



Summer School Sudan 2021

Agricultural and Food Economics, Simulation Modelling and Policy Analysis

Agricultural Research Corporation (ARC), Shambat campus, Khartoum, Sudan

September 12th to September 30th, 2021

Organized by

International Agricultural Trade and Development Group, Humboldt-Universität zu Berlin, Germany

In partnership with

Agricultural Research Corporation, Sudan

and

University of Khartoum, Sudan



Funded by

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About the summer school

The summer school comprises a three-week program that focuses on the theoretical background and applied methods for analyzing policies related to the agricultural and food system with a special focus on simulation models.

Eligible for application are Master or doctoral students, graduates, and young scientists from Sudanese universities, other research institutions, and public and private institutions working in the field of agricultural economics or related fields.

Objective

The main goal of the summer school is to offer Sudanese graduate students, junior scientists and professionals working in the field of agricultural economics and related fields an opportunity to further develop their theoretical and practical skills in the field of simulation modelling and economic policy analysis.

The summer school focuses on policies applied to the agricultural sector, which contributed over 30% to the Sudanese Gross Domestic Product (GDP) in 2020. It also employs more than 40% of the population, with especially high shares in rural areas. Furthermore, the participants will also analyze policies which address other stakeholders along the food value chain up to final consumers.

The summer school provides practical hands-on experience in various types of simulation models and their application for policy analysis in the context of a country like Sudan, where agriculture is of high relevance. The public lectures will contribute to drawing the linkages between theoretical modeling and practical policymaking with examples from Germany and other parts of the world.

Content

The summer school consists of three consecutive one-week workshops, focusing on teaching hands-on tools for analyzing economic and agricultural policies.

The first workshop focuses on the theoretical foundations of scientific policy analysis. The workshop will reinforce the microeconomic foundations of the participants, introduce the main policy instruments related to the agricultural and food system and discuss methods to measure effects of policy intervention.

The second workshop deals with the quantitative analysis of agricultural and food policies using partial equilibrium models. Through hands-on case studies, the participants will learn how to apply this class of models and learn about their advantages and shortcomings.

The third workshop addresses applying computable general equilibrium models to analyze the economy-wide effects of agricultural and food policies as well as other external shocks.

Participants are first introduced to the development of the database used as a benchmark for such models, namely, the social accounting matrix and learn how to apply such models for policy and simulation analysis. Finally, participants will be provided with hands-on case studies and they will be informed on strengths and limitations of this class of models.

Besides the workshops, the summer school offers four public lectures. The lectures will invite the scientific and economic policy communities in Sudan to discuss pertaining research topics in Sudan that can be addressed with simulation models with reflection on the research conducted at the International Agricultural Trade and Development Group and related lessons inspired by the German context. The participation in these lectures is public to all interested audience from academia, policy and politics institutions and individuals.

Finally, every Tuesday evening, a social event will be organized to provide general information about Germany and German culture and share information on the opportunities for related studies and research exchange in Germany and with German institutions. Participation in these social events is also open to the public.

Application requirements

Interested applicants need to be vaccinated against COVID-19 by the time of the summer school. Specifically: In case of vaccination with Astra Zeneca,

- ideally, the second vaccination should take place by 05/09/2021, the latest, which means that the first vaccination needs to be taken by 25/07/2021.
- otherwise, the second vaccination should take place by 12/09/2021, which means that the first vaccination needs to be taken by the end of July, the latest.

Interested applicants also need to bring their own laptops and submit the following documents:

- A one-page curriculum vitae
- A certificate or a proof of registration in a Master/ PhD program in agricultural economics and a related field or a letter from an institution supporting the application (e.g., research institutions, universities, government institutions and private companies)
- A proof of participation in a microeconomics course
- A proof of ability to study and communicate in English, e.g., a letter from the institution confirming the ability to study in English or a certificate of TOEFL/IELTS
- A motivation letter that highlights your background, why this summer school would be useful to you, and possible previous knowledge of GAMS or other simulation modeling software.

The application documents should be sent by email to the summer school coordinator by 10/08/2021 via sssdn.iatd@hu-berlin.de and copy to zahal.elnour@hu-berlin.de.

Participation in the summer school is free of charge. However, participants need to organize their own accommodation, transportation, and food (other than lunch and coffee-break snacks).

Selection procedure

The maximum number of participants in the summer school is 35. In addition to the submitted applications, short-listed applicants would undergo an online interview, after which selected participants will be informed. The selected participants will be informed by 15/08/2021. Depending on the number of applicants and possible cancellations, additional applicants can be put on a waiting list.

