

Experiencing natural disasters: how this influences risk aversion, trust and the demand for microinsurance

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Introduction

Natural disaster in developing countries

Climate change is likely to increase extreme weather events, their frequency and intensity (Surminski & Oramas-Dorta 2013; IPCC 2012). The UNISDR has recorded an increase in the number of meteorological natural disasters since 1980, with floods being the most common hazard, followed by storms, droughts and extreme temperatures (UNISDR 2012).

Developing countries have a greater exposure to climate risk due to locations in high-risk areas, economic dependence on agriculture and higher rates of population growth. Developing countries are therefore more vulnerable to the increasing likelihood of natural disasters. While total monetary losses due to natural disasters are higher in developed countries, the number of affected people and the relative size of economic impacts (as a proportion of GDP) are more significant in developing countries. The lack of financial resources to 'cushion' natural hazards is a key constraint for low-income countries in increasing their adaptive capacity and climate resilience. Additionally, the damage caused by natural disasters affects the development processes of these countries and set back poverty reduction efforts. (Surminski & Oramas-Dorta 2013; Ahsan 2014)

Microinsurance as a risk management instrument

Insurance is one risk management tool, which removes or reduces the financial risk arising from natural hazards (Surminski & Oramas-Dorta 2013). In contrast to traditional types of insurance, microinsurance is characterised by the affordability of cover for low-income clients. In developing countries insurance is just emerging as an instrument to compensate losses caused by natural disasters (Mechler et al. 2006).

The aim of disaster microinsurance is to provide easily accessible and affordable insurance for life, health, property and crops against the impacts of natural disasters – typically floods, droughts, storms, and others. Microinsurance products are promising instruments to provide

low-income households with access to post-disaster liquidity and to strengthen their ability to cope with the consequences of disasters. Furthermore, insured households and small businesses are more creditworthy and more likely to invest in productive assets. Limitations of this instrument arise because of the covariant appearance of disaster risks, the problem of "moral hazard" and asymmetric information, as well as immature and unregulated markets with a high risk of insurer insolvency. (Mechler et al. 2006)

Even if microinsurance in general appears to be a promising tool to protect vulnerable populations, the overall enrolment rates remain low. Even when prices are significantly below actuarial fair prices, demand for products remains low (Eling et al. 2013).

The role of risk aversion and trust for microinsurance demand

(Eling et al. 2013) determine risk aversion and trust as two important factors with influence individual demand for microinsurance products. There is therefore a direct link between risk aversion and the importance of trust, which can be explained as the households' view of the insurance as risky itself or a limited understanding of the product (Eling et al. 2013). The importance of trust in insurance contracts is affected by the enforcement of property rights which is especially relevant in environments with weak legal systems (Eling et al. 2013). Ahsan (2014) shows in a field experiment that an individual's expression of trust is affected by their risk preference, in that risk-seeking individuals are more likely to be more trusting.

According to expectations the occurrence of natural disasters has an effect on the individual's risk aversion. Reynaud & Nguyen (2012) and Ahsan (2014) show that people who have been affected by natural disasters are more risk-averse than people who have not been affected, which may have an influence on their contribution to economic activities. However, the level of trust is not influenced by natural shocks (Ahsan 2014).

Methodology & Theoretical Framework

A field experiment with a trust game and a lottery/risk game to measure personal risk aversion have been performed with 212 participants in rural areas of Cambodia's Battambang province. The games are frequently referenced in related academic literature and have been conducted several times in developing countries to measure trust, trustworthiness, and risk aversion.

The survey regards household and village characteristics (age, education, income and wealth), the general perception of climate-related risk, previous experiences with natural disasters and

observations of the experiences of others. Furthermore, it determine the knowledge of microinsurance instruments, individual assessments of such products and offers an abstract purchasing decision.

By running different types of regressions, risk aversion and trust behaviour will be explained by different socio-economic variables and the occurrence of natural disasters (Schechter 2007). Afterwards, the choice experiments of the abstract purchase decision for microinsurance product will be analysed.

References

- Ahsan, D., 2014. Does natural disaster influence people' s risk preference and trust? An experiment from cyclone prone coast of Bangladesh. *International Journal of Disaster Risk Reduction*, 9, pp.48–57.
- Eling, M., Pradhan, S. & Schmit, J.T., 2013. *The Determinants of Microinsurance Demand*, St. Gallen.
- IPCC, 2012. *Managing the Risks of Extreme Events and Disasters to Advance Climate Change Adaptation. A Special Report of Working Groups I and II of the Intergovernmental Panel on Climate Change*. C. B. Field et al., eds., Cambridge: Cambridge University Press.
- Mechler, R., Linnerooth-Bayer, J. & Peppiatt, D., 2006. *Disaster Insurance for the Poor? A review of microinsurance*, Geneva and Vienna.
- Reynaud, A. & Nguyen, M.-H., 2012. *Monetary Valuation of Flood Insurance in Vietnam*, Hanoi and Ho Chi Minh City.
- Surminski, S. & Oramas-Dorta, D., 2013. Flood insurance schemes and climate adaptation in developing countries. *International Journal of Disaster Risk Reduction*, pp.1–11.
- UNISDR, 2012. Number of Climate-related Disasters Around the World (1980-2011). Available at: http://www.preventionweb.net/files/20120613_ClimateDisaster1980-2011.pdf [Accessed May 21, 2014].