

# Introduction to Social Accounting Matrix (SAM) and Computable General Equilibrium (CGE) model

Training Workshop Conducted by the International Food Policy Research Institute (IFPRI)

Tuesday, 29 March – Friday, 8 April 2022

**Venue:** Morrison-Clark Hotel, Club Room

## DAY 1 – Tuesday, March 29 | Time: 9:00 – 17:00

- Introduction to IFPRI and the PNG agriculture strategy project **Paul Dorosh**
- Policy topic: *Effects of COVID-19 on Papua New Guinea's Food Economy: A Multi-Market Simulation Analysis* **Paul Dorosh & Xinshen Diao**
- Introduction to SAM and data review (lecture)

## DAY 2 – Wednesday, March 30 | Time: 9:00 – 17:00

- Introduction to SAM and (lecture & exercises)
- Policy topic: *COVID-19 in Bangladesh: Impacts on Production, Poverty & Food Systems* **Paul Dorosh & Angga Pradesha**
- SAM Multiplier (lecture & exercises)

## DAY 3 – Thursday, March 31 | Time: 9:00 – 17:00

- SAM Multiplier (exercises)
- Policy topic: *Increasing agriculture productivity through agriculture extension and the promotion of agriculture technologies, inputs and management practices* **David Spielman**

**Venue:** IFPRI Building (1201 Eye St., NW), Second Floor, McPherson Conference Room

## DAY 4 – Friday, April 1 | Time: 9:00 – 17:00

- Introduction to CGE models
- Policy topic: *Promoting agricultural growth and improved nutrition outcomes through women's participation and decision-making* **Katrina Kosec**

## DAY 5 – Monday, April 4 | Time: 9:00 – 17:00

- Installing GAMS and running IFPRI's Excel-Interface Model (lecture and exercises)
- Policy topic: *Economic development and an introduction to AgGDP+* **James Thurlow**
- Running simulations in IFPRI's Excel-Interface model on Agriculture Productivity (exercises)

**DAY 6 – Tuesday, April 5 | Time: 9:00 – 17:00**

- Running simulations in IFPRI's Excel-Interface model on Cash Transfer Program (exercises)
- *Policy topic: Understanding social safety nets as a tool for increased resilience and food security*

Dan Gilligan

**DAY 7 – Wednesday, April 6 | Time: 9:00 – 17:00**

- Policy topic: *Climate change, deforestation and carbon credits: a balanced approach to agricultural development*
- Running simulations in IFPRI's Excel-Interface model on Climate Policy (exercises)

Channing Arndt

**DAY 8 – Thursday, April 7 | Time: 9:00 – 17:00**

- Group Project (work time)
- Policy topic: *Agriculture price policy: a discussion of price subsidies and other agriculture policy tools*

Paul Dorosh

**DAY 9 – Friday, April 8 | Time: 9:00 – 17:00**

- Group Project (work time)
- Team Presentations
- Course Evaluations



### Angga Pradesha

Senior Research Analyst | Development Strategy & Governance Division

[full bio](#)

Angga Pradesha is a Senior Research Analyst in the Development Strategy and Governance Division of the International Food Policy Research Institute (IFPRI). His research interests centered around the application of economy-wide model on issues related to international trade, climate change, natural resources, poverty, and food security. Prior to joining IFPRI, he worked as a Research Associate at Asian Development Bank Institute (ADBI) in Tokyo. He received MA in International Development from International University of Japan, and MEc in Applied Economics from International Islamic University of Malaysia. He completed his bachelor's degree in Agricultural and Resource Economics at Bogor Agricultural University, Indonesia.



