

Tugrul TEMEL

ECOREC Economics Research and Consulting
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Qualifications

Leadership in scientific research, international research-development, and public policy organizations towards achieving a strategic vision and inspiring others to translate this vision into day-to day activities and behaviors;

Research, Supervision and Teaching in academic and international research organizations, including University of Minnesota, Rutgers University of New Jersey, Free University of Amsterdam, InHolland University of Amsterdam, Wageningen University and Research, Tilburg University, World Bank (WB), Food and Agriculture Organization (FAO), International Monetary Fund (IMF) of the United Nations, International Service for National Agricultural Research (ISNAR-CGIAR), and Central Bank of the Republic of Turkey (TCMB);

Capacity Development Activities in high-level public policy and research organizations in the countries of Central Asia, the Caucasus, Middle East, Sub-Saharan Africa and European Union in the areas, including science-technology-innovation systems, poverty reduction and food security, growth and income distribution, information systems, cross-sector policy design and implementation in food security, health and the environment, as well as teaching/research curriculum and staff development in economics and statistics, ICT and library establishment; and activities to facilitate high-level policy dialogue panels and workshops as well as build policy analysis capacity of decision makers, experts and researchers from universities and public policy organizations such as health, finance, and agriculture ministries, and state statistics organizations;

Quantitative Skills in applied general equilibrium modeling for scenario analysis, science and innovation systems analysis, information systems analysis, and econometric and multivariate statistical techniques. Advanced skill in using Mathematica, Matlab, Dynare, STATA, SPSS, E-views, and PC-AXIS;

Academic Publications and Editorials in peer reviewed journals and books;

Language Skills: Turkish (mother tongue), English (fluent), Japanese (speaking-basic), Dutch (good), Azeri (fluent), and Spanish (speaking-fair).

Education

Ph.D. Applied Economics, University of Minnesota, 1995. Minnesota, St Paul, USA.

Thesis: Endogenous technological change via industry lobbying in a two-sector overlapping-generations model. *Committee:* Prof. Vernon Ruttan (Chairman), Prof. Terry L. Roe (Adviser), Prof. Leonid Hurwicz, Assist. Prof. Antonio Merlo, Assist. Prof. Rodney Smith.

M.A. Economics, University of Minnesota, 1994. Minnesota, Minneapolis: USA.

M.S. Economics, Middle East Technical University, 1988. Ankara: Turkey.

Thesis: Exchange rate policies and the export competitiveness: Turkey. *Committee:* Prof. Hasan Olgun (Adviser) and Assoc. Prof. Ali Arslan Gurkan.

B.S. Economics, Middle East Technical University, 1985. Ankara: Turkey.

B.S. Social Sciences, Gazi University, 1980. Ankara: Turkey

Specialization

Technology, Institutions, Economic Development: rent-seeking, the direction of technological change and economic growth; assessment of technology/innovation policies and systems development; institutional assessment of agricultural innovation systems and food security information systems; assessment of progress in Millennium Development Goals until 2015 and Sustainable Development Goals of the UN Agenda 2030 after 2015; cross-sector policy design in the nexus of agriculture, health and the environment; UN system of national accounts (SNA), satellite accounts, and their use in applied general equilibrium modelling; policy analysis using Bayesian estimation of SNA.

Information and Innovation Systems Management: analyzing agricultural knowledge and information systems, food security information systems, and information exchange networks for economic policy design and assessment; facilitating agricultural and rural innovation systems and public-private partnerships in technology generation, diffusion and application.

Institutional Capacity Building: agricultural research and technology for poverty reduction and food security; international trade; priority setting and needs assessment in agricultural R&D organizations; assessment of projects within the Competitive Grants System of the World Bank; statistics curriculum development at universities and capacity building in universities, government bodies and statistical institutions in developing countries.

Quantitative Methods: applied general equilibrium modelling, Bayesian estimation methods, non-parametric and spatial econometrics, systems methodology and discrete mathematics, survey design, sampling, and multivariate statistical methods. Software mastered: Mathematica, Matlab, Dynare, SPSS, STATA, PC-AXIS and E-views.

Regional Focus: Central Asia and the Caucasus, Europe, Africa, Middle East;

Work Experience

Director, [ECOREC Economics Research and Consulting](#) (May 2012 – present), Amsterdam, The Netherlands

- Contribution to a World Bank Project “National and subnational assessment for competition policy to improve economic growth and the business environment of local markets (Business Environment and Private Sector Development, Competition Policy Program ID: P179724)” with the preparation of a report entitled “Characterizing supply network links of Saudi Arabia: The role of competition policy and productive capacities in economic diversification.” Ankara-Turkiye and Amsterdam -The Netherlands (February 9 – June 30, 2023).
- Technical support to “EU assistance for Uzbekistan Agri-Food Development Strategy 2020-2030 Agriculture Support and Knowledge (ASK) facility.” DT Global Idev Europe S.L., Building Iberia Mart I, Pedro Teixeira Street, nº 8, 4th 28020 Madrid, Spain (October 1, 2021 – June 30, 2023)
- Contributed to an ECO-RCCFS and FAO Project entitled “ECO-RCCFS and FAO. 2023. 2022 Overview of Food Security in the Countries of Economic Cooperation Organization. Ankara-Turkiye (June 6 – December 31, 2022).
- Technical support to ECO-RCC/FAO on FNS Assessment and Program Development and Contribution to an Issue FAO Report on LDCs in Asia and the Pacific in relation to the Istanbul Plan of Action (in preparation for and as a contribution to The 5th United Nations Conference on the Least Developed countries, 2022). (November 25, 2021 – March 31, 2022).
- An assessment report entitled “COVID-19 and Food Systems: A regional review of macro-economic and food systems impacts and policy responses for Asia and the Pacific”. FAORAP project “MPI.5.1. Ex-post COVID impact assessment (GF.RAPTE.RA 10101000000)” (June 10 – August 31, 2021).
- Technical support to the ECO-RCC/FAO in preparing “Regional Food Security Program of the ECO Region” and “Overview of Food Security in the ECO Region 2020” by FAO (May 2020 – December 31, 2020).

- Technical support to the Competition Policy Reform in Saudi Arabia. The World Bank of the United Nations (March 14, 2019 – June 30, 2020).
- Technical support to the report “Good governance for ensuring food security and nutrition in the OIC Member Countries” by Standing Committee for Economic and Commercial Cooperation of the Organization of Islamic Cooperation (COMCEC, January 2020 – May 2020).
- An assessment of the scope of food and nutrition security policy, governance and information system in Azerbaijan. United Nations FAOAZ/SEC Food Security Regular Program, Baku, Azerbaijan (December 20, 2017 – March 9, 2018).
- Editing the Special Issue 2018 of the *International Journal of Transitions and Innovation Systems* Information, Innovation and Value Chain Nexus: Methods and Policy Analysis.
- Serving in the Scientific Advisory Board of the EU Horizon 2020 Project (2016-2020) “Shaping Social Innovation for Marginalized Rural Areas (SIMRA)”. EU project No: 677622 - RIA, Topic: ISIB-03-2015 - Unlocking the growth potential of rural areas through enhanced governance and social innovation (http://cordis.europa.eu/project/rcn/200385_en.html).
- Preparing collaborative, multi-actor EU Horizon2020 and UNEP 10YFP SFS project proposals. “Innovative agri-food chains: unlocking the potential for competitiveness and sustainability (SFS-34-2017)”, Amsterdam, The Netherlands.
- Carrying out EU Framework Program Evaluation (FP6 and FP7) for Turkey’s participation in EU Horizon 2020 program (project code: EuropeAid/127054/C/SER/multi)
- Carrying out FAO-funded projects “Strengthening the National Food Security Information Systems in Tajikistan, Kyrgyzstan and Azerbaijan” (project code: GCP/TAJ/007/EC)
- Developing software for the estimation of a system of national accounts and organising ministerial-level tailor-made training programs aimed at the development and use of data frameworks for policy analysis.
- Capacity building in agricultural and food security information systems, agricultural innovation systems and their information needs, the use of agricultural and food security information in priority-setting and policy analysis of agriculture-environment-health issues.
- Carrying out EU monitoring and evaluation framework contracts on research, development and innovation.
- Writing a book entitled “*Information and Innovation Systems Analysis by Graph-theoretic Concepts*” (forthcoming in 2020).

