

Climate Change, Agricultural Production and Nutrition: Towards Integrated Policy Design for Food Security

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The issue of climate change and climatic variability and its impacts on human livelihoods are a major concern among the international community (IPCC 2015). This is especially so for the semi-arid tropical Africa where smallholder farmers depend critically on the vulnerable rain-fed agricultural systems. Climate change adaptation is an important policy agenda for food security in the region. Food security has to be considered in a comprehensive manner including production, consumption, marketing, nutrition and health in addition to social organization. Considering future climatic variability that is anticipated, building climate-resilience is an important policy agenda not only for Zambia but also for countries in Africa. Resilience is defined as “the capacity of a system to experience shocks while retaining essentially the same function, structure, feedbacks, and therefore identity (Walker et al. 2004)”. Resilience, either climate-resilience or disaster-resilience, has recently become practical policy agenda in many international development organizations (WB, 2016) and national governments in practice. “Vulnerability and Resilience of Social-Ecological Systems (RIHN)” has proposed qualitative and quantitative approaches to empirically analyze resilience of rural households in Zambia (Kanno et al., 2015; Umetsu et al., 2014; Miyazaki et al., 2013; Ishimoto et al., 2013; Miura and Sakurai, 2012; Sakurai et al., 2011). We argued that in order to operationalize resilience, it is important for us to consider *resilience* in the context of food security, more broadly human security, of rural households in SAT region. We conducted an integrated study for analyzing farmers’ coping strategy against climatic shocks and their effects on food and nutritional status in Southern Zambia. We collected various intensive household level data including on-farm precipitation, agricultural production, off-farm production, consumption, and anthropometric measures as a proxy for nutritional status for three cropping seasons from 2007 to 2010. The objective of this research is to identify ways in which the resilience to environmental variability of subsistence farmers in the SAT can be strengthened. The purpose of the presentation is to show our empirical evidence in Zambia and dynamics of farmers’ livelihoods in response to various shocks, and to explore the possibilities of integrating research agenda that focuses on climate change risk reduction, agricultural production and nutrition.

Keywords: food security, climate change adaptation, agricultural production, nutrition, resilience