

LEI: Report to the GTAP Advisory Board 2006.

GTAP activities LEI, 2005

The Agricultural Economic Research Institute (LEI) has been a member of the GTAP consortium since November 1996. We use GTAP for a variety of research related to international trade in agri-food products. A summary of our activities over 2005/06:

Consortium related

- Frank van Tongeren served as instructor on the 2005 GTAP short course. John Helming attended the 2005 course.

People

Unfortunately Frank van Tongeren left LEI for a position at OECD. Martin Banse, who delivered the IO data for Central and Eastern European countries to the GTAP database, from the University of Gottingen joined LEI. We now have five researchers actively involved in GTAP: Martin Banse, John Helming, Marijke Kuiper, Hans van Meijl and Andrzej Tabeau.

Research involving GTAP in 2005/06

- Policy research for The Netherlands: We have continued our work for the Dutch Ministry of Agriculture, Nature and Fisheries Management. GTAP input continues to be requested in CAP-WTO related projects, e.g. on EU sugar reforms. A large scale project at special request of minister Veerman used GTAP (and many other inputs) to develop a 'vision on Dutch agriculture in 2020'. For development of spatial scenarios for food production and nature management, the model funnel was build consisting of GTAP, land allocation model for the Netherlands (Land Use Scanner) and the Dutch Regionalized Agricultural Model (DRAM).
- As part of the work for LNV LEI is working on a 'tariff tool', an easy to use interface for creating GTAP compatible scenarios using detailed tariff-line data (MacMap as well as other more detailed sources).
- LEI is one of the partners in the SCENAR2020 project. In this project the future of EU agriculture and rural development is central. GTAP will be used in combination with two EU agricultural models (ESIM and CAPRI).
- A new avenue has been opened over the past 3 years with joint work with RIVM and now expanded to include other collaborating institutions. This multidisciplinary work sets out to make scenario projections leading amongst other things to spatially explicit land use projections for EU 25 countries. In GTAP we applied among others a land supply curve and the AIDADS demand function. The EURURALIS project is widely considered to be a great success and has been presented to senior EU officials during meetings in the context of the Dutch EU presidency. This year EURURALIS II started. In this project CAP policies and biofuels will be central.
- LEI is contributing in 2005/2006 together with MNP (RIVM) to the development of OECD environmental Outlook.
- LEI has contributed to the Global Biodiversity Outlook in combination with MNP (RIVM).
- In 2005/2006 work on model linkages between GTAP and DRAM, a detailed partial equilibrium agricultural sector model was continued.

- One methodologically related large-scale project has started. The SEAMLESS project is funded through the EU FP6 as a so-called 'integrated project'. GTAP will be used in several parts of this project: The GTAP model will be linked to the CAPRI model of EU agriculture. GTAP is providing the GE impacts.
- Adjusting GTAP model to better reflect developing country features. This work intends to use the new AEZ data of the Land use project to capture differences in production potential, especially water and temperature limitations. Next to AEZ data we are planning to work on unemployment, and limited supply responses (for example due to limited infrastructure hampering price transmission and availability of inputs)
- GTAP will be linked to national level CGE models of developing countries for poverty and sustainability analyses.
- The methodological work in SEAMLESS for developing countries will also provide the starting point for a second large-scale EU FP6 integrated project (LUPIS) which is expected to start in the fall of 2006. Here the focus will be on applying the methodology in various developing countries, with a strong focus on local capacity building.
- We continued work on EUROMED agreements using GTAP, in the framework of an EU thematic network led by Jo Swinnen.
- In 2003 we started a project with the OECD secretariat on the issue of agricultural liberalization and non-member countries. The development of GTAPEM benefited enormously from work done by Tom Hertel and Roman Keeney on modeling agriculture. Although the project has finished, work on GTAPEM is still ongoing. We currently focus on small trade shares (combing gravity models with GTAPEM). A paper with the first results will be presented in Addis.
- Indonesia: we are working with various institutions (government and university) to build WTO capacity. This work is funded through a bilateral fund with the Dutch government. Two researchers from Indonesia have attended the 2005. The work has been well received in Indonesia and we hope to obtain funding for a follow-up.
- New and upcoming: there is a revival of attention for 'biomass for energy' in all of Europe. We are working with Royal Dutch Shell and technical institutes to develop global scenarios on bioenergy potential. We expect to use GTAP-E and plan to enrich the database with bioenergy information.

