**GTAP Board report**

**Food and Agriculture Organisation of the United Nations**

**June 2018**

FAO has been a member of GTAP Consortium since 2008. This report summarizes activities of different FAO technical units during the past 12 months that are of potential interest to the GTAP community.

## Global Perspectives Studies Team

The Global Perspectives Studies (GPS) team of the Economic and Social Department (ESD) (http://www.fao.org/global-perspectives-studies/en/) has been involved in the following activities:

1. The GPS team is carrying out a foresight exercise on simulation scenarios of alternative pathways to food and agriculture in 2050. The simulation scenarios have been identified in a series of in-house workshops and consultations with all FAO technical departments so as to depict the challenges relevant for FAO work on ensuring food security and nutrition in the future. Quantifications of the identified simulation scenarios have been carried out with the partial equilibrium model FAO GAPS – Global Agriculture Perspectives System – as well as with the ENVISAGE model (in collaboration with the Purdue University).
2. The GPS team has recently revised the representation of food demand in the GAPS model. Emphasis was given on respecting microeconomic theory demand properties (e.g. adding up, homogeneity, symmetry and semi-negativity of substitution terms) while endogenously changing consumer preferences motivated by income and price changes.
3. The GPS team has incorporated elements from the FAO GLEAM model (http://www.fao.org/gleam/en/) on the definition and representation of livestock production systems. Ongoing work focuses on livestock feed balances
4. There is ongoing work at GPS on reinforcing the coherence between partial and general equilibrium models, which shall eventually result into a better joint use of GAPS and ENVISAGE. The work carried out so far allowed to map the output of activities in FAO GAPS – defined using FAOSTAT's production statistics – and the output of the ENVISAGE, based on GTAP agricultural sectors. This allowed to align the supply side between the two models. Several differences have been identified in the definitions of commodities between the GTAP database and FAOSTAT's commodity balance sheets which make it a non-trivial exercise to align demand and trade positions between the two models.
5. The GPS team participated in the GTAP-OECD workshop on "Shaping long-term baselines with CGE models". Issues that are of interest to deepen related to depicting food demand in a CGE model and in looking into intermediate demand of food and depicting how the flow of food expressed in physical terms is described in the GTAP database, as well as into linking baselines with partial and general equilibrium models.

**MAFAP Programme**

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 (JRC) of the European Commission in Seville, IFPRI and others.

MAFAP/FAO's activities over the past 12 months that relate to GTAP include:

(i) "General equilibrium analysis of public spending impact and sustainability in Uganda";
(ii) "Appui à la formulation du deuxième Programme National du Secteur Rural (PNSR 2) du Burkina Faso";
(iii) "Synergies between the promotion of high-value agricultural exports and food security: the case of Ethiopia, Kenya and Uganda"; and
(iv) "Policy options to support the Agriculture Sector Growth and Transformation Strategy in Kenya".

MAFAP team members have been participating in the annual GTAP conference, and a team member will be presenting and communicating a research on "Synergies between the promotion of high-value agricultural exports and food security: the case of Ethiopia, Kenya and Uganda" during the upcoming conference in Colombia.

Some of the research projects MAFAP/FAO envisaged to undertake over the coming 12 months include: (i) "Analysis of optimal budget allocations and policy reform options for the agricultural sector as part of PSE II" (ii) "Analysis of public agricultural expenditure and rural investment strategies for Ghana"; and (iii) "Economy-wide impact of import tariff removal for maize in Mozambique". 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.

Further, the MAFAP Team is part of the Consortium of International Organization on measuring the policy environment for agriculture including the Trade and Agriculture Department (TAD) of the OECD, the World Bank, IFPRI and IADB. 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.