Senior Economist, [Tilburg University](#), Development Research Institute (July 2007 – May 2012), Tilburg, The Netherlands

- Carrying out applied socio-economic research, training and capacity building in support of poverty alleviation, food security monitoring and evaluation, global commodity chains, institutional impact analysis, macroeconomic data frameworks for policy analysis
- Curriculum and staff development in higher education: graduate and undergraduate applied economics and statistics departments
- Program development in national statistics offices, economic and development planning ministries, agricultural research and development offices

Director, [ECOREC Economics Research and Consulting](#) (Aug. 2006 – July 2007), Amsterdam, The Netherlands

- Carried out European Commission funded framework contracts under Lot 4 (Food Security Thematic Program in the areas of research, technology, innovations, food security information systems, and food security in fragile countries) and Lot 9 (Science and Technology Program)

- Commissioned a UNDP funded project for developing methodologies for sector, and benchmark analysis and survey designs for agricultural regeneration and development in Afghanistan

Senior Economist, [Food and Agriculture Organization \(FAO\) of the United Nations](#) (June 2005 – Aug. 2006), Rome, Italy

- Prepared Background Papers for State of Food Insecurity 2006 (SOFI) of the FAO
- Prepared a mid-term progress report on the implementation of the World Food Summit Plan of Action for the Committee for Food Security (CFS) of the FAO
- Carried out research on global poverty and food security trends

Visiting Professor of Economics, [Wageningen University](#), Agr. Economics-Rural Policy Group (April 2004 – June 2005), Wageningen, The Netherlands

- Completed the project “Turkey in the European Union”
- Taught a Ph.D. course “Institutions, Innovations and Growth”
- Prepared two chapters for a book entitled “Implications of Turkey’s Accession to the European Union for Agriculture, Food, Rural Areas and Structural Policy”
- Edited the Int’ J. of Agricultural Resources, Governance & Ecology Special Issue 2007 on “Institutional Change in Innovation Systems”

Lecturer, [Inholland University](#), School of Economics (Feb. 2004 – Sept. 2004), Amsterdam, The Netherlands

- Taught two courses: Intermediary Macroeconomics; Stock Markets
- Supervised 12 undergraduate theses

Research Fellow, [International Service for National Agricultural Research](#) (Nov. 2000–April 2004), The Hague, The Netherlands

- Coordinated medium/large-scale projects at country and regional levels; Identified and formulated, analysed, planned and implemented projects on agricultural innovation processes and related science and technology policies, institutional change in agricultural innovation systems, information and communication technologies in facilitating the innovation processes
- Designed and carried out capacity building activities supporting the innovation processes in Central Asia, the Caucasus, Sub-Saharan Africa
- Developed and applied decision support tools for poverty reduction & food security

Deputy Director and Associate Professor of Economics, [Free University of Amsterdam](#) - Centre for World Food Studies (Oct. 1997–Nov. 2000), Amsterdam, The Netherlands

- Managed multicultural and interdisciplinary research teams and performed leadership in research; Supervised graduate students
- Developed and implemented medium- and large scale projects on poverty reduction and food security in Central Asia, the Caucasus, Middle-East & Sub-Saharan Africa
- Gave lectures in economic development and technological change and in nonparametric econometrics

Research Fellow, [Rutgers University](#), Dept. of Agr. Economics and Marketing (Feb. 1995–April 1997), New Brunswick, USA

- Conducted policy research on labour markets, farming and land tenure, farmland utilization, and land valuation in agricultural and rural development in USA
- Lectured on land use and labour market efficiency in US agriculture and in econometric methods

Research Associate, [University of Minnesota](#), Dept. of Applied Economics (Sept. 1993–Dec. 1994), St. Paul, USA

- Conducted policy research on the impacts of structural adjustment policies on the environment and marketing in Ghana

Economist, [International Monetary Fund](#), Treasurer’s Department (July 1991–Sept. 1991) Washington, D.C., USA

- Conducted policy research on the role of Special Drawing Rights in portfolio management

Teaching and Research Assistant, [University of Minnesota](#), Dept. of Economics, Dept. of Applied Economics, and UM Management Information Division (Sept. 1991 – July 1993), Minneapolis, USA

- Taught Macroeconomics (Econ 101) and Money-Banking (Econ 3073)
- Conducted theoretical research on the effect of political lobbying on the direction of technological change

Economist, [Central Bank of Turkey](#), Research Department (Jan. 1986–Sept. 1990), Ankara, Turkey

- Conducted policy research on bank monitoring/supervision, monetary/exchange rate policies and international trade policies
- Developed early warning models for assessing bank performance

Teaching, Supervising and Training Activities

Teaching and Lecturing

- Course 1: Introduction to Macroeconomics (Econ 101), Dept of Economics, University of Minnesota, Minneapolis, USA, 1992.
- Course 2: Intermediary Macroeconomics (EC2FT03), School of Economics, InHolland University of Amsterdam, Amsterdam, The Netherlands, 2004.
- Course 3: Money and Banking (Econ 3073), Dept of Economics, University of Minnesota, Minneapolis, USA, 1992.
- Course 4: Stock Markets (IC2AFT03), School of Economics, InHolland University of Amsterdam, The Netherlands, 2004.
- Course 5: Quantitative Methods for Policy Analysis, Applied Statistics, National University of Rwanda, Butare, Rwanda, 2008-2010.
- Lecture 1: Portfolio Management: in Applied Econometrics (AgEcon 415), Dept of Ag. Economics and Marketing, Rutgers University of New Jersey, USA, 1995
- Lecture 2: Endogenous Technological Change: in Economic Development Center, Dept of Applied Economics, University of Minnesota, St. Paul, USA, 1995
- Lecture 3: Institutions, Innovations and Growth: in Mansholt Graduate School of Social Sciences, Wageningen University and Research, The Netherlands, May 2005.

Supervising

- 14 PhD dissertation supervision and 12 in undergraduate theses.
 - Six graduate students supervised (2007-2012), Development Research Institute (IVO), Tilburg University, Tilburg - The Netherlands.
 - Eight graduate theses supervised (1997-2000), Center for World Food Studies – Free University of Amsterdam, Amsterdam - The Netherlands.

- Twelve undergraduate theses supervised (2004), School of Economics, Inholland University, Amsterdam, The Netherlands.