Teaching team

The summer school is carried out by a team from the International Agricultural Trade and Development Group at Humboldt-Universität zu Berlin. The team has broad experience in conducting similar training projects in different countries.

Prof. Dr. Harald Grethe

Prof. Dr. Grethe is Professor for International Agricultural Trade and Development at Humboldt-Universität zu Berlin. Formerly, he was a Professor for Agricultural and Food Policy at the University of Hohenheim. His research interests include economic and agricultural development, economy-wide simulation modeling and the role of the agricultural sector in society at large. From 2012 to 2020, he chaired the Scientific Advisory Board on Agricultural Policy and Food at the Federal Ministry of Food and Agriculture, Germany. Furthermore, he has worked as an expert for various institutions among which the European Commission, OECD, FAO and the World Bank.



PD. Dr. Khalid Siddig

PD. Dr. Siddig brings more than 15 years of experience on economy-wide modeling, their use for economic and agricultural policy analysis, and developing their databases. He is experienced in offering professional trainings on economy-wide modeling (in e.g., in Egypt, Benin, Sudan, Germany, and the United States). Currently, at Humboldt-Universität zu Berlin, he offers courses on applied CGE modeling, simulation modeling, and economics of agricultural and rural development. He also offered



microeconomics, at Humboldt University of Berlin and the University of Khartoum and advanced policy modeling at the University of Hohenheim. He is an Associate Professor of agricultural economics at the University of Khartoum since 2012 and a Teaching/Research Associate at Humboldt University of Berlin since 2016. His research examines the interface between the production and use of water, energy, and food in developing countries under the dynamics of climate, population and policies. Acknowledging his contributions to the economy-wide modeling community in Africa and the Middle East, he is awarded the 2016-2019 Fellowship of the Center for Global Trade Analysis Project (GTAP), Purdue University, USA.

Dr. Jonas Luckmann

Dr. Luckmann is lecturer and researcher at the International Agricultural Trade and Development Group of the Humboldt University in Berlin since 2016. He is well experienced in lecturing Master and Bachelor students in both German and English. He has taught in a summer school on agricultural economics in Bhutan and on simulation modelling in Benin.

His research interests focus on economic modelling of the water sector. He developed a general equilibrium model centred on the water sector and published in several internationally peer-reviewed journals. He is associate editor of the journal *Water Economics and Policy* and is consultant for various international organizations.



Zuhal Elnour

Zuhal Elnour is a senior research fellow at the International Agricultural Trade and Development Group of Humboldt-Universität zu Berlin. She is also a senior researcher at the Agricultural Economics and Policy Research Center of the Agricultural Research Corporation in Sudan.

Her research interests include economic modelling, development economics and labor economics. She developed a computable general equilibrium model to quantify the potential economy-wide impacts of education and training policies. Her current work focuses on using and developing economic modeling to analyze climate change impacts on human health in Sub-Saharan Africa. She has well experience in teaching economic modelling using the General Algebraic Modeling System (GAMS) in English.



Ferike Thom

Ferike Thom has studied Economics and Agricultural Economics in Berlin, Germany and Madrid, Spain.

She has been a doctoral candidate at the Chair of International Agricultural Trade and Development at the Humboldt University of Berlin since 2018. Her research focuses on trade policy in the agricultural sector, its impact on the development of sector competitiveness and on global greenhouse gas emissions. She has experience in using and developing static and dynamic general equilibrium models as well as in highly complex partial equilibrium models.

She has several years of experience in teaching economics and economic modelling in German and English at BSc, MSc and PhD levels.



For more information, please visit the below link

<https://www.agrar.hu-berlin.de/de/institut/departments/daoe/ihe/summerschool-sudan-2021>