### Channing Arndt

Director | Environment and Production Technology Division

[full bio](#)

Channing Arndt heads the Environment and Production Technology Division (EPTD) at IFPRI. EPTD explores five themes: Global Change, Natural Resource Management, Science and Technology Policy, Spatial Data and Analytics, and Institutions and Governance. IFPRI/EPTD also houses IFPRI's IMPACT model, Program on Biosafety Systems (PBS), and ASTI network. Channing has 30 years of experience in development economics, with 7 years combined resident experience in Morocco and Mozambique. He has published more than 85 articles in leading academic journals. His recent books include *Growth and Poverty in Sub-Saharan Africa*; *Measuring Poverty and Wellbeing in Developing Countries*; and *The Political Economy of Clean Energy Transitions*, all published by Oxford University Press. He has taken leadership roles in major policy documents such as the *Economics of Adaptation to Climate Change for the World Bank*; the design of a carbon tax for the National Treasury of South Africa; and the Second, Third and Fourth National Poverty Assessments for the Government of Mozambique. Channing has an established reputation for building institutional capacity in Mozambique, South Africa, Morocco, and Viet Nam and within the framework of the African Economic Research Consortium. His program of research has focused on agricultural development, poverty measurement, poverty alleviation and growth, market integration, nutrition, gender and discrimination, HIV/AIDS, technological change, trade policy, aid effectiveness, energy, bioenergy, climate variability, and the implications of climate change.



## Daniel Gilligan

Deputy Director | Poverty, Health, and Nutrition Division

[full bio](#)

Dan Gilligan is Deputy Division Director in IFPRI's Poverty, Health and Nutrition Division. His research addresses the economics of household investments in childhood nutrition and education in developing countries, as well as the impact and cost-effectiveness of social protection and agricultural and nutrition interventions. Much of his research is based on experimental and quasi-experimental impact evaluations.

Two recent projects address (i) the role of information and social networks in the diffusion and sustainable adoption of biofortified crops, and (ii) parental incentives to improve cognitive outcomes for children attending early childhood development centers. Dan's research has been featured in *The New York Times*, *the Economist*, *The Atlantic* online and in blog posts at the World Bank and *The Guardian* online. Dan holds a Ph.D. in Agricultural and Resource Economics from University of Maryland.



## David Spielman

Senior Research Fellow/Program Leader-Rwanda |

Development Strategy & Governance Division

[full bio](#)

David Spielman is a senior research fellow at the International Food Policy Research Institute. He joined IFPRI in 2004 and is currently based in Kigali, Rwanda, where he leads the Rwanda Strategy Support Program. David's research agenda covers a range of topics including agriculture and rural development policy; agricultural science, technology, and innovation; plant genetic resources and seed systems; agricultural extension and advisory services; and community-driven rural development. From 2010 to 2020, David was based in Washington, DC, where he led IFPRI's research theme on science, technology, and innovation policy. From 2004 to 2010, he was based in Addis Ababa, Ethiopia, where he contributed to IFPRI's work on strengthening agricultural innovation systems. Earlier in his career, he worked on agriculture and rural development issues for the World Bank (Washington, DC), the Aga Khan Development Network (Pakistan), and several other organizations. David received a PhD in Economics from American University in 2003, an MSc in Development Studies from the London School of Economics in 1993, and a BA in International Relations from Tufts University in 1992.



## Emily Schmidt

Research Fellow | Development Strategy & Governance Division

[full bio](#)

Emily Schmidt is a Research Fellow in the Development Strategy and Governance Division of the International Food Policy Research Institute (IFPRI). She works at the intersection of development economics, geographic information systems and land management. Her research focuses on the dynamic process of rural land transformation, rural employment opportunities, and agricultural production outcomes on household welfare. Her most recent work has focused on rural household livelihood strategies in Papua New Guinea including key indicators on agriculture and nutrition in the rural lowlands of PNG. Emily holds a Ph.D. in Civil Engineering from the University of Colorado, and M.A. from George Washington University in Rural Development.



## James Thurlow

Senior Research Fellow | Development Strategy & Governance Division

[full bio](#)

James Thurlow is a development economist whose research focuses on the interactions between policies, economic growth and poverty, primarily using computable general equilibrium and micro-simulation modeling. Past research focuses on evaluating public investments and policies; rural, regional and urban development; and climate change and other external risks. He has worked with governments and researchers throughout Sub-Saharan Africa, and in Bangladesh, Peru, Tunisia and Vietnam.



