

GTAP Board Report

Food and Agriculture Organisation of the United Nations

June 2016

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

1. The Global Perspectives Studies (GPS) team of the Economic and Social Development Department (ESD) has been involved in the following activities that are of potential interest to the GTAP community:
 - a. In collaboration with IFAD and WFP, the GPS team prepared a flagship corporate report on “Achieving Zero Hunger: The critical role of investments in social protection and agriculture”, which presents the position of the three Rome-based UN Agencies on additional investment needs so as to achieve permanent and universal food and nutrition security by 2030. The report was originally prepared for the Third International Conference on Financing for Development (13-16 July 2015, Addis Ababa, Ethiopia) and was revised for the UN Summit for the adoption of the post-2015 development agenda and the UN General Assembly of September 2015 (<http://www.fao.org/3/a-i4951e.pdf>).
 - b. The GPS team is currently extended its modelling capacity with the general equilibrium model, in order to support its analytical needs for the preparation of the forthcoming FAO forward-looking exercise: World Food and Agriculture towards 2050-80. The selection of the model is being based on the outcomes of a workshop with in-house experts as well as collaborating UN Agencies and international organisations on “Long-term scenario building for food and agriculture: A global overall model for FAO”. An internal evaluation exercise helped to identify relevant modelling frameworks that can enable the consideration of economy-wide aspects in the long-run (e.g. sectoral patterns of production and employment, trends on labour and other factor markets, income generation and distribution, savings and capital accumulation processes, financing of investment and availability of land and other agriculture-related natural resources and capital stock).
 - c. The team is working on extending the partial equilibrium model GAPS – Global Agriculture Perspectives System – which has been developed in-house and is used to derive FAO’s long-term projections on food and agriculture and to carry out related scenario analysis. Ongoing work focuses on representing food demand and livestock systems.

- d. The team is involved in the second phase of the Agricultural Model Intercomparison and Improvement Programme (AgMIP) and participates with the GAPS model.
2. The Monitoring and Analysing Food and Agricultural Policies (MAFAP) program as part of the Agricultural and Rural Transformation team in the Agricultural Development Economics (ESA) Division of FAO seeks to gradually establish country owned and sustainable policy monitoring and analysis systems in developing countries. To that end, the MAFAP team has been working on selected developing economies applying alternative analytical methods to identify key policy issues limiting the development of the agricultural sector or specific value chains. CGE modelling is among the suitable techniques to carry out ex-ante policy impact analysis, and as a result the MAFAP program has gradually engaged into more modelling work to strengthen its policy advisory functions. This includes reaching out to partners having long lasting experience in modelling and more in particular CGE modelling. Those partner institutions include the Joint Research Centre (IPTS) of the European Commission in Seville, IFPRI, Purdue University and others.
 - a. MAFAP/FAO's activities over the past 12 months that relates to GTAP include activities at country and regional levels:
 - i. "Can a cereal export ban affect a net food-importing economy? The case of Ethiopia";
 - ii. "Supporting farmers and consumers under food price uncertainty: the role of price support policies";
 - iii. "Achieving food security and industrial development in Malawi: Are export restrictions the solution?";
 - iv. "Are investments in agricultural infrastructure really boosting farmers' market access in Sub-Saharan Africa?"; and
 - v. "Productivity and trade policy changes: Food security impacts in selected African countries".
 - b. Some of the research projects MAFAP/FAO envisaged to undertake over the coming 12 months are: (i) "Investment in agricultural productivity vs rural commercialization: which way to rapid poverty reduction in Ethiopia?" (ii) "Improving public expenditure in support of agriculture in Uganda: an optimal mix for growth and poverty reduction"; and (iii) "Synergies between the promotion of high-value agricultural exports and food security: the case of Ethiopia, Kenya and Uganda". Currently, these research projects are at various stages. There are also a number of topics in the MAFAP policy issues database that are identified to be conducted using partial/general equilibrium modelling once the required discussion is concluded with national governments.
 - c. Regarding the cooperation with Purdue University on GTAP, the MAFAP database has recently been added to the GTAP database allowing some new analyses focusing on the thirteen African countries covered by MAFAP.
 - d. In a related effort, the MAFAP Team is part of the Consortium of International Organizations on measuring the policy environment for agriculture including the

Trade and Agriculture Department (TAD) of the OECD, the World Bank and IFPRI. The members of the Consortium are interested in providing publicly available information on policy effects as measured by standard and shared indicators applied by each institution. These indicators will be gradually captured in a global database which is intended to feed the GTAP and other databases available for CGE models.

3. The Trade and Markets Division (EST) of FAO's Economic and Social Development Department collaborated with Purdue University on using the GTAP model for analysing global and domestic market effects of Russian import restrictions introduced in 2014.