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# SHOUHARDO II : Analysis Using a Resilience Lens

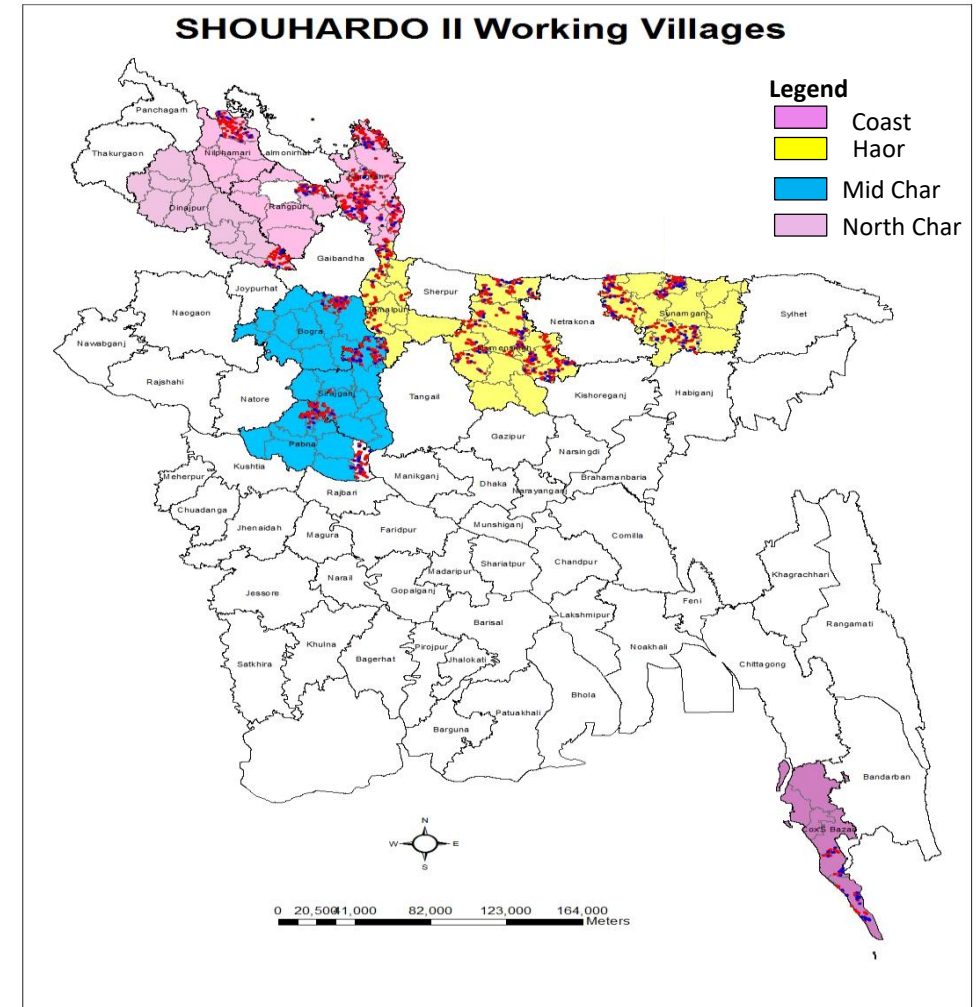
Tim Frankenberger  
TANGO International

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# Background on Shouhardo II

- One of the largest non-emergency food security programs in the world
  - Objective was to “transform the lives of women and men in 370,000 poor and extreme poor households in 11 poor and marginalized districts
- Implemented in the NW *haor*, Mid- and North Char areas, and the SE coast (Cox’s Bazaar)
  - Fifty percent of its 1,573 participating villages were exposed to the 2014 flooding



# Main Goals of Program

- Enhance food security and improve the health and nutritional status of children under two
- More importantly also attempted to address systemic goals that will:
  - Empower women
  - Promote improved governance among local elected bodies and government service providers
  - Assist households to prepare for, mitigate, and respond to disasters and adapt to climate change.
- Program had a strong focus on both food security and disaster risk mitigation and reduction



# Shock exposure in Shouhardo II

- Most commonly-experienced shock was flooding, reported by 62 percent of households.
- Heavy rainfall was reported by only 23 percent of households,
- Other commonly-experienced climate shocks were extreme winds and drought.
  - Notably, nearly 25 percent of households in North Char reported experiencing drought
- Downstream Shocks
  - sharp food price increases and loss of income.

