

GTAP Board Report
Food and Agriculture Organization of the United Nations
June 2014

FAO has been a member of GTAP Consortium since 2008. Different technical units with FAO have either used the GTAP database, its modeling framework, or have collaborated directly with the GTAP Center for specific projects (ex: livestock GHG mitigation project).

In the past 12 months, FAO activities that relates to GTAP include the following:

1. Climate change and Trade (Trade and Market Division, FAO). In November 2013, the Trade and Markets Division organized an expert consultation on the theme “*Global Food Production under Changing Climate and Increased Variability: Implications for trade and Food Policy*”. The consultation brought together a large number of top researchers on climate impact assessments on agriculture and debated for two days the implications for food security and trade policy. (see the web link: <http://www.fao.org/economic/est/est-events-new/foodproduction/en/>). A special volume covering commissioned papers from consultation is under preparation. At least two papers make use of the GTAP framework and/or database. These are:
 - a) Ahammad H. et al. “Role of international trade and trade policy reforms under a changing climate: Insights from global economic modelling (FAO, forthcoming 2014)
 - b) Ching-Cheng Chang, Huey-Lin Lee, and Shih-Hsun Hsu, “The Potential Impact of Climate Change induced Sea Level Rise on Global Rice Market and Food Security in Asia”, (FAO, forthcoming 2014).
2. Additional work using GTAP from the FAO staff at the Trade and Markets Division include the following two studies this past year:

Manitra A. Rakotoarisoa "Effects of a Mix of Taxes and Subsidies on the Mix of Products: Substitution vs. Endowment Effects Applied to the Agricultural Sector in Sub-Saharan Africa" (Conference paper)

Manitra A. Rakotoarisoa, Sangeeta Khorana and Badri Narayanan, "Can reciprocal tariff elimination reduce the welfare losses due to lagging labour productivity?: An analysis of reciprocal preferential trade access between Sub-Saharan Africa and industrialized countries" (Conference paper).

In addition there is also ongoing collaboration with Badri Narayanan from Purdue University and others on the modeling of the R&D spillover effects of trade.
3. The Global Perspectives Studies Team of the Economic and Social Development Division (ESA) of FAO has been heavily involved in the Agricultural Model Intercomparison and Improvement Program (AgMIP). The core of the work this past year has been finalizing the first phase of the comparison of the global economic models of agriculture. ESA participated

with the ENVISAGE model, a joint FAO/World Bank project. Phase 1 included the participation of 10 models—6 of which were GE and all based on one version or another of the GTAP database, and 4 were PE. Phase 1 activities concluded in 8 published articles—one overview paper published in PNAS (<http://www.pnas.org/content/early/2013/12/12/1222465110.full.pdf+html>) and 7 others published in a special issue of Agricultural Economics (<http://onlinelibrary.wiley.com/doi/10.1111/agec.2014.45.issue-1/issuetoc>). The team is now engaged in the second phase of AgMIP activities and is also a member of the coordinating group for the global economic models within the AgMIP consortium. In a related effort, the Global Perspectives Team is part of a group of teams working on a study for the Trade and Agriculture Department (TAD) of the OECD. The OECD study aims to provide insights for its member governments on various issues related to future developments in agriculture and food.

4. FAO made a financial contribution to the GTAP Center in support of the development of a new satellite data on non-CO₂ GHG emissions.

Other areas of work within FAO of potential interest to the GTAP community include:

5. Global Agricultural Ecological zones (GAEZ) managed by FAO Land and Water Division (team leader: John Latham).
6. FAO just released its own global estimates of greenhouse gas (GHG) emissions from agriculture, forestry and other land use (AFOLU), contributing to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change (IPCC).

End of report
June 10, 2014