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# **PRO-POOR DEVELOPMENT POLICIES**

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# PRO-POOR DEVELOPMENT POLICIES

LESSONS FROM THE PHILIPPINES  
AND EAST ASIA

EDITED BY

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*For Arsenio Molina Balisacan  
Outstanding economist, professor, public servant, colleague,  
mentor and friend*





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## Foreword

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I am very pleased to be drawn into this gentle conspiracy to surprise the honoree, Dr. Arsenio Balisacan, with a Festschrift on the occasion of his sixty-fifth birth anniversary.

Arsi, as he is known to friends, is an economist, teacher, research scholar, anti-poverty activist and public servant, all rolled into one. In his journey of achievement, he has experienced a difficult tale of passage from poor rural surroundings in the Ilocos region of northern Luzon, through disciplined work in the pursuit of his chosen professional dream. Today, he is one of the nation's foremost economists, respected by peers and admired by younger ones in the academe and in government, some of whom he had mentored. Importantly too, he holds a high position of influence that can improve the country's economic future.

I met Arsi in Washington, DC, in 1986, as he was about to head for home. He had just completed his participation as a young research intern in the World Bank's study of agriculture and economic development. I suggested to him then that he join the School of Economics at the University of the Philippines in Diliman. I sent an encouraging word about him to Dean Jose Encarnacion.

At that time, Arsi reminded me that we had actually first met in the early 1970s in Baguio, the country's summer capital, when he was a much younger man. He was then a delegate to a national conference of young public high school leaders that I happened to address as inspirational speaker. He was a young student from a poor family possessed by high educational aspirations. In that situation, success depended mainly on the thin and uncertain thread of scarce financial scholarships to support his study. He succeeded in turning small attainments into opportunities. Eventually, he made them into golden steps. Through scholarships he

moved from a rural Ilocos state-supported university to the graduate programme in agricultural economics of the University of the Philippines Los Baños and then a PhD in economics with a teaching assistantship at the University of Hawaii and later a doctoral internship at the East-West Center.

When he joined the UP School of Economics, he intensified his research on important issues affecting the country—poverty alleviation, food policy and rural development. This work raised his profile within the economics profession and more broadly into the public spheres of recognition.

This led to his being appointed to the post of undersecretary in the Department of Agriculture. When he suspected that public governance issues hovered over the proper performance of public duties, he resigned his post and returned to the School. But new occasions for public service immediately kept opening for him. He became the director of SEARCA (Southeast Asian Regional Center for Graduate Study and Research in Agriculture) based in Los Baños. After that, he became dean of the UP School of Economics.

Even when he took on important administrative duties, his own research and scholarship did not suffer because he managed his time well. As an administrator he helped to expand the research opportunities of his colleagues. His deanship was interrupted by another call of government to lead the National Economic and Development Authority (NEDA) as director general and concurrent secretary of socio-economic planning.

After almost four years in this position and after the enactment of the Philippine Competition Commission (PCC) law, he was harnessed to take a full hand in organizing this new institution, becoming its founding chairperson. Among the specific functions of this regulatory body is to prohibit anticompetitive mergers and acquisitions.

The head of the competition commission is in a position to remind national policymakers that the economy thrives better where the markets in goods, labour, land and capital are allowed to move with more rather than less flexibility in order to achieve a more globally competitive economy.

In the course of decades of economic development in the past, economic restrictions have continuously hampered the country's fuller participation in the global economy, many of them instigated by the political constitutional framework. Only lately this year, major economic reforms were passed by legislation to liberalize important

legal restrictions that have served as barriers against foreign investment in the economy. These promising developments are likely to play a role in permitting better economic recovery from the pandemic. A regulatory body can protect the guard rails of competition when more beneficial prospects for economic developments are in place than when barriers are stifling progress.

In this Festschrift, some of his intellectual friends contribute their studies on several important issues of economic and social development.