# Measuring Shock Exposure

- Both primary data and secondary data were used to measure exposure
- Primary data was taken from a large-sized data set of 8,415 households over all four program areas
- Secondary Data was taken from two sources
  - Princeton University Global Flood and Drought Monitoring (GFDM)
    - Real-time Satellite-based flood/drought monitoring and seasonal forecast system

# Measuring Shock Exposure

## Village Grading Dataset

- Collected in 2014 as part of the SHOUHARDO II program's Monitoring and Evaluation (M&E) activities
- Information was gathered through Focus Group Discussions, Key Informant Interviews, reviews of the meeting notes of Village Development Committees, training records, and physical observations

# Shock exposure Indicators

## Primary data Indicators:

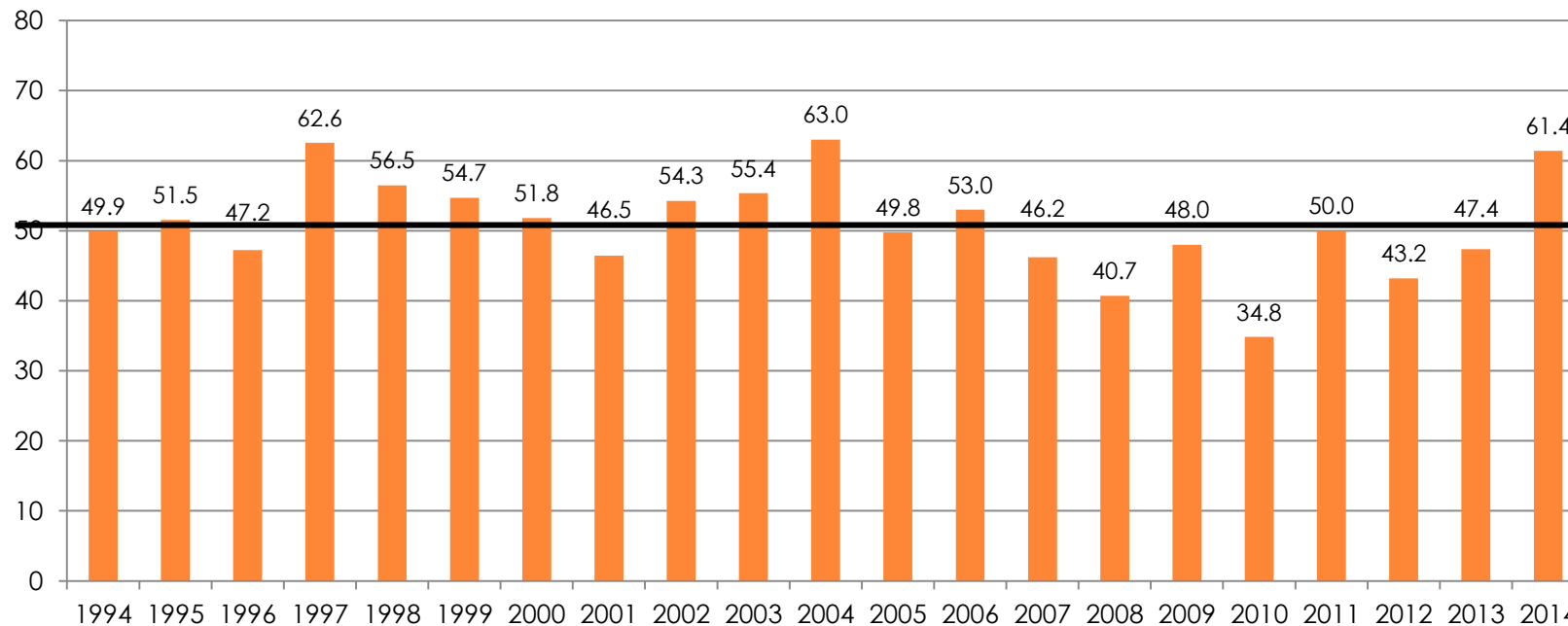
- Households **reported exposure to flooding** in addition to three typical downstream economic impacts:
  1. Price increases
  2. Poor harvests
  3. Livestock deaths
- Mean number of shocks was 2.1