Program Overview

Workshop 1 **Agricultural and Food Policy: Foundations and Theories**

Date **12/09/2021 – 16/09/2021**

Teaching team Khalid Siddig, Zuhail Elnour and Ferike Thom

No	Date	Day	Time	Theme and teaching objective
1	12/09/2021	Sunday	09:00 – 10:30	Welcome and introduction: course structure and content
			11:00 – 12:30	Introduction to policy analysis
			14:00 – 15:30	Methods of policy analysis
			16:00 – 17:30	Microeconomic foundations of demand systems
2	13/09/2021	Monday	09:00 – 10:30	Microeconomic foundations of supply systems
			11:00 – 12:30	Market equilibrium
			14:00 – 15:30	Elasticities of demand and supply
			16:00 – 17:30	Market structure: perfect and imperfect competition
3	14/09/2021	Tuesday	09:00 – 10:30	Welfare economics and the efficiency of markets
			11:00 – 12:30	Distribution of welfare
			14:00 – 15:30	Policy instruments: tariffs, import quotas, and tariff-rate quotas
			16:00 – 17:30	Policy instruments: subsidies and price controls
			19:00 – 20:30	Public cultural lecture
4	15/09/2021	Wednesday	09:00 – 10:30	Policy instruments: price stabilization
			11:00 – 12:30	The measurement of agricultural support
			14:00 – 15:30	The measurement of the effects of policy intervention
			16:00 – 17:30	Evaluation of week 1 st of the course
5	16/09/2021	Thursday	09:00 – 12:00	Public lecture: Contemporary challenges to the economy and agriculture in Sudan: what can economy-wide models contribute?

Workshop 2 Quantitative Analysis of Policies with Partial Equilibrium Models**Date** **19/09/2021 – 23/09/2021****Teaching team** Jonas Luckmann, Zuhail Elnour and Ferike Thom

No	Date	Day	Time	Theme and teaching objective
6	19/09/2021	Sunday	09:00 – 10:30	Introduction to policy simulation modeling
			11:00 – 12:30	Introduction to partial equilibrium models
			14:00 – 15:30	Price and quantity systems in partial equilibrium modelling
			16:00 – 17:30	PC-LAB: Introduction to GAMS
7	20/09/2021	Monday	09:00 – 10:30	Public lecture: To vocationalize or not to vocationalize? Impacts of agricultural vocational education and training in Sudan
			11:00 – 12:30	
			14:00 – 15:30	PC-LAB: Gum Arabic market model in GAMS
			16:00 – 17:30	PC-LAB: Gum Arabic market model: simulation of border policies
8	21/09/2021	Tuesday	09:00 – 10:30	PC-LAB: Gum Arabic market model: simulation of subsidy changes
			11:00 – 12:30	Interpretation and discussion of the model results
			14:00 – 15:30	PC-LAB: Gum Arabic market model: welfare analysis
			16:00 – 17:30	Germany's food and drink culture
9	22/09/2021	Wednesday	09:00 – 10:30	PC-LAB: Extension to multiple products model
			11:00 – 12:30	Interpretation and discussion of the model results
			14:00 – 15:30	- Limitations of PE models - Overview of available PE models
			16:00 – 17:30	Evaluation of week 2 nd of the course
10	23/09/2021	Thursday	09:00 – 12:00	Economics of Nile river basin management: competition or cooperation

Workshop 3 Quantitative Analysis of Policies with General Equilibrium Models**Date** **26/09/2021 – 30/09/2021****Teaching team** Harald Grethe, Zuhail Elnour and Ferike Thom

No	Date	Day	Time	Theme and teaching objective
11	26/09/2021	Sunday	09:00 – 10:30	Introduction to social accounting matrices
			11:00 – 12:30	Introduction to CGE modeling
			14:00 – 15:30	
			16:00 – 17:30	Prices and accounting identities in CGE modeling
12	27/09/2021	Monday	09:00 – 10:30	PC-LAB: A basic 2 sector CGE model
			11:00 – 12:30	- Model setup and calibration
			14:00 – 15:30	- Market clearing and macroeconomic closures in CGE
			16:00 – 17:30	PC-LAB: Policy experiments in a basic 2 sector CGE model Interpretation and discussion of the model results
13	28/09/2021	Tuesday	09:00 – 10:30	PC-LAB: Extension of the basic 2 sector CGE model
			11:00 – 12:30	PC-LAB: A basic 1*2*3 open economy CGE model
			14:00 – 15:30	PC-LAB: Policy experiments in a basic 1*2*3 open economy CGE model
			16:00 – 17:30	Interpretation and discussion of model results
			19:00 – 20:30	Cultural event: Germany: land of culture
14	29/09/2021	Wednesday	09:00 – 10:30	PC-LAB: A basic 1*2*3 open economy CGE model with real-world data
			11:00 – 12:30	Policy simulation in a 1*2*3 open economy CGE model with real-world data with a discussion of the results
			14:00 – 15:30	- Limitations of general equilibrium models
			16:00 – 17:30	- Overview of available models Evaluation of the 3 rd week of course
15	30/09/2021	Thursday	09:00 – 12:00	Public lecture: Can scientific policy advice contribute to practical agricultural and food policy design? Experiences from Germany