**Gerardo P. Sicat, PhD**

*Founding Director-General*

*of the National Economic and Development Authority (NEDA)*

*and concurrent Minister of Economic Planning*

## Foreword

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A Festschrift is intended to review the origins, depth and breadth of the academic works by a noted scholar in the twilight of their career. From this perspective, writing a foreword to a Festschrift for Arsenio M. Balisacan is a strange task for me. Academically speaking, I think of Arsi as my grandson. His promise as a scholar was noted by Professor Cristina Crisostomo David when he enrolled in the master's programme in agricultural economics at the University of the Philippines Los Baños in 1979. Tina was my PhD student in the early 1970s at the Food Research Institute at Stanford University, where she documented the striking role of fertilizer and rice prices in the political economy of Asian countries. Arsi continued this work at the University of the Philippines Los Baños under Tina's direction, and then generalized the results into a conceptual approach to positive political economy in his PhD dissertation at the University of Hawaii, under the mentorship of Professor James A. Roumasset.

My first involvement with agricultural policy in the Philippines came in the early 1970s, when Arsi was still in high school. As part of the Stanford project on "the political economy of rice in Asia" that Tina David worked on, Wally Falcon and I commissioned eight country studies in East and Southeast Asia (including one on the United States by Leon Mears, a familiar name in the Philippines' food policy circles). I worked closely with Mahar Mangahas on the Philippine study, so became acutely aware by 1975 just how complex the Philippines' story was. I had drafted the Indonesian country study as a prototype for

other country authors and worked closely with all of them right through the publication stage.<sup>1</sup>

This earlier work on the region's political economy of rice set me up for understanding Arsi's work. My engagement with his work started with rice policy, but extended more broadly to the fields of agricultural development and the nature of pro-poor economic growth. Both fields are well represented in this Festschrift, via contributions from major authors in the field and through the inclusion of Arsi's own path-breaking research in both fields.

These two fields, and especially the economic and policy links *between* them, are very difficult territory for a scholar-practitioner in the Philippines. On two separate occasions, under two different presidents, I failed miserably to make any progress. The combination of an entrenched landed elite and the capture of most agricultural marketing enterprises by deeply vested interests stymied my efforts—after the People Power Revolution in early 1986 forced President Ferdinand Marcos from power—to help revamp the mandate of the National Food Authority to pursue stable rice prices without high protection.

A later effort to connect smallholder farmers to a more inclusive growth process also failed, despite high hopes in the development profession as President Gloria Macapagal-Arroyo had a PhD in economics from the University of the Philippines (she also studied at Georgetown University for two years, where she and Bill Clinton became friends). Over the years, I was able to work successfully with the International Rice Research Institute and the Asian Development Bank, and I enjoyed interacting with my Philippine colleagues and former students on each visit, but I could never make any progress with the government.

Thus, I am simply in awe of how successful Arsi has been as a scholar-practitioner at the very highest levels of the profession. His service at cabinet level in four different presidential administrations, while also serving with great distinction—as professor and dean of the faculty—in the best economics department in Southeast Asia, is without precedent.

My closest personal engagement with Arsi has been through his leadership of the Southeast Asian Regional Center for Graduate Study

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<sup>1</sup> See volume XIV, nos. 3 and 4, *Food Research Institute Studies*, 1975.

and Research in Agriculture (SEARCA), and through the journal *Arsi* founded while at SEARCA, the *Asian Journal of Agricultural Development* (*AJAD*). I have served on the editorial board of *AJAD* since its founding because I believe deeply in its mission: to highlight the importance of agriculture to the development of Asian economies, and to publish manuscripts by regional scholars that document this role.

I also benefited from *Arsi*'s term as president of the Asian Society of Agricultural Economics (ASAE). In that role he invited me to Manila in August 2008 to give the keynote address at the sixth triennial meeting of the ASAE. I used the occasion to reflect on the twenty-fifth anniversary of the publication of *Food Policy Analysis*.<sup>2</sup> The cross-sectoral perspective developed in that volume remains essential to solving today's problems of poverty and hunger.<sup>3</sup>

This Festschrift is a fitting tribute to *Arsi*. His creativity, insights and just plain hard work illuminate every chapter. And he is just beginning...

