



# **‘Production Model’ of Community Disaster Resilience and Psycho-social Recovery: Application to Flooding in Rural Bangladesh from Economics Perspective**



Mir Rabiul Islam, Valerie Ingham, John Hicks,  
Ian Manock, Richard Sappey and Sultana Dilara

Charles Sturt University, Australia



# Bangladesh Australia Disaster Research Group (BADRG)

- **Emergency Management**
  - Dr. Valerie Ingham
  - Mr. Ian Manock
- **Business/Social Economics**
  - Professor John Hicks
  - Dr. Richard Sappey
- **Psychology**
  - Dr. Mir Rabiul Islam
- **Cultural Studies (UTS)**
  - Dr Elaine Kelly



Bangladesh Australia Disaster Research Group - 2010  
(L-R) Dr. Richard (Dick) Sappey, Dr. Valerie Ingham, Dr. Mir Rabiul Islam, Mr. Ian Manock, (Absent Prof John Hicks - inset)



# Bangladesh: Field Data Collection 2010 2012 2015

Sunamganj

Sirajganj

Satkhira



# Four Phases of Disaster Management

Mitigation  
Preparation  
Response,  
and  
Recovery





# 'Actors' in Disaster Management

## Directly:

Defence, Government,

## Indirectly:

General population

Private sector

Civil society leaders

Academia

Media





Disaster management process is to minimise, subject to resource constraints, the “social cost” of disaster to the community.





An UN (2009) publication comments on resilience in following way:

*The resilience of a community in respect to potential hazard events is determined by the degree to which the community has the necessary resources and is capable of organizing itself both prior to and during times of need. (p. 24)*

Source: [http://www.unisdr.org/files/7817\\_UNISDRTerminologyEnglish.pdf](http://www.unisdr.org/files/7817_UNISDRTerminologyEnglish.pdf)



# State Organisational Disaster Management

## Directive and Enforcing Role:

- Bureaucracy,
- Efficacy of authority
- Formal structures and processes
- Technological determinism





# Social Capital

structures,  
processes and  
cultures that  
generate and  
maintain trust,  
cooperation and  
cohesion.





## **Diversity of Relationships: Existence of State and Community as Actors in Disaster Management**

- complementary,
- substitutional and
- conflictual





# Data Collection

District	In-depth Interviews with Villagers, Grass-root NGO Workers and Govt. Officials
<b>SUNAMGANJ</b> (low lying northern floodplain) Patabuka, Selalu-Tahirpur, Golabari, Gobindapur & Kaikkarpar	December 2010
<b>SIRAJGANJ</b> (flash floods and river erosion) Khokshabari, Stholchor, Chowhali, Choddoroshi & Khaskawlia	December 2010
<b>SATKHIRA (MUNSINGANJ):</b> (coastal flooding) Chabara, Garkumarpur (Padmapukur), Vishnupur (Sagardari) & Shamnager.	December 2010
<b>SIRAJGANJ:</b> Shimla, Khoksabari, NotunPare, Char Balutia	December 2012
SIRAJGANJ Balighuri, Bhiraghat	December 2015



## Research Methods

- Ethnographic approach
- Semi-structured interviews with villagers, grass-root NGO workers, elected local govt. representatives and Govt. officials
- Collective social interactions and experiences
- Researchers' reflections



# Major Themes of Research

- Warning 'signs'
- Knowledge of climate change and risk perception
- Determinants of resilient community
- Social capital
- Disaster mental health
- Psychological recovery
- Economical vulnerability and impacts
- Poverty reduction strategies
- Traditional coping mechanisms
- Role of NGOs and Govt. agencies
- Formal regulations and policies
- Cross-cultural differences in responses to disasters



# Findings





# Preparation

- Official warnings from state authorities
- Most effective form of warning: Local experience
- Existence of govt. plans: implementation needs resourcing.
- Reliance on social capital
- Role of NGOs at field level and Bureaucracy



# Response

Flood induces immediate decisions by people acting together to protect buildings, equipment, livestock, crops and life and/or to evacuate to safer areas.

There is virtually no institutional response.



# Recovery

- Rebuilding houses was largely the responsibility of the people.
- Some sources of assistance, mainly through provision of building materials. These primarily arrived through NGOs, either directly to villagers or distributed through union councils.
- Provision of food, clean drinking water and medicines came from government or NGO sources.
- No formal support with mental health and psychological recovery



# Adaptation

- Adaptive responses are less evident; people stay or return to same locality
- People adapt, principally by changing what they produce and by migrating to other areas of Bangladesh
- Temporary migration of male income earners for work in city is quite common
- Improvements in infrastructure, access to micro-credit and increased mobility in labour markets, has reduced the seasonal fluctuation in rural income