# Shock exposure Indicators

## Secondary Data

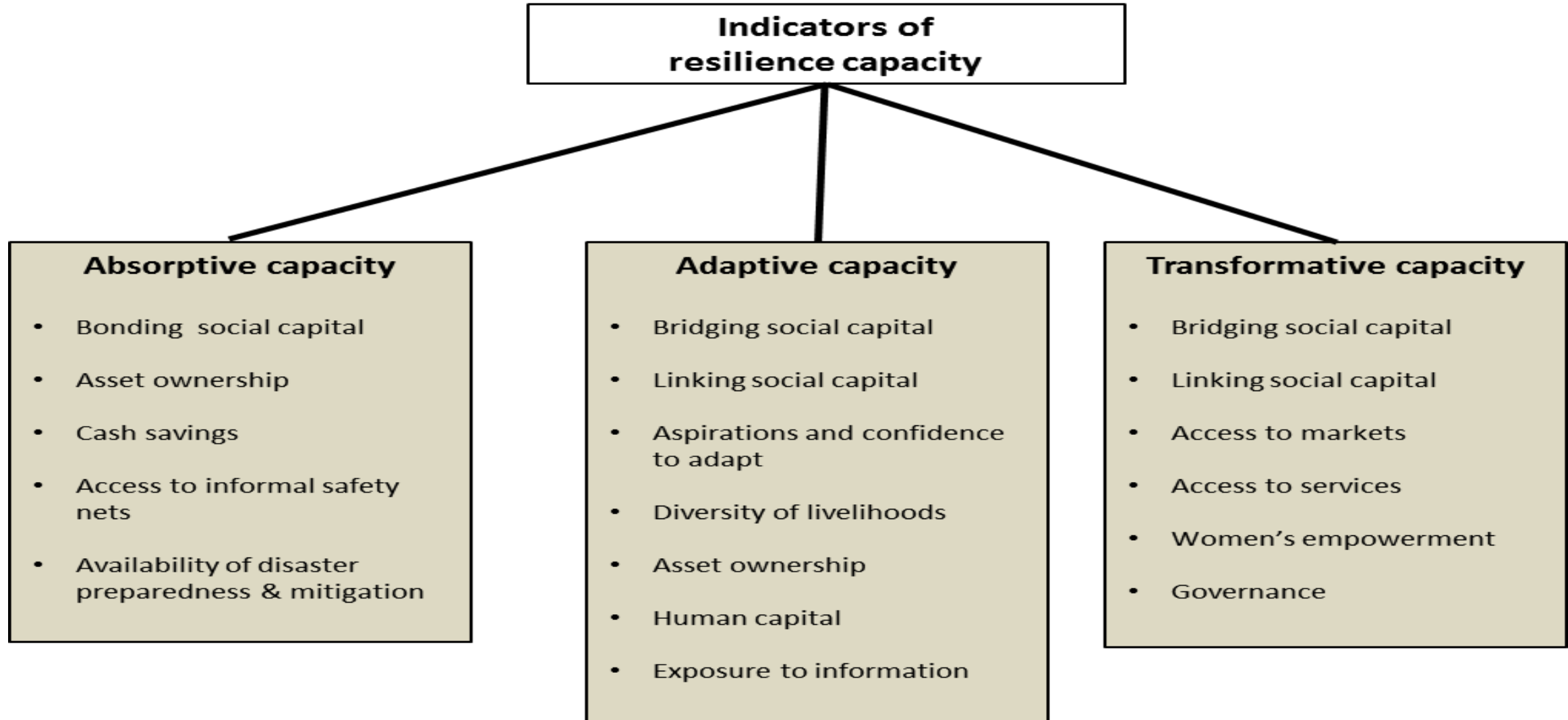
- Two measures of surface flow hydrology from the GFDM
  1. Annual streamflow percentile for 2014
  2. Streamflow surplus - cumulative monthly deviation of streamflow above the 50<sup>th</sup> percentile

**Annual streamflow percentile in the SHOUHARDO II program area, 1994-2004**





# Resilience capacity Measurement



# Resilience capacity Measurement

Resilience capacities cannot be measured using one single indicator-creating 3 indices

- Some indicators are used in more than one index
- Measuring capacities requires combining a variety of indicators into an overall measure;

Six board categories:

- Social capital
  - Aspirations and confidence to adapt
  - Economic sources of resilience capacity
  - Access to services
  - Human capital, access to information, and women's empowerment
  - Village-level governance
  - Safety nets and disaster risk reduction
- Of key importance in Shouhardo II was **governance and women's empowerment**

# SHOUHARDO II findings

- The importance of Absorptive capacity was significant across all program areas
- Transformative capacity was especially low in the Coastal area and high in North Char
- HH **absorptive capacity** helped reduce the negative effect of flood exposure on hunger and food insecurity
- Program implication: strategies focused on increasing resilience for rapid-onset climate shocks should support HHs to build absorptive capacity

# SHOUHARDO II findings

- Sub-components that helped **mitigate flood impacts on food security**
  - Strongest evidence for:
    - Bonding and bridging social capital; access to services; exposure to information; **women's empowerment; village governance;** and informal safety nets.
- Cross-sectional regressions also showed evidence that the following are important:
  - aspirations and confidence to adapt; asset ownership; access to markets; and disaster preparedness and mitigation
- Panel regressions provide evidence for the importance of:
  - livelihood diversity
  - human capital

# Food security, Shock Exposure and Resilience Capacity

High levels of exposure to flood and downstream shocks in 2014, but relatively **LOW** levels of food insecurity in one of Bangladesh's most food insecure area. **Why??**

- Humanitarian Assistance
  - Both food and monetary assistance in the aftermath of the flooding
- Food Security was already dramatically improving because of Shouhardo II programming
  - Months of adequate food provisioning rose from only 5.9 in 2010 to 11.1
  - Percent of households in hunger fell from 48.8 to 9.6.

