

# **Institutions for Establishing Information Commons on Climate Change: The Application of Insurance for Adaptation**

Masaru Yarime, University of Tokyo

A wide range of adaptation measures can be implemented in response to observed and anticipated climate change, including altering farming practices and crop varieties, building new water reservoirs, enhancing water use efficiency, changing building codes, and constructing sea walls. Insurance in this regard will have a very important role for adaptation, as it can lessen the adverse impact of climatic events on policy holders and also be an instrument for incentivizing adaptations aimed at reducing climate risks. Extreme movements in the water cycle will particularly have a major impact on the agricultural sector in developing countries. The weather index insurance for agriculture is an example of such insurance which draws a growing attention. It is aimed at alleviating the negative impacts of extreme weather on farming households and village economies by compensating part of the damage caused to farming products. Since climate impacts are uncertain, insurance companies might overcharge for climate risk or refuse coverage of risks that might otherwise be insurable. It is thus essentially important to predict the scale, frequency, and timing of climate change and estimate the damage as accurately as possible. In many developing countries, however, available data on weather and farming may not be sufficient to draw up a reliable insurance model. Therefore, we need to establish institutional frameworks to ensure at a societal level ready access to various types of relevant data, information, and knowledge, including weather records, land use, crop production, and the behavior of local farmers and to develop new ways of assessing risk and spreading it away from those affected, while encouraging those at risk to adapt to the new environment. In this paper a case study is conducted on the weather index insurance for agriculture introduced in Thailand. We examine how the institutional conditions functioned effectively for promoting collection, distribution, and utilization of various types of data, information, and knowledge relevant to climate change among the stakeholders including insurance companies, local farmers, weather agency, agricultural associations, financial institutions, and policy makers. Implications will be discussed for corporate strategy, public policy, and institutional design for potential applications in other regions.

**Keywords:** Institutions, Information Commons, Climate Change, Insurance, Adaptation, Innovation, Corporate Strategy, Public Policy, Private Sector