Geophysical Research Abstracts
Vol. 18, EGU2016-14326, 2016
EGU General Assembly 2016

Multi-disciplinary assessments of climate change impacts on agriculture to support adaptation decision making in developing countries

Mariko Fujisawa (1) and Hideki Kanamaru (2)

(1) FAO (Food and Agriculture Organization of the U.N.), Rome, Italy (mariko.fujisawa@fao.org), (2) FAO (Food and Agriculture Organization of the U.N.), Rome, Italy (hideki.kanamaru@fao.org)

Many existing climate change impact studies, carried out by academic researchers, are disconnected from decision making processes of stakeholders. On the other hand many climate change adaptation projects in developing countries lack a solid evidence base of current and future climate impacts as well as vulnerabilities assessment at different scales.

In order to fill this information gap, FAO has developed and implemented a tool "MOSAICC (Modelling System for Agricultural Impacts of Climate Change)" in several developing countries such as Morocco, the Philippines and Peru, and recently in Malawi and Zambia. MOSAICC employs a multi-disciplinary assessment approach to addressing climate change impacts and adaptation planning in the agriculture and food security sectors, and integrates five components from different academic disciplines: 1. Statistical downscaling of climate change projections, 2. Yield simulation of major crops at regional scale under climate change, 3. Surface hydrology simulation model, 4. Macroeconomic model, and 5. Forestry model.

Furthermore MOSAICC has been developed as a capacity development tool for the national scientists so that they can conduct the country assessment themselves, using their own data, and reflect the outcome into the national adaptation policies. The outputs are nation-wide coverage, disaggregated at sub-national level to support strategic planning, investments and decisions by national policy makers. MOSAICC is designed in such a way to promote stakeholders' participation and strengthen technical capacities in developing countries. The paper presents MOSAICC and projects that used MOSAICC as a tool with case studies from countries.