID: Create KP and Product Design Hubs

Deepening of cover

- **Household: Covering Life and Livelihood loss**
- **Business: Productivity cover**

**Timely
Accessibility**

- **Reliable shock-proof cash channels**
- **Channel agnostic, transparent payout**
- **Varied payouts based on stages**

Aid

- **Co- finance 'product feature' research, testing and pilot**

WHO

DATA: Defining the **Client** for Climate Insurance and Social Protection

WHO

		Target Client			
		Urban		Rural	
		Non-LIG	LIG*	LIG	Non-LIG
Product Filing (Regulator)	Products under 'Rural and Social Sector' Obligation	1	2	3	4
	Products under 'Microinsurance Act 2005'	5	6	7	8

1. MiM relies on Industry data reported under IRDA regulation (as under **MI Act 2005** and under the **Rural and Social Obligations**)
2. Under the IRDA regulations, reported data includes products served to **RED PLUS GREEN**
3. Hence, Microinsurance Maps also presents data for **RED PLUS GREEN**
4. Ideally it should report for products offered to **GREEN**

* **LIG: Low Income Groups**

* **IRDA: Insurance Regulatory and Development Authority**

WHAT

Comprehensive Disaster Management strategy

Need for ex ante strategies:



Combining

- **ex ante efforts (risk reduction and risk transfer) with**
 - ex post strategies (relief, rehab, reconstruction)
- help build a comprehensive risk management strategy

Ex ante strategies

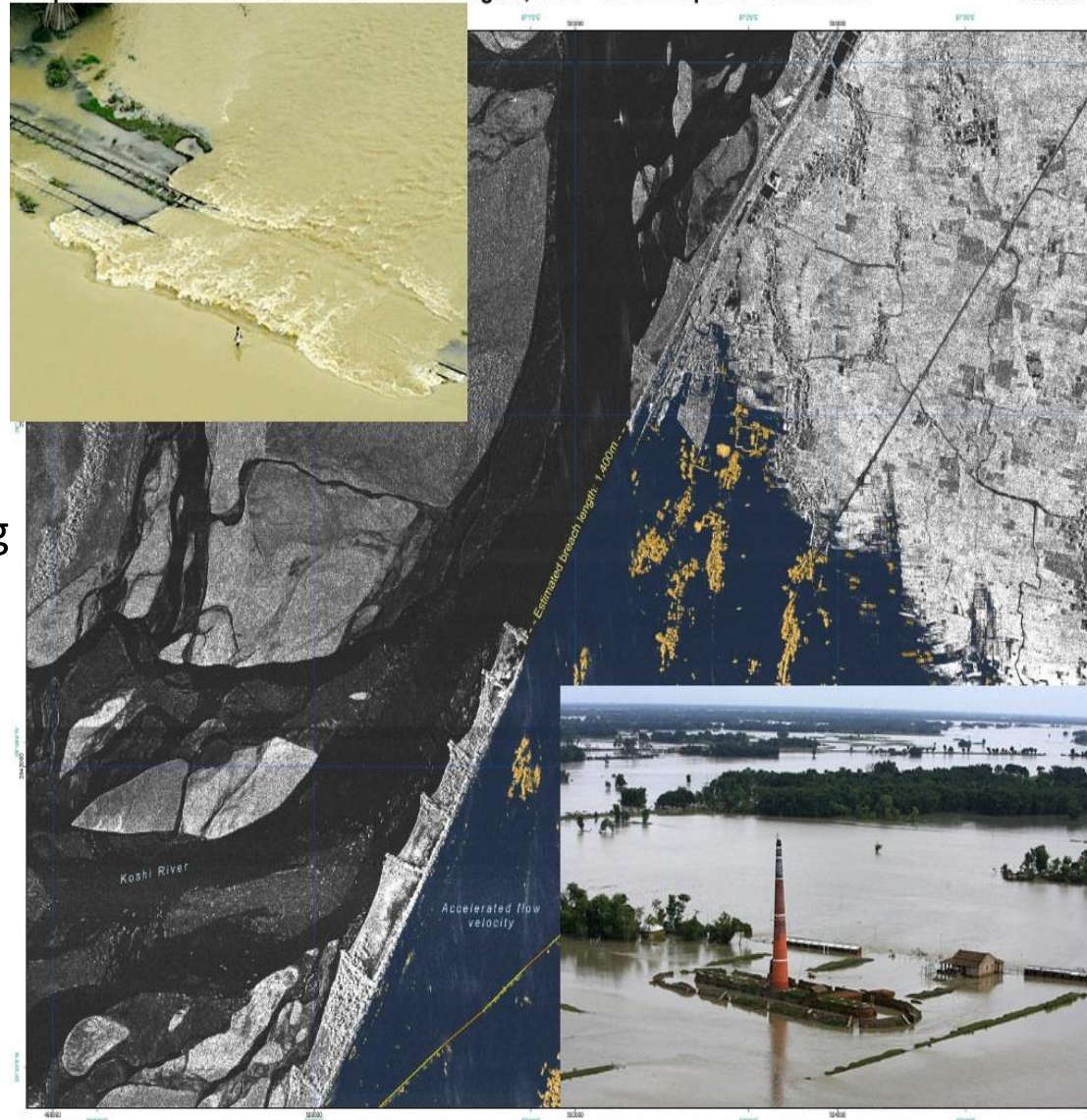
Flood risk reduction: Structural approach