# Introducing the 'Production Model'





Figure 1

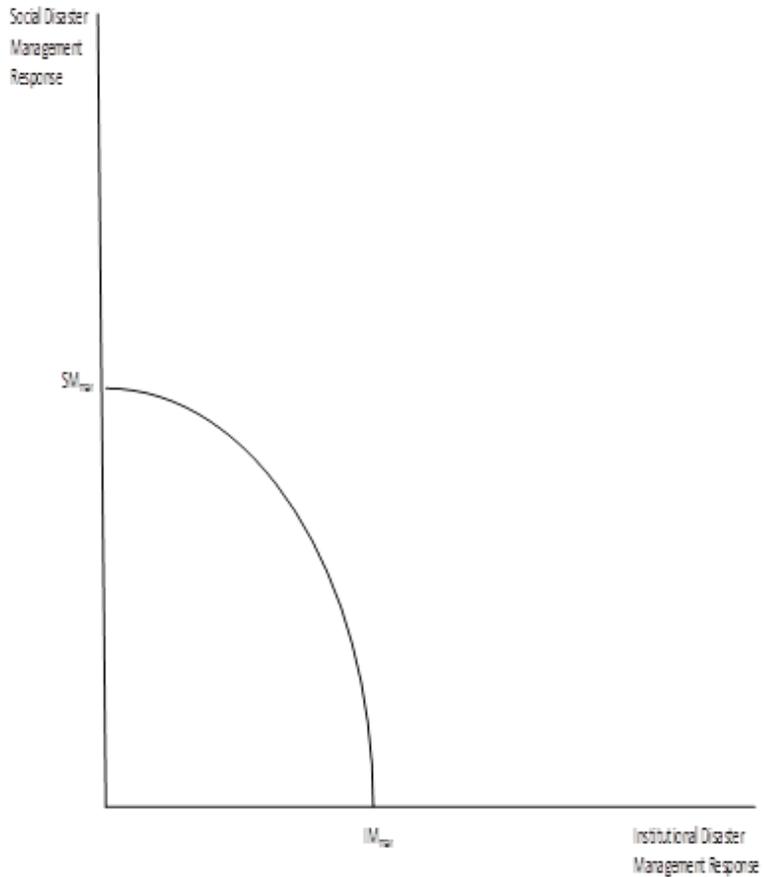
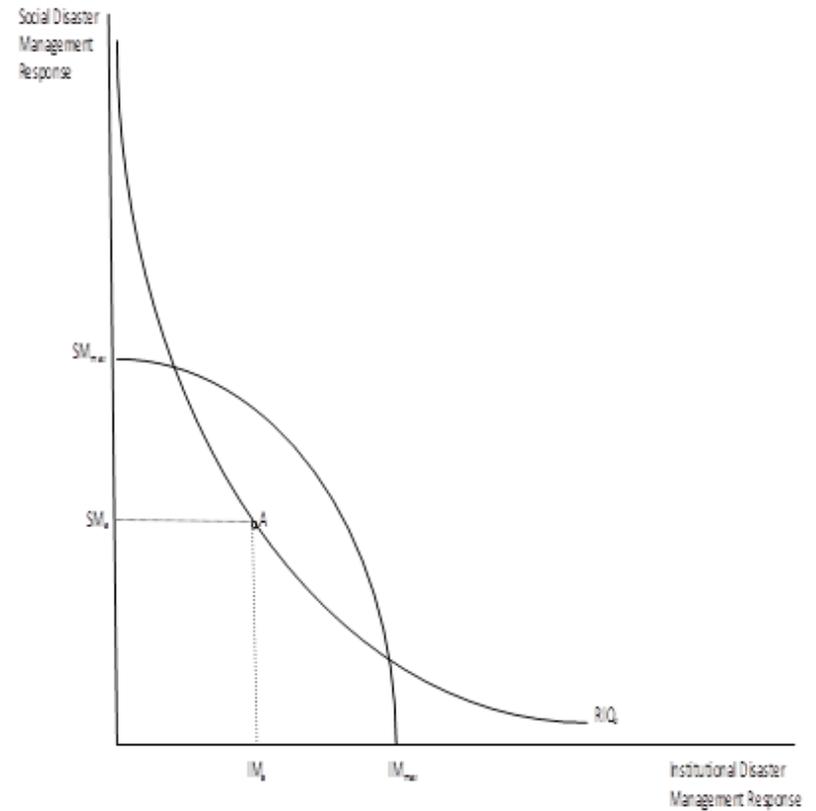