Training

- Methods for the analysis of FNS, the preparation of regular FNS Bulletin for Uzbekistan, and hands-on Mathematica training for establishing and launching an FNS Early Warning System. EU ASK Facility and the MoA of Uzbekistan. May 2023 – July 2023. Tashkent, Uzbekistan.
- Methods for writing an FNS overview and analysis report on the state of FNS in the ECO region. FAO Sub-regional Office and ECO-RCC/the Ministry of Agriculture of Turkiye Republic. December 9, 2022 and December 16, 2022.
- Introduction to Policy Analysis: Applied Statistics, National Univ. of Rwanda & Tilburg Univ.
 - for lecturers from the Department of Applied Statistics at National University of Rwanda. IVO, Tilburg University, Tilburg, The Netherlands: February 9-20, 2009.
- Quantitative Methods for Policy Analysis - Applications with *Mathematica*: Applied Statistics at National University of Rwanda
 - for lecturers from the Department of Applied Statistics at National University of Rwanda. Butare, Rwanda: September 24 – October 8, 2009.
 - for 3rd and 4th year students from the Department of Applied Statistics at National University of Rwanda. Butare, Rwanda: May 2008.
- Applied Modeling for Policy Analysis - Applications with *Mathematica*: Applied Statistics Dept at National University of Rwanda
 - for lecturers from Applied Statistics Dept at National University of Rwanda, statisticians from the National Institute of Statistics of Rwanda and experts from the Ministry of Economy and Finance of Rwanda. Butare, Rwanda: May 28-July 12, 2010.
- Research Methodology, Proposal Writing, Reporting and Publication: State University of Papua, Indonesia
 - for lecturers from various departments at the State University of Papua, Indonesia. IVO, Tilburg University, Tilburg, The Netherlands: June 1-30, 2009.
- Use of Macro Data Frameworks in Applied General Equilibrium Modeling: Research Department in the Central Bank of Azerbaijan, Baku
 - for researchers in Research Department (*forthcoming*).

Publications

Journals (*peer reviewed*)

- Temel, T., Phumpiu, P. (2021). Pathways to recovery from COVID-19: characterizing input–output linkages of a targeted sector. *Journal of Economic Structures* **10**, 29. <https://doi.org/10.1186/s40008-021-00256-2>
- Temel, T., and Karimov, F. (2018). Information systems model for targeting policies: A graph-theoretic analysis of expert knowledge. *Expert Systems with Applications*, 119, 400-414.
- Temel, T. (2016). A methodology for characterizing innovation systems – Revisiting the agricultural innovation system of Azerbaijan. *Int'l J. of Transitions and Innovation Systems*, 5(3/4), 254-298.
- Temel, T and Kinlay, D. (2014). A method for assessing food security information system. *Int'l J. of Information Systems and Management*, 1(1/2), 166-194.

- Temel, T. (2014). Family planning, growth and income distribution in Rwanda: SAM multiplier and graph-theoretic path analysis. *J. of Economic Development*, 39(1), 1-56.
- Temel, T. (2013). Family size, human capital and growth: structural path analysis of Rwanda. *J. of Economic Development*, 38(4), 39-73.
- Temel, T. (2007). Institutional change in innovation systems. *Editorial to the Special Issue 2007, Int'l J. of Agricultural Resources, Governance and Ecology*, 6(2), 141-143.
- Temel, T. (2007). A conceptual framework for managing information flow in innovation systems. *Special Issue 2007, Int'l J. of Agricultural Resources, Governance and Ecology*, 6(2), 179-193.
- Temel, T. (2006). Systems information management: graph-theoretical approach. *Int'l J. of Computer Applications in Technology*, 25(1), 15-21.
- Temel, T., Lucas, A. (2005). Technical efficiency of Georgian farms after independence. *Int'l J. of Applied Econometrics and Quantitative Studies*, 2(1).
- Temel, T., Tansel, A., Gungor, D. N. (2005). Convergence of sectoral productivity in Turkish provinces: Markov Chains model. *Int'l J. of Applied Econometrics and Quantitative Studies*, 2(2).
- Temel, T. (2005). A systems approach to malaria control: an institutional perspective. *Health Policy*, 71(2), 161-180.
- Temel, T. (2004). A method for cross-sector priority setting: gaps and hypotheses in malaria research - Tanzania. *European J. of Health Economics*, 5(4), 317-323.
- Temel, T. (2004). Mapping organizational linkages in the agricultural innovation system of Azerbaijan. *Int'l J. of Agricultural Resources, Governance, and Ecology*, 3(1/2), 134-153.
- Temel, T. (2004). A cross-sector priority setting method: critical gaps in malaria research in Tanzania. *ISNAR Briefing Paper No. 75*.
- Temel, T. (2004). A method for linkage analysis. *Int'l J. of Computer Applications in Technology*, 20(4), 188-192.
- Temel, T. (2004). Malaria from the gap: need for cross-sector cooperation in Azerbaijan. *Acta Tropica*, 89(2), 249-259.
- Temel, T., Janssen, W., Karimov, F. (2003). Systems analysis by graph-theoretic techniques: Assessment of the agricultural innovations system of Azerbaijan. *Agricultural Systems*, 77(2), 91-116.
- Temel, T. (2000). US farm wages and labor market efficiency. *Growth and Change*, 31(3), 420-437.
- Temel, T., Tavernier, M. E. (1999). Are US farm wages really depressing? Evidence from Northeast and South. *Review of Regional Studies*, 29(3), 212-225.
- Temel, T., Tansel, A., Albersen, P. (1999). Convergence and spatial patterns in labor productivity: Non-parametric estimations for Turkey. *J of Regional Analysis and Policy*, 29(1), 3-19.
- Temel, T., Roe, L. T. (1998). On institutions and endogenous technological change. *METU Studies in Development*, 24(4), 649-662.
- Temel, T., Tavernier, M. E. (1997). National and regional analysis of convergence of real wages in the US agricultural sector. *J. of Regional Analysis and Policy*, 27(1), 63-74.
- Tavernier, M. E., Temel, T., Li, F. (1997). The role of farm ownership in off-farm work participation. *Agricultural and Resource Economics Review*, 26(1), 67-81.
- Tavernier, M. E., Temel, T., Derr, A. D. (1997). Implications of farm tenure for a region's food producing potential: A Northeast U. S. case study. *Review of Urban and Regional Development Studies*, 9(2), 159-169.
- Temel, T., Roe, L. T. (1996). Endogenous technological change via industry lobbying: Closed versus open economy models. *Journal of Economic Development*, 21(2), 81-119.

- Tavernier, M. E., Li, F., Temel, T. (1996). Search theory, risk preference, and farmland preservation. *Agricultural & Resource Economics Review*, 25(1), 38-45.
- Papaioannou, G. M., Temel, T. (1994). Testing the stationarity of the variance-covariance matrix of total returns for various currency instruments. *METU Studies in Development*, 21(2), 275-289.
- Papaioannou, G. M., Temel, T. (1993). Portfolio performance of the SDR and reserve currencies: Tests using the ARCH methodology. *IMF Staff Papers*, 40(3), 663-679.
- Papaioannou, G. M., Temel, T. (1993). How sensitive are ARCH effects on returns to the selection of the sample period? *Proceedings of XXIXth Conference of the Applied Econometrics Association*, 218-230.

Books

- Temel, T. (2020). Manual for network analysis of input-output matrices. ECOREC Working Paper No. 20-02 (*forthcoming*).
- Temel, T. (2007). *Institutional Change in Innovation Systems*. Guest Editor to Special Issue 2007 of the International Journal of Agriculture, Resources, Governance and Ecology. www.ecorec.org/publications/B006.pdf
- Temel, T. (2005). Chapter 3: The institutional framework of Turkey and Turkish agriculture. In A. Burrell and A. Oskam (Eds.), *Turkey in the European Union*. Netherlands: CABI Press. www.ecorec.org/publications/B005.pdf
- Temel, T. (2005). Chapter 12: Expected consequences for Turkey of EU entry in 2015. In A. Burrell and A. Oskam (Eds.), *Turkey in the European Union*. Netherlands: CABI Press. www.ecorec.org/publications/B004.pdf
- Temel, T., Maru, A., Reiner, K. (2006). Chapter 22: Information and communication technology in reforming national agricultural systems in Central Asian countries: the case of Georgia. In Suresh Chandra Babu and Sandjar Djalalov (Eds.), *Policy Reforms and Agricultural Development in Central Asia*. New York, USA: Springer. www.ecorec.org/publications/B003.pdf
- Emerson, M., Aydin, S. (2005). An introductory note on “Turkey in the European Union: Consequences for agriculture, food, rural areas and structural policy” by Arie Oskam, Alison Burrell, Tugrul Temel, Siemen Berkum, Natasha Longworth and Irene Molina. Centre for European Policy Studies Working Paper No: 1-14, 141-149, Jan. 2004 – Feb. 2005. Brussels, Belgium. www.ceps.be/files/TurkeyM/TMonitor14.pdf
- Temel, T. (1986). The application of the Polak model to the Turkish economy. In Nur Keyder, *Money, Theory, Policy, Application with Special Reference to Turkey*. Ankara, Turkey: METU Press.