## Karl Pauw

Senior Research Fellow | Development Strategy & Governance Division

[full bio](#)

Karl Pauw is a Senior Research Fellow in IFPRI's Development Strategy and Governance Division based in Washington DC. He previously led IFPRI's country programs in Accra, Ghana (2018–2020) and Lilongwe, Malawi (2013–2015), and also served as a regional coordinator for the FAO's Monitoring and Analyzing Food and Agricultural Policies (MAFAP) program in Addis Ababa, Ethiopia (2015–2017). He holds a PhD in development economics from the University of Cape Town, South Africa, and his research interests include: development and agricultural policy analysis; microeconomic analyses of labor markets, poverty, and dietary outcomes; and policy impact analysis using computable general equilibrium and micro-simulation models.



## Katrina Kosec

Senior Research Fellow | Development Strategy & Governance Division

[full bio](#)

I am a senior research fellow in the Development Strategy and Governance Division at the International Food Policy Research Institute (IFPRI) where I am Theme Leader for Public Investment and lead a research program on gender, agriculture, and rural transformation. I am also an adjunct professor at Johns Hopkins University.

I received my Ph.D. in Political Economics and my M.A. in Economics from Stanford University, where I was a National Science Foundation Graduate Research Fellow in Economics. I also hold a B.Sc. in International Political Economy from Georgetown University's School of Foreign Service.



## Paul Dorosh

Director | Development Strategy & Governance Division

[full bio](#)

Paul A. Dorosh has been the Division Director of IFPRI's Development Strategy and Governance Division since April, 2011. His previous positions include IFPRI Senior Research Fellow and Program Leader of the Ethiopia Strategy Support Program in Addis Ababa (2008-2010), Senior Economist at the World Bank (2003-2008), senior research fellow with IFPRI in Dhaka, Bangladesh (1997-2001) and Associate Professor at Cornell University (1994-97). He holds a Ph.D. in Applied Economics from the Food Research Institute, Stanford University and a B.A. in Applied Mathematics from Harvard University, and has published research on agricultural markets, food policy, international trade, economy-wide modeling and the rural-urban transformation.



## Xinshen Diao

Deputy Division Director | Development Strategy & Governance Division

[full bio](#)

Xinshen Diao is currently the Deputy Division Director and a Senior Research Fellow in the Development Strategy and Governance Division of IFPRI and a subtheme leader for the CGIAR's Policy, Institution, and Market Research Program (CRP2). She has extensive experience on managing large research programs and doing research on economic development and growth, intersectoral linkages, regional integration and dynamics, agricultural policies and institutional changes. She has published more than 100 articles in various peer-reviewed economic journals, IFPRI books and monographs, and external book chapters.

In recent years, Xinshen has focused on growth and poverty reduction analysis in Africa both at country level in Ethiopia, Ghana, Malawi, Morocco, Nigeria, Rwanda, Uganda, and Zambia and at the regional level including East Africa, West and Central Africa, and Southern Africa. She is the leading editor of a recent book titled "Strategies and priorities for African agriculture – economywide perspectives from country studies," published by IFPRI. This book has been written as an

outcome of IFPRI's technical support to the CAADP process and has strong influence in scaling up public agricultural investment particularly in African countries' staple food sector. Before coming to IFPRI, Xinshen was an assistant professor of applied economics at the University of Minnesota, stationed at the Economic Research Service, U.S. Department of Agriculture and division director and assistant director general of the Economic Reform Institute of China in Beijing in the late 1980s. Xinshen earned a B.A. and M.A. in business economics from the Beijing Institute of Economics and a Ph.D. in applied economics from the University of Minnesota.

Xinshen has received the University of Minnesota's 2018 Distinguished Leadership Award for Internationals that recognizes her outstanding achievements and scholarly work which have played a critical role in improving the lives of the world's most underprivileged people.

Xinshen also won the 2018 Outstanding Alumni Award from the Department of Applied Economics of the University of Minnesota. She received this award for her achievements, and the impact of her scholarly work throughout her career. She will be receiving this award on October 5, 2018.