Dr. Arup Banerji
“Social Risk Management for Mitigating Social and Economic Impacts from Natural Disasters”

Comments by

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Rikuzentakata in May 2011
Outline

Summary

Comments
1. Cost effectiveness of hybrid programs?
2. The market, state, and community trinity
3. Japan’s experience
4. Use of innovations?
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Summary

• We are exposed to (increasing) social and disaster risks (idiosyncratic to covariate)

• SRM and DRM to strengthen resilience and risk management (i.e., risk reduction, mitigation, and coping)

• Naturally, a hybrid program of SRM and DRM (see Sawada (2007), “The impact of natural and manmade disasters on household welfare” Agricultural Economics).
  – Brazil’s Bolsa Familia program
  – Ethiopia’s PSNP
  – Mexico’s PET, Philippines’ 4P, and Pakistan’s FECT

• Institutionalization of such hybrid programs

• Japan’s experience?
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Cost effectiveness of hybrid programs?

- CCT with self-selection mechanisms minimize inclusion and exclusion errors in poverty targeting.
- Many success stories in post-disaster situations
  - EGS & NREGA in India, CFW Japan
- Yet, it may be quite expensive (see right).
- Need a broader framework which nests SRM/DRM nicely.

![RCT-based cost comparisons to extend schooling by one year (USD, in log)](Source: JPAL)
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Basic Problem:
Reconciliation of resource fluctuations & livelihood (consumption) smoothing

• A variety of informal and formal (or market & non-market) risk management or insurance mechanisms
  – Ex ante risk management
    • Investments for resilience
    • Production and income risk diversifications
  – Ex post risk coping
    • Consumption reallocation
    • Credit transactions
    • Dissaving of precautionary assets
    • Human assets
    • Private and public transfers

• **Disasters**: unforeseen contingencies which generate unexpected sharp decline of resources
Admittedly, we are exposed to risks

Source: Aldrich, Sawada, and Oum (2014) based on Hayami (2009)
The Market, State, and Community Trinity

Source: Aldrich, Sawada, and Oum (2014) based on Hayami (2009)
The Market, State, and Community Trinity

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Very Weak Market Mechanisms

Percentage distribution of insured disaster losses 1980-2009

How can we overcome this?
How can we strengthen the trinity?
Role of SRM and DRM?
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Case of Yamakoshi Village

- Chuetsu earthquake of Oct 23, 2004
  - 6.8 on Richter scale
  - 68 people lost; and 28.3 billion USD lost

- Look closely at Yamakoshi village
  - A mountainous village
  - Two main industries: paddy production & "Koi" carp breeding.
Case of Yamakoshi Village

- Few human losses but **huge home damages**

Case of Yamakoshi Village

- Census data by Ichimura, Sawada, and Shimizutani (2007) combined with GIS geological information and government records
  - Earthquake insurance participation rate was 82.2%!

- Sensitivities of five coping strategies:
  - Market
    - Receiving insurance payouts
    - Borrowing
  - State
    - Receiving public transfers (DRM)
  - Community
    - Private donations (Gienkin)
    - Private transfers

- Effectiveness: LATE for continuous treatment
Cases of Kobe, Yamakoshi, and Sendai

Chuetsu in 2004

Kobe in 1995

Sendai in 2011

Cases of Kobe, Yamakoshi, and Sendai

• A hybrid of SRM and DRM to complement effective insurance

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Use of Innovations?

- Use of technologies
  - (a sort of) PPP in SRM and DRM to strengthen the trinity?
    - MF (microcredit and microinsurance) in SRM and DRM
    - Verifications and matching by technologies
    - Use of ICT and branchless banking networks
  - Index insurance contracts written against aggregate events (as opposed to indemnity-based insurance)
    - Weather index risk transfer products
    - NDVI-based index insurance to tackle droughts
    - Macro index insurance (CCRIF and PCRAFI)
- “The last one mile problem” due to human behavior
- Care for psychosocial impacts