Country Reports

- Temel, T. (December 2021). *Progress in the LDCs in the Asia-Pacific region in relation to the Istanbul Plan of Action (2011-2020)*. Bangkok, FAO. <https://www.un-ilibrary.org/content/books/9789216040598c006>
- Temel, T. 2022. *2020 Overview of Food Security in Economic Cooperation Organization Member States*. Prepared for FAO and ECORCCFS. Ankara. <https://doi.org/10.4060/cb9551en>
- Temel, T. (November 2022). Food and nutrition security data needs assessment: Uzbekistan. Prepared for EU ASK Facility, Implementing Partners for the Uzbek Agri-food Development Strategy (2020-2030). Tashkent, Uzbekistan.
- Elbehri, A., Temel, T., Burcu Ceylan, F., Mittal, S., Kularatne, D. and Dawe, D. 2022. *COVID-19 pandemic impacts on Asia and the Pacific – A regional review of socioeconomic, agrifood and nutrition impacts and policy responses*. Bangkok, FAO. <https://doi.org/10.4060/cb8594en>
- Technical support to the COMCEC report “Good governance for ensuring food security and nutrition in the OIC Member Countries”. Ankara, Turkey, May 2020.

- Technical support to the ECO/FAO report “Overview of Food Security in the ECO Region 2019”. Ankara, Turkey, July 2019. <<http://www.eco-rccfs.org/WebUserFile/BirimSayfasi/ad4cd19a-5bf4-43b5-8ff1-3e2c8327d163/Overview%20of%20Food%20Security%20in%20the%20Countries%20of%20the%20ECO-Final.pdf>>
- An assessment of the scope of food and nutrition security policy, governance, and information system in Azerbaijan. FAO of the United Nations FAO, March 2018.
- An assessment of the Food Security Information System in Azerbaijan (project no: TCP/AZE/3501). Submitted to the FAO of the United Nations. Baku, Azerbaijan, August-June 2014.
- Ex-Post Evaluation of the Seventh Framework Program in Turkey. EU Framework Contract Lot 7: Governance and Home Affairs (EuropeAid/127054/C/SER/multi). Submitted to TUBITAK, the Republic of Turkey. Ankara, Turkey, July 2014 – June 2015.
- An assessment of the National Food Security Information System in Tajikistan (project no: GCP/TAJ/007/EC).” Submitted to the FAO of the United Nations. Dushanbe, Tajikistan, June–July 2013.
- Support to Strengthening of the Food Security Information System in the Kyrgyz Republic (project no: GCP/006/KYR/EC). Submitted to the FAO of the United Nations. Bishkek, Kyrgyzstan, May–December 2013.
- State of the Food Insecurity 2006 (SOFI). Rome, Italy: FOA of the United Nations. <ftp://ftp.fao.org/docrep/fao/009/a0750e/a0750e00.pdf>
- Turkey in the European Union: Consequences for agriculture, food, rural areas and structural policy (with Arie Oskam, Alison Burrell, Siemen Berkum, Natasha Longworth and Irene Molina). Commissioned by the Dutch Ministry of Agriculture, Nature and Food Quality and conducted by Agricultural Economics & Rural Policy Group, Wageningen University. www.sls.wau.nl/aae/projects/Turkey/totaal-including%20cover.pdf & www.ceps.be/files/TurkeyM/TMonitor14.pdf
- Proceedings of Workshop: Agriculture, environment, and health interactions - Malaria information needs, sources, and use in Tanzania. A joint ISNAR-SIMA-NIMR-MoAFS Report. The Hague, Netherlands: ISNAR. www.isnar.cgiar.org/activities/malaria.htm
- Information and communication technology infrastructure and use in agriculture - Agricultural policy, research & education organizations in Georgia (with Ajit Maru). The Hague: FAO and ISNAR, 2003.
www.isnar.cgiar.org/pdf/georgia_ict.pdf
www.fao.org/docs/eims/upload/5080/georgiaictreport.pdf
www.fao.org/sd/dim_kn4/kn4_040902_en.htm
www.fao.org/sd/dim_kn4/docs/kn4_040902d1_en.doc
www.fao.org/sd/dim_kn4/kn4_040902a1_en.htm
- The agricultural innovation system of Azerbaijan: An assessment of institutional linkages (with Willem Janssen and Fuad Karimov). The Hague: ISNAR, Country Report No. 64, 2002. ftp.cgiar.org/isnar/Publicat/cr64.pdf
- Rural Poverty Assessment and Mapping in Lebanon (with Michiel A. Keyzer, Wim C.M. van Veen, Peter J. Albersen, Martin Nube, Benjamin G.J.S. Sonneveld, Bart G.J.M. van den Boom, and Geert B. Overbosch, in collaboration with MAA-DATA, Statistical Consulting Centre, Beirut, Lebanon). ISBN 90-805572-1-8 and ISBN 90-805572-2-6. SOW-VU, 2000.
- Agricultural development and its impact on malaria: Azerbaijan (with Michail Ejev). WHO Roll Back Malaria Regional Office for Europe, Report No. EU/01/053233, 2001. www.isnar.cgiar.org/activities/pdf/Malaria-Azerbaijan.pdf

- Rural Poverty Study of the Caucasus Countries: Armenia (with Michiel A. Keyzer, Geert B. O, Martin N, in collaboration with Ministry of Agriculture of Armenia). SOW-VU, 1998.
- Rural Poverty Study of the Caucasus Countries: Azerbaijan (with Michiel A. Keyzer, Geert B. Overbosch, Martin Nube, in collaboration with Azspetsprominvest Consulting and Engineering Company, Azerbaijan). SOW-VU, 1998.
- Rural Poverty Study of the Caucasus Countries: Georgia (with Michiel A. Keyzer, Geert B. Overbosch, Martin Nube, in collaboration with International Centre for Reformation and Development of Georgian Economy, Georgia). SOW-VU, 1998.
- Rural Poverty Study of the Caucasus Countries: Summary of Findings (with Michiel A. Keyzer, Geert B. O, Martin N, in collaboration with Ministry of Agriculture of Armenia, Azspetsprominvest Consulting and Engineering Company Azerbaijan, and International Centre for Reformation and Development of Georgian Economy). SOW-VU, 1998.
- Monograph: Adjustment, Agricultural Marketing, and Environment: The Case of Ghana (with Terry L. Roe). US Agency for International Development (USAID/EPAT/MUCIA), Project No. DHR-5555-Q-00-1087-00, 1994.