# *Food security, Shock Exposure and Resilience Capacity*

## **Increased resilience capacity**

- Many of the interventions implemented by the SHOUHARDO II program were designed to boost households' resilience capacities.
- Served to enhance their resilience, protecting their food security in the face of the flooding.
- HHs with higher resilience capacity maintained food security
  - Increase the number of months of adequate food and reduce hunger

# Food security, Shock Exposure and Resilience Capacity

**Table 8. Does resilience capacity reduce the negative impact of flooding shocks on food security?**

	Self-reported flood shock exposure						Streamflow surplus					
	Months of adequate food provisioning			Hunger score			Months of adequate food provisioning			Hunger score		
	Coefficient	t-stat		Coefficient	t-stat		Coefficient	t-stat		Coefficient	t-stat	
<b>Cross-sectional regression results (N=8,415)</b>												
Shock exposure	-0.302	-5.49 ***		0.187	5.56 ***		-0.004	-5.72 ***		0.001	3.38 ***	
Resilience capacity	0.050	16.5 ***		-0.028	-15.2 ***		0.035	12.2 ***		-0.019	-11.3 ***	
Shock exposure*resilience capacity	0.004	2.76 ***		-0.003	-3.43 ***		0.00008	3.96 ***		-0.00003	-2.26 **	
R-Squared		0.239			0.166			0.167			0.109	
<b>Panel growth model regression results (N=358)</b>												
Shock exposure	-0.943	-2.19 **		0.764	3.65 ***		-0.004	-1.18		0.004	2.34 **	
Resilience capacity	0.016	1.65 *		-0.011	-2.28 **		0.012	1.28		-0.003	-0.76	
Shock exposure*resilience capacity	0.012	1.63		-0.012	-3.17 ***		0.00006	0.85		-0.00006	-1.75 *	
R-Squared		0.809			0.863			0.739			0.815	

Note: The independent variables controlled for in each regression are the same as those listed in Tables 6 and 7.

Stars represent statistical significance at the 1%(\*\*\*), 5%(\*\*) and 10% (\*) levels.

# Key components of Transformative Capacity that mattered the most?

## Women's Empowerment

- Measured using three aspects of empowerment: (1) women's decision making within their homes (2) women's freedom of movement and (3) the degree to which women hold non-patriarchal values.
- At endline, indicators for women's empowerment showed significant gains from baseline
  - Women's empowerment increased substantially:
    1. Decision-making power
    2. Freedom of movement
    3. Earning cash income.
      - Income was the largest improvement, particularly in male-headed households
  - Key for transformative capacity
    - Most likely helped to mitigate impact of flood shock



# Key Components of Transformative Capacity that mattered the most?

## Local Governance

- The quality of governance captured from the Village Grading data set:
  1. The capacities and functioning of Village Development Committees (VDCs) established by the SHOUHARDO II program
  2. The implementation of Community Action Plans (CAPs)
  3. Community awareness regarding entitlements and responsiveness of government agencies to community needs

# Local Governance

- Shouhardo II targeted governance structures at the community level with the establishment of a Village Development Committee (VDC)
  - Elected members, including both men and women
  - VDC helped facilitate the process of identifying community problems, conducting Climate Vulnerability and Capacity Analysis (CVCA) and gender analysis, and prioritization of community needs
- Helped strengthen bridging social capital and transformative capacity
  - Empowered local communities:
    - Developed and implemented community-driven action plans
    - Was a liaison between PEP households and government service providers

# Summary

- The results provide evidence that the negative effect of the flooding on food security was mitigated the greater was households' resilience capacity.
- Although all three dimensions of resilience capacity—absorptive capacity, adaptive capacity and transformative capacity—were found to be important, the evidence for absorptive capacity is the most robust.
- Social capital, human capital, informal safety nets, assets, livelihood diversity, and access to markets are all important in helping to mitigate the flood shock.
- Evidence on the role of aspirations and confidence to adapt—psycho-social dimensions of resilience capacity—have also been found to foster resilience
- women's empowerment and the quality of village governance also helped mitigate the effects of the shocks

# Future Research Questions

- In the case of women's empowerment, several outstanding questions are of interest. What are the specific roles of the different aspects of empowerment in regards to resilience, such as relative decision making power within households, control over assets, freedom of movement, freedom from violence, women's education, and women's participation in political and civic life?
- Regarding governance, some key questions are: 1) which aspects matter the most when it comes to shock recovery? Representativeness, responsiveness, transparency, accountability?; 2) How specifically does governance serve to increase households' resilience, that is, which more proximate factors supporting resilience are enhanced by governance?; and 3) What are the drivers of resilience-enhancing good governance?



Thank you!