### C. Peter Timmer

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<sup>2</sup> C. Peter Timmer, Walter P. Falcon, and Scott R. Pearson. 1983. *Food Policy Analysis*. Baltimore, MD: Johns Hopkins University Press for the World Bank.

<sup>3</sup> C. Peter Timmer. 2010. "International Best Practice in Food Policy: Reflections on *Food Policy Analysis*". *Asian Journal of Agriculture and Development* 7, no. 1: 1–10.

## Message

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SEARCA is glad to have played a key role in the formative years of Dr. Arsenio M. Balisacan as a young researcher, providing him a scholarship grant to pursue his master's in agricultural economics. We take pride in his significant contributions to research, policy and actions towards securing food and reducing poverty in Southeast Asia. Appointed to the helm of SEARCA in 2003, Dr. Balisacan reinforced the Centre's efforts towards poverty reduction and food security with a keen focus on agricultural competitiveness and natural resource management, through SEARCA's Eighth Five-Year Plan (2004–9), whose crafting and implementation he closely supervised. Now more than a decade later, SEARCA continues to pursue programmes that contribute to overcoming malnutrition, hunger, poverty and inequality in Southeast Asia. The Centre's Eleventh Five-Year Plan (2020–25), with its focus on "Accelerating Transformation through Agricultural Innovation" (ATTAIN), aims to elevate the quality of life of agricultural families through sustainable livelihoods and access to modern networks and innovative markets.

It thus gives us great pleasure to be part of this Festschrift that honours Dr. Balisacan and his remarkable academic, research and policy work. We see this book as an important influence in continuing the discourse and actions to empower agricultural institutions and communities. As an instrument of knowledge and co-creation, it contains lessons from Asian countries that bring to the fore not only the experience, but also the reforms in economic policies, competition law, inequalities and agricultural development across countries.



We join the authors and the ISEAS–Yusof Ishak Institute in recommending this book, with the hope that it will inspire its readers to contribute to the development of and innovations in the agriculture sector in Asia and beyond.

**Glenn B. Gregorio**

*Director*

SEAMEO SEARCA

## Preface and Acknowledgements

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This volume is a Festschrift for Arsenio Molina Balisacan – economist, professor, public servant, colleague, mentor and friend. It pays tribute to his work and honours him as an outstanding economist and public servant. Its themes reflect his research and policy interests over his professional career. These interests are central to understanding the development dynamics in the Philippines and elsewhere in Asia. The overarching theme is overcoming poverty through agricultural and rural development and complementary policies that engender a robust and sustainable structural transformation. Competition policy plays a particularly key role in combating cronyism and rent-seeking that impede that development path.

This project was conceived in November 2018 when the editors and the honouree attended the back-to-back Philippine Economic Society (PES) and the Federation of ASEAN Economic Associations (FAEA) conference held in Cubao, Quezon City, Philippines. We planned the surprise launch of this volume in time for his sixty-fifth birthday on 8 November 2022. In the Philippines, this age also marks an individual's retirement from government service. Thus began the three-year "gentle conspiracy", as Gerry Sicat aptly describes the project, among the editors, contributors, SEARCA and ISEAS – Yusof Ishak Institute towards the realization of this volume.

This book came to fruition with the help of many people and organizations whose tremendous support we wish to acknowledge. The enthusiastic responses from our forty-six authors from many countries are testimony to the high esteem and affection for Arsi. We thank our contributors for their fine papers and their collaboration as we worked through the refereeing and editorial production processes.

We thank Peter Timmer and Gerardo Sicat for readily accepting our request to write the forewords. Special thanks to Anne Krueger for the back-cover endorsement.