Working Papers

- Temel, T and Phumpiu, P. (2023). Policy design from a network perspective: targeting a sector, cascade of links, network resilience. ECOREC Working Paper No. 23-01. Amsterdam, The Netherlands. (MPRA Paper No. 118466 - <https://mpra.ub.uni-muenchen.de/118466/>)
- Temel, T. (2020). Employment strategies to respond to COVID-19: Characterizing input-output linkages of a targeted sector. ECOREC Working Paper No. 20-01. Amsterdam, The Netherlands. (MPRA Paper No. 102954 - <https://mpra.ub.uni-muenchen.de/id/eprint/102954>)
- Temel, T. (2015). A methodology for characterizing innovation systems – Revisiting the agricultural innovation system of Azerbaijan. ECOREC Working Paper No. 15-09. Amsterdam, The Netherlands. (MPRA Paper No. 66853 - <https://mpra.ub.uni-muenchen.de/id/eprint/66853>)
- Temel, T., Karimov, F. (2014). Graph-theoretic analysis of expert knowledge for targeting policies. ECOREC Working Paper No. 14-12. Amsterdam, The Netherlands. (MPRA Paper No. 60600 - <http://mpra.ub.uni-muenchen.de/60600/>)
- Temel, T. (2014). A method for targeting information policy. ECOREC Working Paper No. 14-01. Amsterdam, Netherlands. MPRA No. 58180 <http://mpra.ub.uni-muenchen.de/58180/>
- Temel, T., Kinlay, D. (2012). A method for assessing food security information system. ECOREC Working Paper No. 12-12. Amsterdam, The Netherlands. (MPRA No. 43177 - <http://mpra.ub.uni-muenchen.de/43177/>)
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Manuscripts (unpublished)

- Convergence of US farm output: Evidence at the national, regional and divisional levels. Free University of Amsterdam – SOW, Department of Economics.
- Are the U.S. farm wages equalizing? Free Univ. of Amsterdam – SOW, Dept. of Economics.
- New facts for an old debate: Farm size, productivity and geography. Free University of Amsterdam – SOW, Department of Economics.

- Is farm-size converging? Nonparametric estimations for Northeast. Free University of Amsterdam – SOW, Department of Economics.
- Does prevention reduce risk? An empirical assessment of household drought risk reduction in Kenya. Tilburg University – Development Research Institute (IVO).
- Untested assumptions of a statistical test: Student t-test. Free University of Amsterdam – SOW, Department of Economics.
- FAO SOFI (2006). A review of progress in hunger reduction: lessons, challenges and the way forward. *Background paper*.
- FAO SOFI (2006). Factors behind success in hunger reduction: 1990-2005. *Background paper*.
- Welfare analysis of food safety standards in the NAFTA. University of Minnesota-Applied Economics.
- Evolution of institutions via cultural endowments. University of Minnesota-Applied Economics.

Articles (*in review*)

- Temel, T. (2017). A method for targeting information policy for effective information system. *Decision Analysis*
- Temel, T., Karimov, F. (2017). Using expert knowledge in policy making: Systems analysis by graph-theoretic concepts.
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- Temel, T. (2017). Estimation of a system of national accounts: Implementation with *Mathematica*
- Temel, T. (2017). A nonparametric hypothesis test via the bootstrap re-sampling: Implementation with *Mathematica*
- Tavernier, E., Farong, Li., and Temel, T. (2017). Formation of offer prices in farmland markets: A hedonic price approach

Books (*in progress*)

- *Information, Innovation and Value Chain Nexus: Methods and Policy Analysis*. Guest Editor to Special Issue 2018 of the International Journal of Transitions and Innovation Systems (<http://www.inderscience.com/info/ingeneral/cfp.php?id=3904>) (forthcoming 2018) .
- *Information and Innovation Systems Analysis by Graph-theoretic Concepts* (forthcoming 2018).

Articles (*in progress*)

- Temel, T. An applied general equilibrium model: policy analysis of the family size – human capital investment trade-off in Rwanda.
- Temel, T. Evolution of innovation systems: dynamics of information and knowledge communities.

Research Projects

Acquired and Managed

- Technical support to the Competition Policy Reform in Indonesia. The World Bank of the United Nations (December 2023 – May 2024). To provide technical assistance in the development of a competition policy reform report for Indonesia. Funded by the World Bank.
- Technical support to “EU assistance for Uzbekistan Agri-Food Development Strategy 2020-2030 Agriculture Support and Knowledge (ASK) facility.” DT Global Idev Europe S.L., Building Iberia Mart I, Pedro Teixeira Street, nº 8, 4th 28020 Madrid, Spain (October 1, 2021 – July 30, 2023)

- Technical support to ECO-RCC/FAO on FNS Assessment and Program Development and Contribution to an Issue FAO Report on LDCs in Asia and the Pacific in relation to the Istanbul Plan of Action (in preparation for and as a contribution to The 5th United Nations Conference on the Least Developed countries, 2022). FAO-SEC Project Number: GCP/SEC/017/TUR – TF.SECDD.TFTR110019469 and FAO-RAP Project Number: RAP – MPI.5.1. Ex-post COVID impact assessment – GF.RAPTE.RA10101000000 (November 25, 2021 – March 31, 2022).
- An assessment report entitled “COVID-19 and Food Systems: A regional review of macro-economic and food systems impacts and policy responses for Asia and the Pacific”. FAORAP project “MPI.5.1. Ex-post COVID impact assessment (GF.RAPTE.RA 10101000000)” (June 10 – August 31, 2021).
- Technical support to the ECO-RCC/FAO in preparing “Regional Food Security Program of the ECO Region” and “Overview of Food Security in the ECO Region 2020” (May 11, 2020 – December 31, 2020). Funded by FAO.
- Technical support to the Competition Policy Reform in Saudi Arabia. The World Bank of the United Nations (March 14, 2019 – June 30, 2020). To provide technical assistance in the development of a competition policy reform report for Saudi Arabia and other Middle East and North Africa (MENA) Countries. Funded by the World Bank.
- Overview of Food Security in ECO Countries. The FAO of the United Nations (Project No: GCP/RER/044/TUR (ECO-RCC)). To provide technical assistance in the assessment of progress towards the Food and Nutrition Security Goals in Afghanistan, Azerbaijan, Iran, Kazakhstan, Kyrgyzstan, Pakistan, Tajikistan, Turkey, Turkmenistan, and Uzbekistan; To develop a food and nutrition security foresight towards 2030 and assess the progress in ECO Regional Food Security Programme (January 10, 2019 – March 20, 2019).
- An assessment of the scope of food and nutrition security policy, governance and information system in Azerbaijan. United Nations FAOAZ/SEC Food Security Regular Program, Baku, Azerbaijan (December 20, 2017 – March 9, 2018).
- Editing Special Issue 2018 of the *International Journal of Transitions and Innovation Systems*. “Information, Innovation and Value Chain Nexus: Methods and Policy Analysis.”
- Support to Strengthening of the Food Security Information System in Azerbaijan (project no: TCP/AZE/3501). Funded by EU and implemented by the FAO of the United Nations. Baku, Azerbaijan, August-June 2014.
- Ex-Post Evaluation of the Seventh Framework Program in Turkey. EU Framework Contract Lot 7: Governance & Home Affairs (EuropeAid/127054/C/SER/multi). Funded by EU and commissioned by EuroTrends Consulting Firm. Ankara, Turkey, July 2014 – June 2015.
- An assessment of the FAO project called “Support to Strengthening of the National Food Security Information System in Tajikistan (project no: GCP/TAJ/007/EC).” Funded by EU and implemented by the FAO of the United Nations. Dushanbe, Tajikistan, June–July 2013.
- Introduction to Food Security Approaches for Monitoring and Assessing Food Security Information Systems: A Tailor-Made Training Program (project no: GCP/TAJ/007/EC). Participants include high-level food security experts from the Ministry of Agriculture, Ministry of Economic Development and the National Statistics Office of Tajikistan. August 2013.
- Support to Strengthening of the Food Security Information System in the Kyrgyz Republic (project no: GCP/006/KYR/EC). Funded by EU and implemented by the FAO of the United Nations. Bishkek, Kyrgyzstan, May– December 2013.
- Support to Strengthening of the National Food Security Information System in Tajikistan (project no: GCP/TAJ/007/EC). Funded by EU and implemented by the FAO of the United Nations. Dushanbe, Tajikistan, July – August 2012.

