CLIMATE RISK ANALYSIS FOR WEATHER INDEX-BASED AGRI-INSURANCE IN THE PHILIPPINES

FELINO P. LANSIGAN¹ & AGNES D. ROLA²

ABSTRACT

Agri-insurance is one strategy of managing risks by sharing and/or distributing these risks among stakeholders. Many ambitious crop insurance programs have been implemented to assist farmers to cope with risks. While many risk-related interventions and programs were proposed, many were not able to achieve the goals because of a number of operational challenges and issues including sparse weather data distribution. An objective and transparent crop insurance based on a weather index (such as rainfall), rather than on the consequence of weather variability (such as crop failure), has potential advantages that address the operational issues associated with insurance such as moral hazard, risk of adverse selection, and subjective damage assessment. Moreover, the reliability of indices, which are in turn highly correlated with expected crop yields, depends much on the quality of available long-term weather databases. The formulation of crop index insurance options require the use of a combination of available historical records of weather variables as well as available real-time remote sensing data utilizing the advances in science and technology. Climate risks for weather index-based agri-insurance in vulnerable areas were analyzed for selected representative rice-growing areas in the Philippines. Location-specific probabilities of exceeding specified rainfall threshold levels for particular growth stages of the crop were determined. The advantages and opportunities provided by weather index-based agri-insurance are discussed, and the needed policy and institutional support mechanisms are presented.

Keywords: agri-insurance, climate risks, weather index

¹ Professor, Institute of Statistics, College of Arts and Sciences, U.P. Los Banos, College, Laguna 4031.
² Professor and Dean, College of Public Affairs, U.P. Los Banos, College, Laguna 4031.