Embankments:

- Costly in terms of construction and maintenance
- Increases erosion, inhibiting silt deposition
- Increases the risk for low income households living inside the embankment zone
- Tend to increase height and speed of river flow
- Recent embankment breach

Nepal - Embankment breach as seen on 30 August, 2008 - Detail map with flood mask

1:12.500



Pieces of the Puzzle

Meso-Level Flood Insurance



Scale & Sustainability via Social Protection

Obstacles

- High Cost of development
- Data availability
- Product complexity
- Poor Credibility
- Adverse Selection
- Limited Scale

Partners

- Ministry of Disaster
- Grantor
- NGO
- Designers
- Ministry NGOs Affairs
- Insurance Industry
- Refinancing Banks PKSF

What

Platform

- Invest in CAT and Loss assessment data infrastructure
 - Invest in Targeting: identification (cash and data) infrastructure
 - Invest in spatial pooling across economic groups
- Layer risk and Bundle
- Layer 1: resilience Layer 2: Risk Transfer
 - Parsing out layers to household, private sector, regional government and then Aid

Product

Building-block products for customisation

Bundle 'Tangible' services

Define uninsured events

How NOT to build SP programs for Climate Change losses

Insurance is at the end of a risk trajectory. It begins with **RESILIENCE INFRASTRUCTURE**

The client is the household and small business and the **AGGEGATOR**

Use existing 'highways', the poor shouldn't be paying for the new highway

Use aid for long term **RISK REDUCTION & MARKET CREATION.**
NOT for one time premium subsidy

Leverage the power of spatial high volumes. Leverage Technology at every stage to monitor, distribute, assess and improve.



Safety Nets for all

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Ex ante strategies

Flood risk reduction: Community approach

- **Managing effects of flood** instead of attempting to prevent it
- Focus on household **resilience** building in the context of **climate change** induced erraticity
 - Dredging rivers to increase the capacity of rivers
 - Improved preparedness
 - **Flood warning: Improve Flood monitoring, measurement, zoning and forecasting**
 - **Shelters and stronger houses**
 - **Increased height of water sources**

Coping with residual risk

1998:

- *2/3rd of Bangladesh flooded for almost 13 weeks*
- *¾ million hectares of agri - land submerged ruining most of the autumn rice crop*
- *1.2 million of Grameen Bank's 2.3 million customer affected*



People and animals sharing the same room as well as same fate.

Photo - Salahuddin Azizee

Source : Grameen Bank

- Embankment Breaches
- Recurring Floods – 1962 (3 floods in July, August, September)
- Intense Local Floods – Sylhet (1966),

Inadequate funds for ex-post relief & rehabilitations (1963,1988,1998, 2007)

Coping with **residual risk**

Increased frequency and severity strain all reduction and coping strategies

Embedding insurance within specific risk verticals help in:

- **No white spaces in risk coverage continuum**
- **Lower probability of loss and improved affordability**
- **Improve product designing capability – coverage,**
- **Platform for Distribution**

Operation Challenges

- Need to insure public finances – donors and state
 - **Increased severity of recent events lead to aggravated financial loss**
 - **Household premium financing impractical**
 - Inability of households to premium finance severe shocks) and
 - Low demand (unwillingness to allocate budgets for low or no probability catastrophe)
 - Need for predictability in disaster preparedness and relief financing for NGOs
- Need for regional risk zoning
 - **Non availability of reliable individual loss data correlated to severe floods**
- Inability to access damage in real time
- Inability to reach the insured in real time
 - Identification and targeting challenges
- **Adverse selection**