Some publications:

- B. ten Brink (project leader), R. Alkemade, M., Bakkenes, B. Eickhout, M. de Heer, T. Kram, T. Manders, M. van Oorschot, F. Smout, J. Clement, D. van Vuuren, H. Westhoek, L. Miles, I., Lysenko, L. Fish, C. Nellemann, H. van Meijl, A. Tabeau, Cross-roads of Planet Earth's Life Exploring means to meet the 2010-biodiversity, Target, MNP report 555050001, 2006.
- Eickhout, B., H. van Meijl, T. van Rheenen and A. Tabeau (2006) Economic and ecological consequences of four European land-use scenarios, Land Use Policy, (forthcoming).
- Eickhout, B., T. Kram, H. van Meijl and A. Tabeau, 2006. *Methodology of simulating agricultural production within and Environmental-Economic Framework*. MNP Report.

- Eickhout B, T. Kram, T. Manders, H. van Meijl and A. Tabeau, 2006. *How do trade, poverty and climate policies affect biodiversity?* The Ninth Annual Conference on Global Economic Analysis, Addis Ababa, Ethiopia.
- Francois, Joseph, Hans van Meijl and Frank van Tongeren (2005), Trade liberalization in the Doha development Round, *Economic Policy*, vol 42 (April): pp. 349 – 391.
- Helming J., A. Tabeau, T. Kuhlman and F. van Tongeren, 2006. *Linkage of GTAP and DRAM for scenario assessment: methodology, application and some selected results*. The Ninth Annual Conference on Global Economic Analysis, Addis Ababa, Ethiopia.
- Klijn, J.A., L.A.E. Vullings, M.v.d. Berg, H. van Meijl, R. van Lammeren, T. van Rheenen, A. Veldkamp, P.H. Verburg, H. Westhoek and B. Eickhout, The EURURALIS study: Technical document, Alterra-rapport 1196, Alterra, Wageningen, 2005.
- Kuiper, M., An economy-wide perspective on Euro-Mediterranean trade agreements, with a focus on Morocco and Tunisia. Paper prepared for the ENAPRI conference, Brussels, June 8 2006.
- Kuiper M. and van F. van Tongeren, Using gravity to move Armington - An empirical approach to the small initial trade share problem in general equilibrium models. Paper prepared for the Ninth Annual Conference on Global Economic Analysis, June 15-17, 2006 in Addis Ababa, Ethiopia. Tom Kuhlman, Frank van Tongeren, John Helming, Andrzej Tabeau, Jasper Dekkers, Aris Gaaff, Rolf Groeneveld, Boudewijn Koole, David Verhoog (2006) Future land-use change in the Netherlands: an analysis through a chain of models. *Agrarwirtschaft* (forthcoming)
- Kuhlman T., A. Tabeau, F. van Tongeren, A. Gaaff. and J. Dekkers, 2005. Linking Models in Land Use Simulation: Application of the Land Use Scanner to Changes in Agricultural Area. 45th Congress of the European Regional Science Association, 23-27 August 2005, Vrije Universiteit, Amsterdam
- Meijl, H. van, T. van Rheenen, A. Tabeau and B. Eickhout (2006) The impact of different policy environments on land use in Europe, *Agriculture, Ecosystems and Environment*, Vol. 114, pp. 21-38.
- Meijl H. van H., T. van Rheenen, A. Tabeau and B. Eickhout, 2006. The Impact of Different Policy Environments on Agricultural Land Use. 26th Conference of The International Association of Agricultural Economists (IAAE) - Contributions of Agricultural Economics to Critical Policy Issues- Brisbane, Australia.
- Frank van Tongeren (2005), Brazil and China: the real winners of the Doha round?, *Entwicklung und Ländlicher Raum (Agriculture and development)*, Vol. 39, no. 5, pp 12-14.
- Secretariat of the Convention on Biological Diversity (2006) *Global Biodiversity Outlook 2*. Montreal, 81 + vii pages.
- Tabeau A., B. Eickhout and H. van Meijl, 2006, Endogenous agricultural land supply: estimation and implementation in the GTAP model, The Ninth Annual Conference on Global Economic Analysis, Addis Ababa, Ethiopia.