A huge thank you to the Southeast Asian Regional Center for Graduate Study and Research in Agriculture (SEARCA), led by Director Glenn Gregorio, for the funding support for this volume. Many thanks to the SEARCA team for facilitating the physical production of this book, especially Benedict Juliano and Arlene Nadres. Thanks to Lily Tallafer, our excellent and meticulous copyeditor who also happens to be one of Arsi's long-time associates. She not only did a very good job but also helped us move things along promptly. Thanks to our layout artist, Kei Cuevas, who gave a clean finish to the book. We also thank Shereena Salas who assisted in the early stage of the project.

We thank our publisher, ISEAS Publishing, Ng Kok Kiong, Rahilah Yusuf and the rest of the publication team for making the publication of this book possible.

**Hal Hill, Majah-Leah V. Ravago and James A. Roumasset**  
Canberra, Manila and Honolulu

## About the Editors

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### **Hal Hill** (Australian National University)

Hal Hill is the H. W. Arndt Professor Emeritus of Southeast Asian Economies at the Australian National University. He has written/edited twenty books and about 160 journal articles and book chapters. His books since 2000 include *The Indonesian Economy*, *The Philippine Economy* (co-edited with Arsenio Balisacan), *Malaysian Development Challenges* and *Regional Dynamics in a Decentralized Indonesia*. He serves on various boards and committees, including the *Dewan Kehormatan* of the Bank Indonesia Institute, the Council of the East Asian Economic Association (of which he is currently president), and several university boards. He is a member of the editorial board of fourteen academic journals. He has consulted extensively for various governments and international agencies. He is a fellow of the Academy of Social Sciences of Australia. In 2020, he was appointed an Officer of the Order of Australia (AO).

### **Majah-Leah V. Ravago** (Ateneo de Manila University)

Majah-Leah V. Ravago is an associate professor at the Economics Department of the Ateneo de Manila University. She co-edited *Sustainable Economic Development* (with Arsenio Balisacan and Ujjayant Chakravorty), a volume published by Elsevier in 2015, and *Powering the Philippine Economy* in 2018 (with James Roumasset and Rolando Danao), a UP Press publication that won the 2020 Outstanding Book Award of the National Academy of Science and Technology (NAST). She was the programme director of the 2014–18 Energy Policy and Development Program, funded by the US Agency for International Development. She served as president of the Philippine Economic Society in 2018. In 2016, she received the NAST Outstanding Young Scientist Award in economics. She earned her BS in business economics and MA in

economics from the University of the Philippines, and her PhD in economics from the University of Hawaii in 2012 under the East-West Center Graduate Degree Fellowship Program. She is a former student, close associate and colleague of Arsenio Balisacan.

**James A. Roumasset** (University of Hawaii)

James A. Roumasset is a professor emeritus in the Economics Department and UHERO research fellow, both at the University of Hawaii, Manoa. His research centres on applications of public policy, including behaviour and organization in agriculture, sustainable economic development, energy and water economics, ecological resource economics, and competition policy. He is extremely proud of the careers and dedication of his former graduate students from the Philippines, Thailand and other countries.

## About the Contributors

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### **Fernando T. Aldaba** (Ateneo de Manila University)

Fernando T. Aldaba is a professor of economics at the Ateneo de Manila University (ADMU). He served as dean of ADMU's School of Social Sciences from 2015 to 2021. His areas of specialization include labour economics, development economics and macroeconomics. He obtained his PhD in economics from the University of the Philippines Diliman, and his BS in management engineering degree (cum laude) from the ADMU.

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Kym Anderson is the George Gollin Professor Emeritus in the School of Economics, University of Adelaide (where he has been affiliated since 1984) and an honorary professor in the Arndt-Cordon Department of Economics at the Australian National University's Crawford School of Public Policy (where he was a research fellow in 1977–83 and a part-time professor of economics in 2012–18). In two periods of extended leave, he served as deputy head of economic research at the GATT Secretariat (now the World Trade Organization) in Geneva (1990–92) and as lead economist (Trade Policy) at the World Bank in Washington, DC (2004–7).