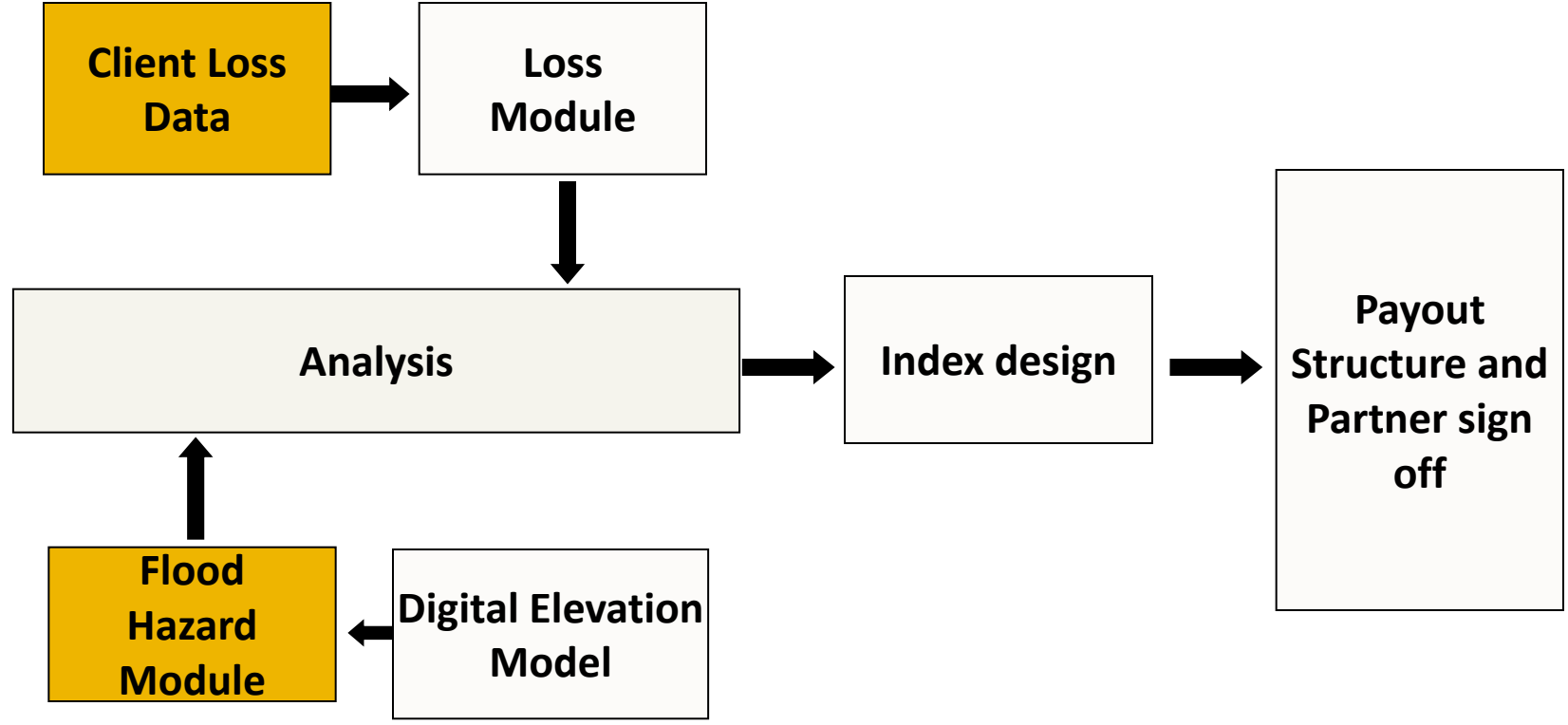
Hence meso level contract

Design Challenges

- Post disaster ground level loss assessment impractical, costly and cause time delay
- Need for relief financing 'immediately' for reduction in losses
- Index contract based on historical data which also helps predict probability and improve forecasting
- Poor Data Quality and Availability at higher resolution
 - Flood Impact Data wasn't available
 - Historical data on flood depths no available
 - DEM not updated

Hence Index Based Insurance

Structure of Flood Insurance



How

Innovation

Product Features

Greater Product Coverage

Risk Reduction

Processes

Transaction Cost

Adverse Selection

Risk Valuation

Risk Identification

How

Market Creation