- A tailor-made training program on research methodology, proposal writing, reporting and publication – State University of Papua, Indonesia. Funded by Netherlands Fellowship Programs Tailor-Made Training (NUFFIC -NFP/IDN/08/19). The Hague, Netherlands, 2009.
- Population, reproductive health and economic development in Rwanda. Funded by Netherlands Organization for Scientific Research (NWO), WOTRO-Hewlett: PopDev program. The Hague, The Netherlands, 2008.
- Support to the identification, monitoring and evaluation of activities to be launched within the new EU thematic program on food security (EuropeAid Framework Contract 116548/C/SV-LOT No. 4: Food Security Sector). Funded by the European Commission. Commissioned by ECORYS Research and Consulting: Rotterdam, The Netherlands, 2007.
- Assessment of proposals - ACP Science and Technology call for proposals. (EuropeAid Framework Contract 119860/C/SV/Multi LOT No. 9: Science and Technology). Funded by the European Commission. Commissioned by PROMAN Consulting: Belgium, 2007.
- Rural regional economic regeneration strategies in Afghanistan (Technical support to the Ministry of Rural Rehabilitation & Development of Afghanistan). Funded by UNDP. Commissioned by GRM International, London, United Kingdom, 2006.
- State of food insecurity 2006. Funded by FAO of the United Nations, Economic and Social Department (ESA), 2006.
- Mid-term progress in the implementation of World Food Summit - plan of action. Funded by FAO, Food Security and Agricultural Projects Analysis Service (ESAF), 2005-2006.
- Impact of land use and agricultural practices on malaria burden in Mvomero district - Tanzania. Funded by International Development Research Center (IDRC) & System-wide Initiative on Malaria and Agriculture (SIMA), 2004-06.
- Agriculture – malaria linkages in Tanzania. Funded by SIMA & ISNAR, 2003.
- Information and communication technology infrastructure and use in agricultural policy, research, and education organizations in Georgia. Funded by FAO, Sustainable Development Division, 2003.
- Agriculture - health linkages for poverty alleviation. Funded by Department of International Development (DFID), 2002-2003.
- Agricultural innovation systems in Central Asia and the Caucasus. Funded by the CGIAR Finance Committee and the World Bank, 2002.
- Agricultural development and malaria in Azerbaijan. Funded by World Health Organization (WHO) and ISNAR, 2001.
- Monograph: adjustment, agricultural marketing and environment: Ghana. Funded by USAID, 1994.

Managed

- Assessment of drought risk reduction activities in Kenya. Funded by CORDAID and Carried out by IVO-Tilburg University, 2008-2009.
- Macro-accounting for policy analysis in Angola. Funded by the World Bank and National Statistic Institute of Angola (INE), 2005-2010.
- Capacity building in applied statistics - National University of Rwanda. Funded by Netherlands Organization for Int'l Cooperation in Higher Education (NUFFIC), 2005-2009.
- Rural poverty assessment and mapping in Lebanon. Funded by International Fund for Agricultural Development (IFAD), 1999-2000.
- Rural poverty assessment in Caucasus countries. Funded by IFAD, 1997-99.
- Food security network: Armenia, Azerbaijan, Georgia and Kyrgyz Republic. Funded by the European Commission, 1998-2001.

- Future of European agricultural reform of the common agricultural policy after 2000. Funded by Netherlands Bureau for Economic Policy Analysis, Agricultural Economics Research Institute (LEI-DLO), SOW-VU, 1996-2000.
- The impact of climate change in Nigeria. Funded by FAO, 1998.
- WTO, agriculture and developing countries: Ethiopia. Funded by FAO, 1999.
- Human resource development: Burkino Faso, Cote d'Ivoire, Ghana, Mali, and Togo. Funded by Research Network for Sustainable Food Security in C. West Africa, 1998-2001.
- Land fragmentation and consolidation in India. Funded by Indira Gandhi Institute, Yale Growth Center, and SOW-VU, 1995-1999.
- Land use and cover change. Funded by International Institute for Applied Systems Analysis (IIASA) and SOW-VU, 1995-1999.
- Agro-ecological conditions in Africa. Funded by African Econ. Research Consortium, 1998.

Contributed

- Technical support to the report "Good governance for ensuring food security and nutrition in the OIC Member Countries" by Standing Committee for Economic and Commercial Cooperation of the Organization of Islamic Cooperation (COMCEC, January 2020 – May 2020), Ankara, Turkey.
- *Serving as member of the Scientific Advisory Board*. SIMRA: Social innovation in marginal rural areas "Unlocking the growth potential of rural areas through enhanced governance and social innovation (ISIB-03-2015)." Funded by the EU Horizon 2020 Framework Program and managed by the James Hutton Institute-UK, 2016-2018.
- Capacity development of Business and Economics Department in Addis Ababa University College of Commerce, Ethiopia. Funded by Netherlands Organization for International Cooperation in Higher Education (NUFFIC), Project no: NICHE/ETH/020, 2011-2014.
- Capacity building in linking national accounts to monetary and financial models - Central America. Funded by Netherlands Organization for International Cooperation in Higher Education (NUFFIC), 2008-2009.
- Turkey in the EU: Consequences for agriculture, food, rural areas & structural policy. Funded in 2004 by Dutch Ministry of Agriculture, Nature & Food Quality. www.socialsciences.wur.nl/aae/projects/Turkey/PDF%20first%20pages.pdf

Submitted for Funding

- UNEP 10YFP SFS Program (2018): "Innovative agri-food value chains for sustainable food systems", coordinated by Tugrul Temel, ECOREC Economics Research & Consulting, Amsterdam, The Netherlands. <http://www.unep.org/10yfp/about/what-10yfp>
- EU Horizon2020 (2017): "Understanding and promoting innovative agri-food value chains for sustainable food systems", SFS-34-2017 Call coordinated by Tugrul Temel, ECOREC Economics Research and Consulting, Amsterdam, The Netherlands.
- EU Horizon2020 (2016): "Innovation and competence building for inclusive and sustainable development in globalizing economy", COST Action coordinated by Roberto Mavilia, Bocconi University, Italy.

Activities

Workshops and High-Level Meetings Organized/Attended

- The workshop organized by FAO of the United Nations and the Ministry of Economy of the Government of Azerbaijan (February 21, 2018, Baku-Azerbaijan) aimed to explore the scope of food and nutrition security policy and governance, the organization of FNS-related data and information,

and the methodology for FNS monitoring, as well as to discuss several good practice examples in the areas concerned from the first-mover countries in the EU.