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Alvin Ang is a professor at the Economics Department of the Ateneo de Manila University and a senior fellow of the Ateneo Eagle Watch. He served as president of the Philippine Economic Society in 2013. He finished his BA in economics at the University of Santo Tomas, master's in public policy at the National University of Singapore, and PhD in applied economics at Osaka University.

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Prema-chandra Athukorala is a professor emeritus of economics in the Crawford School of Public Policy at the Australian National University, and fellow of the Academy of Social Science of Australia. His research interests are in trade and development, and development macroeconomics. His publications in these fields include ten books and over two hundred papers in scholarly journals and multi-author volumes. At various times, he has served as a consultant to the World Bank, Asian Development Bank and several United Nations organizations.

**Arsenio M. Balisacan** (Philippine Competition Commission)

Arsenio M. Balisacan has been serving as the first chairperson of the Philippine Competition Commission since 2016. He also served as socio-economic planning secretary and concurrent director-general of the National Economic and Development Authority from 2012 to 2016. He was a professor and dean of the School of Economics of the University of the Philippines Diliman, director of the Southeast Asian Regional Center for Graduate Study and Research in Agriculture (SEARCA), and undersecretary of the Philippine Department of Agriculture. He is a lifetime Academician of the National Academy of Science and Technology (NAST), recognized for his outstanding contributions to science and technology. His numerous publications cover wide areas of economic development, including poverty, inequality, human development, agricultural and rural development, antitrust (competition policy), and the political economy of policy reforms.

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Lisa Grace S. Bersales is a professor in the School of Statistics of the University of the Philippines (UP) in Diliman and vice president for planning and finance of the UP System. She has held various posts in UP Diliman, including director of graduate studies and dean of the School of Statistics. She was the first national statistician of the Philippines and led the implementation of the Philippine Statistics Act of 2013 by setting up the Philippine Statistics Authority in 2014. She earned her bachelor's degree (cum laude), MA and PhD in statistics from UP.

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Asian Development Bank (ADB) for Kazakhstan, Maldives, Marshall Islands, Mongolia, Pakistan, and the Philippines from 2003 to 2004. He earned his BS in mathematics and MA and PhD in economics from UP. He was a visiting professor at Northern Illinois University in De Kalb, Illinois, a research fellow at Princeton University in New Jersey, and a visiting research fellow at the Institute of Developing Economies in Tokyo.

**Joseph J. Capuno** (University of the Philippines)

Joseph J. Capuno is a professor at the School of Economics of the University of the Philippines, where he got his BA (cum laude), MA and PhD degrees. His specialties are public economics, development economics and health economics. His researches on fiscal decentralization, local political economy, local and regional development, health financing and impact evaluation have been published. In 2012 and 2015, his co-authored papers won the Outstanding Scientific Paper Award of the National Academy of Science and Technology of the Philippines.

**Ramon L. Clarete** (University of the Philippines)

Ramon L. Clarete is presently chief of party of the US Department of Agriculture B-SAFE project in the Philippines. Before this, he served as professor at the School of Economics of the University of the Philippines, specializing in food policy and international economics since 1989, and as dean from 2012 to 2015. He managed trade capacity-building projects for the US Agency for International Development in the Philippines. He also worked on a technical assistance assignment for the Asian Development Bank on ASEAN rice policy (2010–13). He co-authored *Trusting Trade and the Private Sector for Food Security in Southeast Asia*, a World Bank publication. He was with the Economics Department Faculty of the University of Western Ontario (1985–88). He obtained his PhD in economics at the University of Hawaii in 1984.

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Eina Izabela Z. Concepcion earned her BS in business economics (magna cum laude and class salutatorian) from the University of the Philippines in 2016. She worked at the Philippine Competition Commission from 2016 to 2018 and, for a time, was seconded to the Australian Competition & Consumer Commission. She is currently working as a senior brand manager at Procter & Gamble in Singapore.



