

Tracing Evidences for Reducing Vulnerability of Rural Communities by Modeling Institutional and Social Links between Agents in Science and Policy

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Global processes like climate change and trade liberalization present great challenges to both science and policy because of the unequal distribution of benefits and costs between countries, between sectors, between communities and between people. Governments develop and implement regional and local policies that could help to balance the negative impacts of these processes and to reduce vulnerability of affected areas and communities. However, emerging patterns of vulnerability are not the consequence of the effects of policies alone, but they are also a manifestation of human adaptive behavior to the impacts of these policies. Human beings possess cognitive abilities to exhaust or economize social, economic and natural resources to adapt to any changes in the environment. Understanding vulnerability requires knowledge of adaptation processes, and the reduction of vulnerability demands appropriate adaptation measures. Whilst Policy should be able to provide measures to help local communities adapt in a sustainable manner, science has the challenging task of informing policy about the sustainability of these measures. Building an effective science-policy interface is thus a prerequisite for reducing the vulnerability of communities to the impacts of global processes. Here vulnerability and adaptation are understood as an outcome of both institutional and social links and decision processes between science and policy, on the one hand, and among people in affected communities, on the other hand.

To trace evidences on how adaptation measures reduce vulnerability of rural communities to the impacts of global processes, a processed-based tool that can model visible links and adaptive decisions of actors in science, policy, and affected communities is very useful. The proposed case study in the Philippines for the VARIP Project aims to apply such a tool by adopting an agent-based intervulnerability framework (Acosta-Michlik and Rounsevell 2005), which emphasizes the importance of considering the interaction of the impacts of global processes and the interconnection of global to local changes in assessing vulnerability. The Philippine case study will be an extension of recently completed START-funded pilot project on Intervulnerability Assessment to include agents from science and policy, in addition to agents from rural communities. The case study will be a village where scientists and politicians are actively implementing local adaptation measures, either jointly or individually, formally or informally. The degree of complementarity or incompatibility of their motivations and instruments for implementation to the needs of the vulnerable people will be assessed. Among others, the activities for the case study will involve identification of relevant policies and concerned policy makers or local administrators, identification of outreach activities of selected scientists to policy and communities, interviews with representatives from science and policy, social survey of farmers, and extension of the agent-based model. Through these activities, the case study in the Philippines aims to deliver empirically supported answers to the core questions of the VARIP Project.

Reference:

Acosta-Michlik, L. and M. Rounsevell (2005) From generic indices to adaptive agents: Shifting foci in assessing vulnerability to the combined impacts of globalisation and climate change. IHDP Update 2005.