Figure 2



**Figures 1 and 2: Introducing the ‘Production Model’ depicting community and institutional inputs**

Figure 3

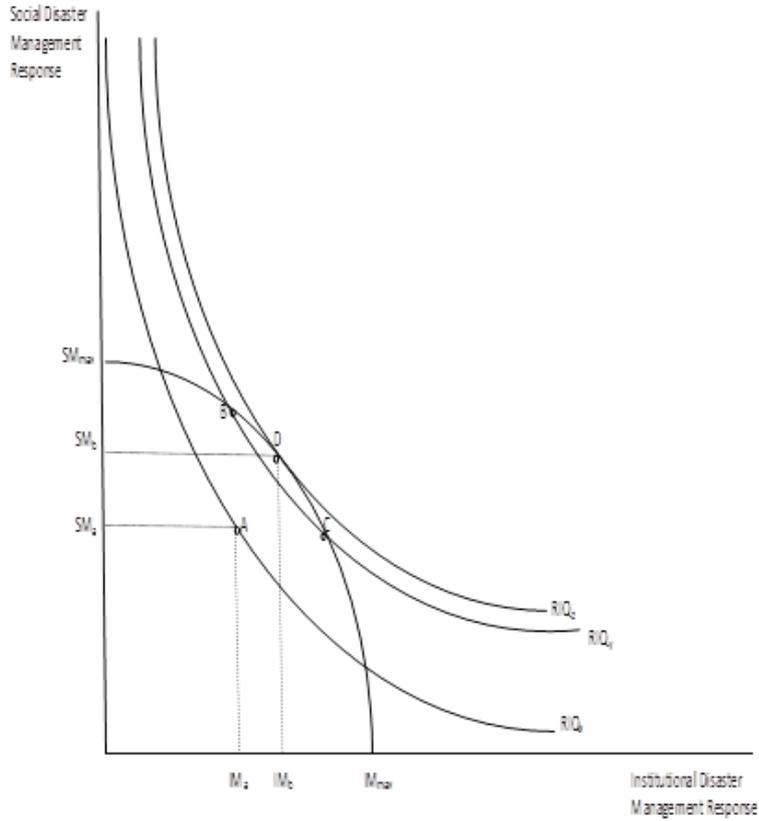
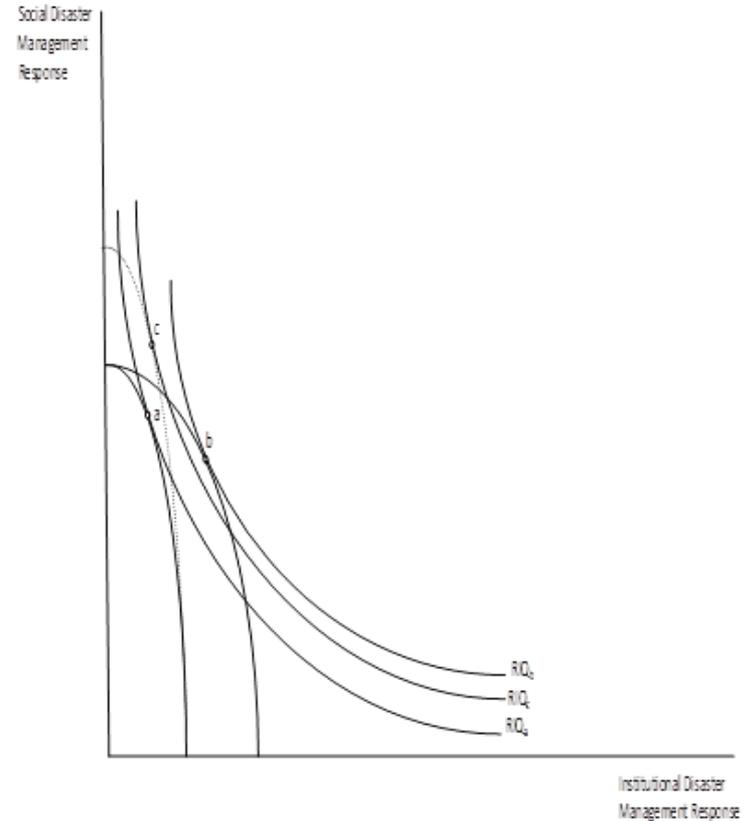


Figure 4



**Figure 3 and 4: Hypothesising resilience building in Bangladesh**



## **We seek to explore three questions:**

- Integration between state, NGOs and community in the response to flooding in each of the three phases of preparation, response and recovery?
- Can the activities of each group be seen to be complementary, a substitute or creating conflict in integrated relationship?
- How is the ongoing adaptation to flooding impacting on response, and therefore on the maintenance of resilience?



# Analysis

Social capital is at the highest level.

Preparation cannot be significantly enhanced by further increases in social capital.



- Lack of state coordinated infrastructure to evacuate people
- Government's role was virtually non-existent in the recovery phase





- Disaster management in Bangladesh was primarily a social response
- High level of social trust and cooperation





- NGOs have filled the gaps and offering complementary responsibilities
- NGO's are offering services as 'civil society' or 'third sector' of society in rural Bangladesh.





# Conclusion

In Bangladesh, this calls for greater government action, the provision of additional resources and the development of strategies to ensure that the integrated response of government, NGOs and the people is increasingly complementary rather than substitutory or conflictual.



# THANK YOU





# Research Collaboration Networking with Researchers from Bangladesh



Dr Rabiul Islam

[rislam@csu.edu.au](mailto:rislam@csu.edu.au)



Dr Valerie Ingham

[vingham@csu.edu.au](mailto:vingham@csu.edu.au)