- Developing and maintaining systemic process of knowledge exchange and learning in understanding and assessing social innovations for marginalized rural areas – EU Horizon 2020 project (October 26-28, 2016, Bratislava-Slovakia). The aim of the 1st SIMRA Workshop is to develop and maintain systematic process of knowledge exchange and learning in understanding and assessing social innovations for marginalised rural areas with particular reference to the Mediterranean region. Engagement with stakeholders from the outset of SIMRA is crucial for the creation of a transparent and open-ended approach to producing socially innovative solutions to problems in Marginalised Rural Areas. The processes will be diverse and interactive starting with a short introduction to innovations, five thematic consultation sessions with discussion rounds in breakout groups and plenary sessions.
- Assessing Food and Nutrition Security Information System of Azerbaijan (April 1 – August 30, 2014), Baku, Azerbaijan. This workshop was jointly organized by the Ministry of Agriculture of Azerbaijan, FAO of the United Nations and ECOREC Economic Research and Consulting Firm. The workshop gathered the key food and nutrition security stakeholders in the country to identify the sources and characteristics of readily available food security data and to make proposals for possible food security indicators reflecting the realities of the country. The workshop also conducted a questionnaire to make an assessment of organizational learning, information distribution and use capacities, as well as identified the information needs and/or demands of the key food and nutrition security stakeholders for informed food and nutrition security policy design and implementation.
- Developing Food Security Monitoring and Evaluation Indicators for Tajikistan (July 8-10, 2012, Khoja Obi Garm - Tajikistan). This stakeholder workshop was jointly organized by the Ministry of Agriculture of Tajikistan and FAO of the United Nations. The workshop gathered the key food security stakeholders in the country to identify the sources and characteristics of readily available food security data and to make proposals for possible food security indicators reflecting the realities of the country. The workshop has identified about 100 indicators that can be utilized in food security decision and policy making.
- Establishing a Food Security Unit (FSU) in the Ministry of Agriculture of Tajikistan (July 18, 2012, Dushanbe - Tajikistan). In this high-level meeting, I made a proposal to the Ministry of Agriculture and the FAO about the institutional, organizational and operational structure of the FSU, which aimed to organize all the food security data and information and conduct policy research in support of the Food Security Council of Tajikistan and other public/private bodies concerning food security in the country. My proposal further included a component for strengthening the existing information system in Tajikistan.
- Applied Statistics Curriculum Development in National University of Rwanda: Jointly organized by Department of Applied Statistics (DAS) – National University of Rwanda (NUR) and Development Research Institute (IVO) – Tilburg University. A 3-day conference organized in Summer 2009 aimed at assessing the progress made in the development of applied statistics curriculum at the DAS-NUR and of statistical capacity of the national institute of statistics of Rwanda (NISR). A particular emphasis was given to the assessment of the linkage between statistics education at the NUR and its contribution to the capacity of the NISR.
- Facilitating Agricultural Innovation System: An Information Exchange Network for Azerbaijan (with Ajit Maru, Asad Musayev, Mamadzade Nabiyev, Fuad Karimov). This conference was jointly organized by ISNAR, Agrarian Science Center-Ministry of Agriculture of Azerbaijan, and Agency for Support to the Development of Agricultural Private Sector. Baku, Azerbaijan, December 12, 2002. Examined the current situation in the cotton supply chain in Azerbaijan: priority problems and agents relating to solutions; Explored the agents' linkages established through the information, knowledge, skills, & resources; Mapped out steps for creating an Information Exchange Network for the AIS for cotton. www.isnar.cgiar.org/pdf/baku%5Fworkshop02.pdf

- Needs Assessment for Agricultural Innovation System of Georgia (with Guram Alexsidze). This workshop was jointly organized by ISNAR and Georgian Academy of Agricultural Sciences, Tbilisi, Georgia, January 12, 2003. Examined the current situation in horticulture and viticulture farming in Georgia: priority problems and agents relating to solutions; Explored the agents' linkages established through the information, knowledge, skills, & resources; Mapped out steps for creating an Information Exchange Network for promoting the agricultural innovation system for horticulture and viticulture farming.
- Mapping Information Needs for Malaria Control in Tanzania (with Anna Wuyts). This workshop was jointly organized by ISNAR and System-wide Initiative on Malaria and Agriculture (SIMA) in collaboration with Ministry of Agriculture and Food Security and National Institute for Medical Research. Dares Salaam, Tanzania, October 27-28, 2003. Initiated the establishment of an integrated malaria information base for Tanzania: Gathered expert knowledge on critical areas to be investigated further, information needs to be addressed, constraints to be released, capacities to be built, and action research teams to be formed. This information was then used to prepare a guideline for the design of the integrated information base for malaria control in Tanzania.
www.isnar.cgiar.org/activities/pdf/mal_tanz2.pdf www.isnar.cgiar.org/activities/malaria.htm
www.isnar.cgiar.org/activities/pdf/Proceedings_Section1.pdf
www.isnar.cgiar.org/activities/pdf/Proceedings_Section2.pdf
www.isnar.cgiar.org/activities/pdf/Proceedings_Section3.pdf
www.isnar.cgiar.org/activities/pdf/Proceedings_Section4.pdf

Professional Presentations

- Good practice in FNS policies and governance in the EU (February 21, 2018). Joint workshop by FAO and the Ministry of Economy of the Government of Azerbaijan, Baku, Azerbaijan.
- Good practice in monitoring and responding to FNS concerns (February 21, 2018). Joint workshop by FAO and the Ministry of Economy of the Government of Azerbaijan, Baku, Azerbaijan.
- Understanding and promoting innovative agri-food value chains: the role of information and innovation systems dynamics (June 28, 2016). EU Brokerage Event - Sustainable Food Security Theme, Brussels, Belgium.
- Graph-theoretic approach to targeting policies with applications (November 25, 2015). Middle East Technical University, Department of Economics – Northern Cyprus Campus. Turkish Republic of Northern Cyprus.
- Food and nutrition security information system in Azerbaijan (June 14, 2014). Baku, Azerbaijan: Ministry of Agriculture of Azerbaijan and FAO Office.
- Guidelines for developing a food security strategy for Kyrgyzstan (December 5, 2013). FOA Country Office in Kyrgyzstan, Ministry of Agriculture, Bishkek, Kyrgyzstan.
- Institutional assessment of food security information system in Tajikistan (July 18, 2012). FOA Country Office in Tajikistan and Ministry of Agriculture of Tajikistan, Dushanbe, Tajikistan.
- Enhancing innovation capacity (April 5, 2007). Department of Economics and Development Research Institute, Tilburg University, Tilburg, The Netherlands. www.ecorec.org/activities/P058.ppt
- Enhancing ICT use for agricultural innovation system (January 10, 2007). United Nations University – Maastricht Economics Research Institute for Technology, Maastricht, The Netherlands. www.ecorec.org/activities/P057.ppt
- Agricultural innovation system: agricultural research for poverty reduction (March 17, 2005). Institute of Development Studies, University of Sussex, Brighton, UK. www.ecorec.org/activities/P056.ppt
- Agricultural innovation systems: research impact assessment (December 6, 2004). International Rice Research Institute (IRRI), Los Banos, The Philippines. www.ecorec.org/activities/P055.ppt