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Emmanuel S. de Dios is a professor emeritus at the University of the Philippines (UP) School of Economics, where he also served as dean. He has published in the fields of institutions and governance, international economics, and the history of economic thought. He received the Outstanding Book Award as co-author in 2007, 2011 and 2014 from the National Academy of Science and Technology of the Philippines. In 2006, he was conferred the UP Chancellor's Award for Outstanding Teacher; he was chosen as one of the twelve centennial fellows of the university in 2007. He obtained his PhD in economics from the University of the Philippines in 1987.

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**Beulah Maria de la Peña** (Bangko Sentral ng Pilipinas)

Beulah Maria de la Peña has worked extensively on Philippine agricultural policy, briefly in the Department of Agriculture, and as an independent consultant for many years. Her various engagements and papers focus on planning processes, value chains, trade policy and regulations.

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Geoffrey M. Ducanes is an associate professor at the Ateneo de Manila University. He has worked for the International Labour Organization on a programme on labour migration and with the Asian Development Bank as a consultant in charge of the macro-econometric model of the Philippines. He has co-authored several papers on income poverty and inequality in the Philippines with Arsenio M. Balisacan. His research interests are poverty, inequality, education, migration, labour and applied econometrics. He received the Outstanding Young Scientist Award in 2014 from the National Academy of Science and Technology of the Philippines. He obtained his PhD in economics from the University of the Philippines in 2011.

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Raul V. Fabella is a professor emeritus of the University of the Philippines (UP), a member of the National Academy of Science and Technology (Philippines) and an honorary professor at the Asian Institute of Management. He was elevated to the status of National Scientist in 2011. He is highly respected for his outstanding contributions in the field of economics, particularly for extending the reach of the celebrated Nash bargaining solution to the more egalitarian Rawlsian grounds. His research covers diverse topics, including welfare effects of lobbying and rent-seeking, efficiency of teams and partnerships, and properties of contracts under weak governance. He served as dean of the UP School of Economics from 1998 to 2007. He obtained his PhD in economics from Yale University.

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Nobuhiko Fuwa was a professor at the Graduate School of Public Policy of the University of Tokyo. After receiving his PhD in agricultural and resource economics from the University of California at Berkeley in 1995, he worked at the World Bank, Chiba University, International Rice Research Institute and Waseda University. He conducted numerous household and community surveys in Asia and Africa on agricultural development, published extensively in peer-reviewed journals and edited several books, some jointly with Arsenio M. Balisacan.

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Jikun Huang is a professor at the School of Advanced Agricultural Sciences and director of the China Center for Agricultural Policy, Peking University. He is a fellow of the World Academy of Sciences and Agricultural and Applied Economics Association, an honorary lifetime member of the International Association of Agricultural Economists, president of the Asian Society of Agricultural Economists, and vice president of the Chinese Association of Agro-Tech Economics. He received his PhD in agricultural economics from the University of the Philippines Los Baños in 1990. His research covers a wide range of issues on China's agricultural economics and rural development. He has published twenty-one books and more than 560 papers in *Science*, *Nature* and many leading journals in development economics. He is a recipient of various awards, including China's Outstanding Youth Scientist, Fudan Prize for Eminent Contributor to Management Science (2008) and Outstanding Alumni Award (2010) of the International Rice Research Institute.

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Cara T. Latinazo earned her bachelor's degree in economics (*magna cum laude*) from the University of the Philippines; she is currently pursuing her master's degree in quantitative methods in the social sciences at Columbia University. Previously, she served as head of policy research of the Office of Representative Stella Quimbo at the House of Representatives. She also worked at the Philippine Competition Commission from 2016 to 2019.

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Gilberto M. Llanto is former president of the Philippine Institute for Development Studies (PIDS), where he now serves as a trustee. He was the regional coordinator of the East Asian Development Network under the Global Development Network (GDN) and lead convenor of the Philippine APEC Study Center Network. He served as deputy director-general of the National Economic and Development Authority and executive director of the Agricultural Credit Policy Council. He has a PhD in economics from the University of the Philippines Diliman.

