AgMIP The Agricultural Model Intercomparison and Improvement Project

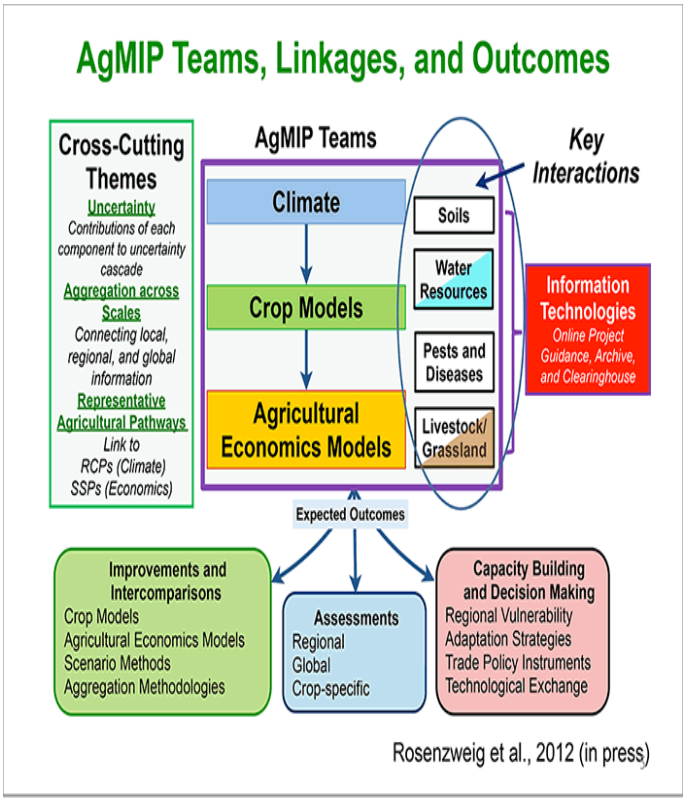
AgMIP is an international effort linking the climate, crop, and economic modeling communities with cutting-edge information technology to produce improved crop and economic models and the next generation of climate impact projections for the agricultural sector. FECT is responsible for overseeing the work in Sri Lanka while working directly with University of Peradeniya (Departments of Geography, Computer Science and Engineering, Mathematics), University of Ruhuna, and Sugarcane Research Institute. The Faculty of Agriculture-University of Peradeniya, Department of Agriculture and Rajarata University are also undertaking work.

Goals of AgMIP

Substantially improve the characterization of world food security due to climate change and to enhance adaptation capacity in both developing and developed countries.

Objectives

- Incorporate state-of-the-art climate products as well as crop and agricultural trade model improvements
- Improve scientific and adaptive capacity for major agricultural regions
- Include multiple models, scenarios, locations, and crops. Enable participants to explore uncertainty and impact of data and methodological choices
- Collaborate with regional experts in agronomy, economics, and climate to build strong basis for applied simulations addressing key climate-related questions
- Develop a framework to identify and prioritize adaptation strategies



Sri Lankan Proposal: **Modeling the impacts of a variable and changing climate on rice and sugarcane agricultural systems in Sri Lanka**

Researchers are from: Foundation for Environment, Climate and Technology **(FECT)**, Sugarcane Research Institute **(SRI)**, University of Peradeniya **(UoP)**, Department of Agriculture **(DoA)** and University of Ruhuna **(UoR)**.

Duration: until February 2014

Anticipated Outcomes

(i) Advancement of state of the-art modeling of the impacts of a variable and changing climate on agriculture and food security at multiple scales to inform policy-making and resource management.

(ii) Harnessing of high quality data resources and expertise in Sri Lanka to contribute to global efforts to characterize the impacts of a variable and changing climate on agriculture.

(iii) Development of expertise, infrastructure, data and IT resources for climate, crop and economic modeling in the partner universities, departments and research institutes.

(iv) Establishment of a multi-disciplinary network of collaborators in climate, crops and economics who will foster trans-disciplinary research, with special attention given to fostering the next generation of scientists with training programs and access to project resources and outputs.

AgMIP Sri Lankan Team attending the launch workshop at Colombo during November 2012: Seated from Left; Erandika Wijekoon, Sandya Ariyawansha, Champa Nawaratna, Punya Delpitiya, Standing from Left; Vidhura Ralapanawe, Janaka Gunarathne, Chandrajith De Silva, Dumindu Herath, Yasas Harischandra, Chamila Walgampaya, Sampath Deegalla, P. Wickramagamage, S. K. Cyril (Chairman, SRI), K.D.N. Weerasinghe, S.P. Nissanka, R. Herath, Chamila Perera, K. Shanmuganathan, Prabodha Agalawatte, Lareef Zubair

Sri Lankan work plan: Fast-track Integrated Assessment

For fast-track assessment, we select one sub-region, one crop, one crop model and one weather site location. We choose rice agricultural systems in Kurunegala with parallel work on sugarcane systems in Moneragala.

Work Areas

Rice: Kurunegala (for fast-track) and thereafter Anuradhapura, Polonnaruwa, Batticaloa, Ampara, Hambantota, Kalutara and Matara districts.

Sugarcane: Pelwatte and Sevanagala (for fast-track) and thereafter Ampara, Badulla and Kilinochchi districts.

- Crop model used would be DSSAT, APSIM and STICS. Crop yields for the farms, districts and for multiple climate change scenarios for three durations (2010-2040, 2040-2070, 2070-2100) are to be simulated. A local sugarcane crop model following work of K. Sanmuganthan formerly of SRI is being is also being used.
- Economic modeling would be carried out with the use of Tradeoff analysis software (TOA-MD) and DevRAP software developed by Oregon State University, USA.

Further Information

AgMIP blog: http://agmipsl.wordpress.com
AgMIP website: http://www.agmip.org/
Sri Lanka project on AgMIP website: http://www.agmip.org/srilanka
FECT website: http://www.climate.lk/

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