



FACCE-MACSUR

MACSUR TradeM Workshop

Exploring new ideas for trade and agriculture model integration for assessing the impacts of climate change on food security

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Confidential till:	—

Revision	Changes	Date
1.0	First Release	2013-06-26
1.1	Reformatted (M. Köchy)	2013-06-27

Summary

The first TradeM workshop was held at Haifa University (Israel), 3-5 March 2013. It was a state-of-the-art Workshop 'Economic Modelling on Agriculture with Climate Change for Food Security'. Sixteen papers are presented, following a call for abstracts submitted in December 2012.

Presented, reviewed and discussed models, their inputs, outputs and main results of case-study analyses let indicate of how the model can be used to analyze the impacts of climate change on food security, how the model can contribute to, and benefit from other economic and/or crop and livestock models and what input is needed from CropM and LiveM . There were explored ideas for closer integration and linkage between agriculture and economic models and between economic models at different levels, addressing issues of model structure, scale and data processing. Focus was on model comparison, gap analysis, scientific advancements and improvements. We also addressed the key challenges of the economic models (macro- versus micro-economics; uncertainty versus risks; variability and distribution), and identified ways to cope with scaling, uncertainty, risks. The workshop let identify the requirements from CropM and LiveM, find policy questions that MACSUR is going to address, start with the content of the case studies and plan for publication of scientific papers.

The sessions were broadcast live via the internet. Twenty-four registered participants and about 65 local visitors attended the workshop.

Presentations

Welcome Addresses

Prof. Michal Yerushalmy, Vice President and Dean of Research, University of Haifa, Israel

Prof. Ofira Ayalon, Director Natural Resource and Environmental Research Center University of Haifa (NRERC), Israel, Prof. Mordechai Shechter Founder and Distinguished Chair of Natural Resource and Environmental Research Center University of Haifa (NRERC), Israel

Chief Scientist Ministry Agriculture, Israel Dr Sinaia Netanyahu, Chief Scientist Ministry of Environmental Protection, Israel

Keynote lecture

Climate change and Israeli Agriculture - resilience, adaptation, land use and production. Dr Shabtai Cohen: Head, Department of Environmental Physics and Irrigation, Institute of Soil, Water and Environmental Sciences, Volcani Center, ISRAEL

Dr Floor Brouwer: Objectives of MACSUR project and TradeM theme LEI Wageningen UR, The Netherlands.

Paper Session 1: Examples from existing models in TradeM.

Economic and Trade Models to Analyze Climate Change Risk and Food Security for European Agriculture - A Survey Waldemar Bojar UTP, Bydgoszcz, Poland, Franz Sinabell WIFO (Austrian Institute of Economic Research), Vienna, Austria, , René Verburg, LEI, Wageningen UR, The Hague, The Netherlands.

Linking models of climate, weather, crops and economic behavior by Bayesian calibration Oyvind Hoveid NILF, Norway.

GLOBIOM: Integrated assessment of climate change impacts on global food availability *Petr Havlík, Erwin Schmid Sabine Fuss, David Leclere, Michael Obersteiner, Aline Mosnier, Hugo Valin, Nikolay Khabarov, Mario Herrero *International Institute for Applied Systems Analysis, Laxenburg

Paper Session 2: Linking economic and biophysical models.

Linking bio-physical, bottom-up and top-down economic models to analyze climate change impacts and adaptation on Austrian agriculture *Martin Schönhart, Olivia Koland, Erwin Schmid, University of Natural Resources and life Sciences BOKU, Department of Economics and Social Sciences, Austria

Assessing the Impact of Climate Change on Vegetative Agriculture in Israel - The VALUE Model *Iddo Kan

Mickey Rapaport-Rom Department of Agricultural Economics and Management, and The Center for Agricultural Economics Research; The Robert H. Smith Faculty of Agriculture, Food and Environment; The Hebrew University of Jerusalem; Natural Resource and Environmental Research Center University of Haifa (NRERC), Israel

Assessing the Impact of Climate Change on the Israeli Water Economy via a Linked CGE and Farm-Level Model Zvi Baum Ruslana Rachel Palatnik Natural Resource and Environmental Research Center University of Haifa (NRERC), The Academic College of Emek Yezreel, Israel

Linking bio-physical, bottom-up and top-down economic models to analyze climate change impacts and adaptation on Austrian agriculture Martin Schönhart, Olivia Koland, Erwin Schmid University of Natural Resources and life Sciences BOKU, Department of Economics and Social Sciences, Austria

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Environmental Research, Center University of Haifa (NRERC), The Academic College of Emek Yezreel, Israel

Paper Session 3: Integrated assessment models

Interactions between agricultural trade liberalisation and the environment - An analysis with a global land use model *Christoph Schmitz, Anne Biewald Hermann Lotze-Campen Potsdam Institute for Climate Impact Research (PIK), Germany

Food Security Assessment with CAPRI *Andrea Zimmermann, Wolfgang Britz, Thomas Heckeles Institute for Food and Resource Economics, University of Bonn, Germany
Economic assessment of the impact of uncertainty associated with short-run change in climate variability in Mediterranean farming systems Gabriele Dono, Raffaele Cortignani, Paola Deligios, Luca Doro, Luca Giraldo, Luigi Ledda, Graziano Mazzapicchio, Massimiliano Pasqui, Pier Paolo Roggero, Department of Science and Technology for Agriculture, Forestry, Nature and Energy, University of Tuscia, Viterbo, Italy.

Paper Session 4: Modelling land use and climate change

Modelling regional land use and climate change adaptation strategies in Northern Germany Peter Zander ZALF-SO, Germany

Farm level analysis as a key to integrated regional case studies in Finland Heikki Lehtonen, Reimund Rötter, Taru Palosuo, MTT Agrifood Research, Finland

Using SPACSYS to analyse the interaction between plant and environment in a systems approach Lianhai Wu, Andrew P. Whitmore Sustainable Soils and Grassland Systems Department, Rothamsted Research, UK

Paper Session 5: Modelling water and impact of climate change. Chair Prof. Uri Mingelgrin
Water markets for Climate Change Matteo Zavalloni Meri Raggi, Davide Viaggi University of Bologna, Italy

Agricultural model for the Nile Basin Decision Support System Johnny te Roller Earth Informatics, Alterra Short and long-run impact of climate changes on worldwide grain prices Luciano Gutierrez, Francesco Piras, Pierpaolo, Roggero NRD and Dipartimento di Agraria, University of Sassari, Italy

Options for Cloud computing Dr. Jason S. Jorgenson School of Agriculture, Policy & Development University of Reading, Whiteknights