




# Insurance Behavior in Developing Countries

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Young Scientist Session  
“Next Step of IDRiM Studies and Roles of NEXUS Young Scientists”



“What is the reason  
why people in developing countries  
do not purchase insurance?”

Insurance density

(quoted from Forstmoser (2005) )

China: below 5%

Australia: above 60%

France and UK: above 90%

# Reviews of Past Studies (recent samples) on insurance problems in D.C.

## Discussion on insurer's side

Forstmoser(2005)

“The potential losses are insurable with the layered risk-sharing system with large reinsurers.”

Ibarra(2005)

The roles of the bank; new lending program etc.

Patrick(2004)

Proposal of the combination of self-insurance system and cross-subsidy system in Africa.

## Discussion on community's side

Bayer and Vari (2002) (2004)  
Stakeholder involvement in designing  
community-based strategy of IDRM.  
Case studies in Tisza Basin, Hungary.



## Pilot studies, experiments and simulations

Mechler (2005)

Introducing practice of the innovative risk financing instrument.

Ibarra(2005)

Pilot experience of draught insurance for Ethiopia.

Bayer and Vari (2002) (2004)

Public involving case studies in Tisza Basin, Hungary.

Mechler (2004)

Insisting the importance of financial preparedness.  
Estimating financial vulnerability in Latin America with macro-economic model.

Hochrainer et al. (2003)

Simulation based on the IIASA Model and showing the trade-off between GDP and economic stability where XL insurance contact is applied.



## Description on damages and vulnerability

Shang (2005)

On-site investigation in China.

Unequal vulnerability among farm households due to unbalanced accessibility to natural and social resources.

Gyawali (2004)

Preparedness and resiliency in South Africa.

The population hardest hit during a drought is not the poorest but the middle and lower middle class.

## My concerns

- Most papers argue important role of insurance, although **micro structure** on households insurance behavior has not been analyzed enough.
- Actually “people in developing countries do not purchase insurance”.

It is necessary to investigate, both theoretically and empirically, the reasons of the fact, and how their resiliency can be improved, checking out factors of demand side and supply side separately.

For classification...

Whether people do not purchase insurance rationally or irrationally?

## I. If rationally...

(1) In which kinds of situations is the behavior rationalized?

- i) If they spend money for insurance, they can not buy enough food and die from hunger.
- ii) If disaster occurs, whole family will die from collapse of its house.
- iii) Disaster insurance is not attractive because it only insures disaster risk.

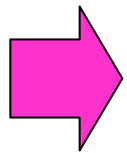


(2) If wealthy people purchase insurance and poor people do not, what is likely to occur after disaster?

- i) Poor people dwell in temporal camp or shelter of very poor quality for a long time.
- ii) Poor peasants with debt sell their farm land to repay the debt and change job of small wages.
- iii) Initially poor people give up their capital and assets.  
The welfare disparity expands by disaster.
- iv) Promptness of macro economic recovery is different between developing and developed countries.

(3) Corresponding to factors in (1) i)-iii),  
how can social welfare be improved?

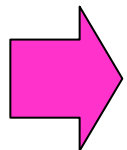
(1) i) If they spend money for insurance,  
they can not buy enough food and die from hunger.



It depends on either **indivisibility of insurance or consumption**.

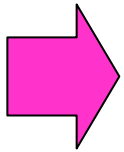
Insurance companies should provide **micro-level insurance commodity**.

(1) ii) If disaster occurs, whole family will die  
from collapse of its house.



Insurance cannot help people. **Government's policies such as subsidizing retrofitting of houses** are necessary.

(1)iii) Disaster insurance is not attractive because it only insures disaster risk.



It intuitively seems rational to purchase disaster insurance if disaster risk is independent of other risks and its premium is set at fair price.



#### (4) The other methods

for improvement of disaster risk finance in D.C.

- i) **Liquidity constraint** should be relaxed. Evaluation and transaction of pledge should be accelerated.
- ii) **"Market interlinkage"**, where landlord, entrepreneur and trader take multiple roles, should be expanded.
- iii) **Applying of the idea of "micro credit system" to group risk financing** is worth testing.
- iv) Public financing with low interest in case of uncontrollable disaster might be socially efficient
- v) Provision of infrastructure by government can reallocate risks spatially, resulting in improving financial capacity.

## II. If people are so irrational that they do not purchase insurance...

### (1) Which aspects of rationality are bounded?

- i) Their perception of risk is incomplete. They sometimes **reject to learn** disaster risk they are facing.
- ii) They are myopic and **do not consider how long it takes to reconstruct livelihood after disaster.**

## (2) What is likely to follow the irrational risk management?

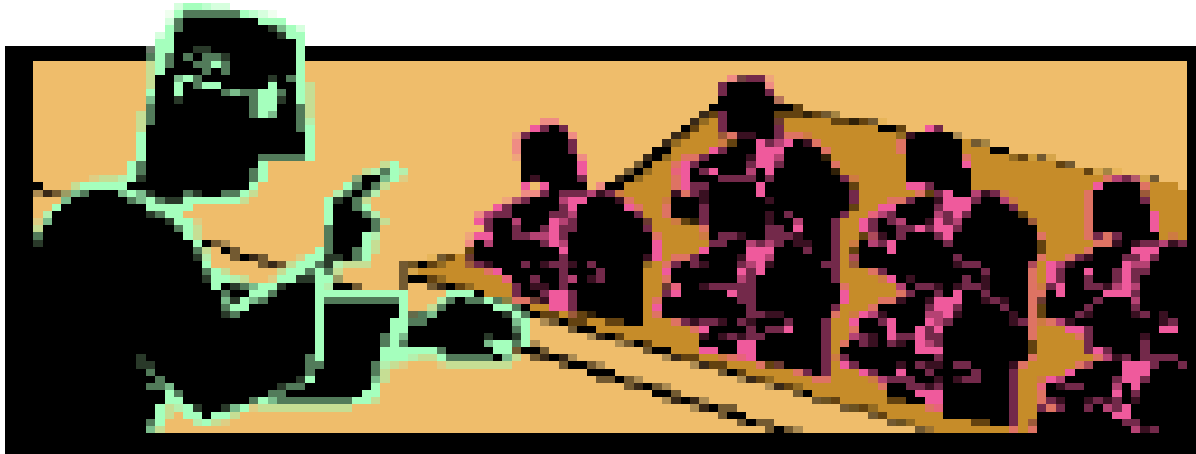
A large number of undesirable consequences!

As one of problems, incomplete perception distorts both financial and physical assets markets, resulting in inefficient allocation of resource in society.



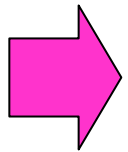
(3) How is the irrationality of (1) i) and ii) modified?

**Disaster education** to let them know their risks.



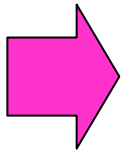
## Additionally...

(1) i) Their perception of risk is incomplete. They sometimes reject to learn disaster risk they are facing.



**How to motivate people to learn** them willingly is important topic in **Implementation Science**.

(1) ii) They are myopic and do not consider how long it takes to reconstruct livelihood after disaster.



**Long-term financial contracts** such as credit-line contracts may help correcting their future view to be longer.

## Conclusion

This year I broke the complicated problem down into factors and described several scenarios as hypotheses.

I will demonstrate them with theoretical models and/or real data in the third year of the Young Scientists Group project.



Thank you very much.