- Institutions, innovations and growth (June 12, 2004). Sophia University, Department of Economics, Tokyo, Japan. www.ecorec.org/activities/P054.ppt
- Agricultural innovation system for horticulture and viticulture: Georgia I (January 15, 2003). Georgian Academy of Agricultural Sciences, Research Institute of Horticulture and Viticulture, Tbilisi, Georgia. www.ecorec.org/activities/P053.ppt
- Agricultural innovation system for horticulture and viticulture: Georgia II (January 15, 2003). Georgian Academy of Agricultural Sciences, Research Institute of Horticulture and Viticulture, Tbilisi, Georgia. www.ecorec.org/activities/P052.ppt
- sasoflo-sameurneo innovaciuri sistemebi saqarTvelos mevenaxeobasa da mebaReobisaTvis I (In Georgian). (January 15, 2003). Georgian Academy of Agricultural Sciences, Research Institute of Horticulture and Viticulture, Tbilisi, Georgia. www.ecorec.org/activities/P051.ppt
- sasoflo-sameurneo innovaciuri sistemebi saqarTvelos mevenaxeobasa da mebaReobisaTvis II (In Georgian). (January 15, 2003). Georgian Academy of Agricultural Sciences, Research Institute of Horticulture and Viticulture, Tbilisi, Georgia. www.ecorec.org/activities/P050.ppt
- International Service for National Agricultural Research in the CAC region: Activities (June 17-20, 2003). Almaty, Kazakhstan. www.ecorec.org/activities/P049.ppt
- Agricultural innovation system for cotton in Azerbaijan I (February, 2003). Ministry of Agriculture of Azerbaijan, Agrarian Science Center, Baku, Azerbaijan. www.ecorec.org/activities/P048.ppt
- Agricultural innovation system for cotton in Azerbaijan II. (February, 2003). Ministry of Agriculture of Azerbaijan, Agrarian Science Center, Baku, Azerbaijan. www.ecorec.org/activities/P047.ppt
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- Convergence and spatial patterns in labor productivity: Nonparametric estimations for Turkey (September 1999). *ERC/METU International Conference in Economics III*. Middle East Technical University, Ankara, Turkey.
- Aggregate and disaggregate fluctuations in US farm output: Testing for convergence (December 1998). *56th Annual Professional Agr. Workers Conference*. Alabama, USA.
- Markov chain model of convergence of agricultural labor income: Evidence from the Northeast and South (June 1997). *Northeast Agricultural and Resource Economics Association*. Sturbridge, Massachusetts, USA.
- The impact of preservation efforts on local public finance and municipal services: The pine lands experience (June 1997). *Northeast Agricultural and Resource Economics Association*. Sturbridge, Massachusetts, USA.
- Convergence of real wages in the US agricultural sector: A regional analysis (April 1997). *36th Annual Meetings of the Southern Regional Science Assoc.* Memphis-Tennessee, USA.
- Analysis of convergence in US farm output: An examination of the evidence (April 1997). *36th Annual Meetings of the Southern Regional Science Assoc.* Tennessee, USA.
- Chaired Session 40 - Taxes and Finance (March, 1997). *61th Annual Meetings of the Midwest Economics Association*. Kansas City, Missouri, USA.
- Discussed the papers (i) Writing down impaired assets: The impact and overview of companies utilizing the new FASB standard no. 121, (ii) Incidence and asset-pricing effects of realization-based capital gains taxes. *61th Annual Meetings of the Midwest Economics Association*. Kansas City, Missouri, USA, March 1997.
- A conceptual welfare analysis of food safety standards in the NAFTA: A three-player cooperation game (March 1997). *61th Annual Meetings of the Midwest Economics Association*. Kansas City, Missouri, USA.
- Endogenous technological change in a two-sector overlapping generations model (March 1997). *The 61th Annual Meetings of the Midwest Econ. Assoc.* Kansas City-Missouri, USA.
- Regional analysis of convergence of real wages in the US agricultural sector (1997). *Annual Meetings of American Agricultural Econ. Association*. Toronto, Ontario, Canada.
- Convergence of real farm output in the US (1997). *Annual Meetings of the Southern Agricultural Economics Association*. Birmingham, Alabama, USA.
- A conceptual framework for examining environmental impacts of a growth strategy (1996). *35th Annual Meetings of the Southern Regional Science Assoc.* Maryland, USA, 1996.
- Discussed the papers in Session 5 - Environment and Regional Growth. *35th Annual Meetings of the Southern Regional Science Association*. Baltimore, Maryland, USA, 1996.

- Propensity to participate in the off-farm labor markets: The influence of land tenure (1996). *35th Annual Meetings of the Southern Regional Science Assoc.* Baltimore, Maryland, USA.
- Farm ownership and off-farm labor supply decisions (1996). *Annual Meetings of American Agricultural Economics Association.* San Antonio, Texas, USA.
- Information and formation of offer price in farmland markets (1996). *Annual Meetings of American Agricultural Economics Assoc.* San Antonio, Texas, USA.
- *Commodity and Financial Instrument Futures Markets Meetings.* Chicago, Illinois, USA: Chicago Board of Trade, 1996.
- Farm ownership and off-farm work participation (1996). *Annual Meetings of Southern Agricultural Economics Association.* Greensboro, North Carolina, USA.
- Assessing sector-specific environmental impacts of adjustment policies in Ghana: A systems methodology (1995). *Annual Meetings of Regional Science Association International.* Cincinnati, Ohio, USA.
- A structure for a lobbying economy model (April 1995). *Annual Meetings of Midwest Economics Association.* Cincinnati, Ohio, USA.
- Discussed the papers in Session Issues on Transition Economies (April 1995). *Annual Meetings of Midwest Economics Association.* Cincinnati, Ohio, USA.
- How sensitive are ARCH effects on returns to the selection of the sample period? (October 1993) *XXIXth Conference of the Applied Econometrics Association.* Luxemburg.
- Portfolio performance of the SDR and reserve currencies: Tests using the ARCH methodology (1993). *Annual Meetings of Midwest Economics Association.* Indiana, USA.
- Debt service capacity of Turkey (1992). *Annual Meetings of Western Economics Association International.* San Francisco, California, USA.
- Discussed the papers in Session Corporate Finance and Governance. *Annual Meetings of Western Economics Association International.* San Francisco, California, USA, 1992.
- An early warning model for the Turkish banking system (1992). *Annual Meetings of Midwest Economics Association International.* Chicago, Illinois, USA.
- Financial Market Committee Meetings. Paris, France: Organization of Economic Cooperation and Development (OECD), 1988.
- Dynamic Macro Theory & Econometrics Summer School. Turkey: Bilkent University, 1988.
- Treasury & Bourse Game Workshop. Istanbul, Turkey: Citibank Bourse Simulation, 1987.

Services

- Guest Editor: Int'l J. of Transitions and Innovation Systems (2018); International Journal of Agricultural Resources, Governance, Ecology (2007).
- Editorial Board/Steering Committee: Journal of Central Bank Review, Turkey, 1998-present; Minnesota J. of Global Trade, USA, 1993; SIMA Steering Committee Member, Sri Lanka, 2001-03.
- Referee: European Journal of Innovation Management (2018), Agricultural Systems (2018), Technological Forecasting and Social Change (2017), Applied Economics incorporating Applied Financial Economics; Economic Letters, Acta Tropica, Sweden; American Journal of Agricultural Economics, USA; METU Studies in Development, Turkey; Agricultural and Resource Economics Review, USA. International Journal of Agricultural Resources, Governance and Ecology, London, UK.
- Official Partner of UNEP-10YFP SFS Program. Global Action for Sustainable Consumption and Production (<http://www.unep.org/10yfp/>) (September 2016 – present)
- Membership: CERES Development Research Network, Working Group 2. The Netherlands (2008 – present); UNEP 10YFP SFS Program, Switzerland; European Association of Agricultural Economists,

The Netherlands; Markets and Trade Program, USDA/CSREES/NRICGP, USA; American Journal of Agricultural Economics, Western Economics Association International, Southern Regional Science Association, Southern Agricultural Economics Association, Regional Science Assoc. International, Midwest Economics Association, USA.

Awards

- National Society of Colonial Dames Merit Prize (1992-93). Univ. of Minnesota, Mpls, USA
- International Student Assoc. Merit Prize. (1992-93). Univ. of Minnesota, Mpls, USA
- CBRT Merit Scholarship. (1988-90). Ankara, Turkey.
- METU Dean's Honor List. (1981-85). Ankara, Turkey.
- Ministry of National Education of Turkey Merit Scholarship. (1977-80). Ankara, Turkey.

Links

- ECOREC Economics Research and Consulting, Amsterdam <<http://www.ecorec.org/>>
- Development Research Institute, Tilburg University <<http://ivo.uvt.nl/>>
- Food and Agriculture Organization of the United Nations <www.fao.org/>
- Agricultural Economics, Wageningen University <www.sls.wau.nl/aae>
- Mansholt Graduate School, Wageningen University <www.sls.wau.nl/mi>
- School of Economics, Inholland University <www.INHOLLAND.nl>
- Int'l Service for National Agricultural Research <www.isnar.cgiar.org>
- Vrije University, Amsterdam <www.sow.econ.vu.nl>
- State University of New Jersey, Rutgers <aesop.rutgers.edu/~agecon/>
- University of Minnesota (Economics) <www.econ.umn.edu>
- University of Minnesota (Applied Economics) <www.apec.umn.edu>
- International Monetary Fund <www.imf.org>
- Central Bank of the Republic of Turkey <www.tcmb.gov.tr/>