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Eduardo Lucio is a data scientist at ASB Bank Ltd. in Auckland, New Zealand, working on machine learning, big data and experimental design. He held various roles in financial sector supervision and policy research at the Bangko Sentral ng Pilipinas and in consumer lending and market risk management in a major commercial bank in the Philippines. He earned his PhD in applied statistics at the University of Queensland and his master's and bachelor's degrees at the University of Tokyo and the University of the Philippines, respectively.

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Keijiro Otsuka is a professor of development economics at the Graduate School of Economics of Kobe University and chief senior researcher at the Institute of Developing Economies. He has been a member of the Japan Academy since 2018. He obtained his PhD in economics from the University of Chicago in 1979. He served as chairperson of the Board of Trustees of the International Rice Research Institute (2004–7) and president of the International Association of Agricultural Economists (2009–12). He has been serving as president of the Japanese Association for Development Economics since 2018. He received the Purple Ribbon Medal in 2010 and Orders of the Sacred Treasure, Gold and Silver Star in 2021 from the Japanese Emperor.

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**Ernesto M. Pernia** (University of the Philippines)

Ernesto M. Pernia was the secretary of socio-economic planning of the National Economic and Development Authority of the Philippines in 2016–20. He is a professor emeritus of economics at the University of the Philippines (UP). He was with the Asian Development Bank for more than 17 years, rising to lead economist. He was the chair of the board of trustees of the University of San Carlos (2011–14) and was a director

on the board of the Philippine-American Academy of Science and Engineering (PAASE, 2008–13). He received the first Outstanding Young Scientist (social sciences) award from the National Academy of Science and Technology. He was awarded the UP Centennial Professorial Chair in 2008, and was also chosen by the PAASE for the 2015 Koh Science Lectureship Award. He obtained his PhD degree from the University of California Berkeley.

**Sharon Faye Piza** (World Bank)

Sharon Faye Piza is an economist at the Equitable Growth, Finance and Institutions East Asia and the Pacific, Poverty and Equity Unit of the World Bank. She was a senior research associate at the Asia Pacific Policy Center and a research consultant for various organizations. Her research interests are regional development, poverty, migration and agriculture. She studied at the University of the Philippines.

**Angga Pradesha** (International Food Policy Research Institute)

Angga Pradesha is a senior research analyst at the International Food Policy Research Institute (IFPRI). His research interests are the application of partial and general equilibrium models to understand the complex interaction between economic growth, public finance, climate change, poverty and food security. He did his undergraduate study in agricultural and resource economics at Bogor Agricultural University in Indonesia and earned a master's degree in applied economics from the International Islamic University of Malaysia. He also obtained a master's degree in international development from the International University of Japan.

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Jan Carlo B. Punongbayan is an assistant professor at the School of Economics of the University of the Philippines. He served as head executive assistant to former Socio-economic Planning Secretary Arsenio Balisacan at the National Economic and Development Authority. He co-founded Usapang Econ, a group of Filipino economists popularizing economic concepts for the Filipino audience. He obtained his bachelor's in economics (summa cum laude and class valedictorian) from the University of the Philippines in 2009, and received the José Encarnación Jr. Award for Excellence in Economics and the Gerardo P. Sicat Award for Best Undergraduate Thesis. In 2013, he earned his M.A. degree from the UP School of Economics (UPSE), where he has since been teaching microeconomics, macroeconomics, development

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**Stella A. Quimbo** (House of Representatives, Philippines)

Stella Luz A. Quimbo is the representative of the Second District of Marikina City and deputy minority leader of the 18th Congress. She previously served as commissioner of the Philippine Competition Commission. She was a professor and department chair of the School of Economics of the University of the Philippines, where she earned her bachelor's degree in business economics (*summa cum laude*) and master's and PhD degrees in economics. She spent a year at Brown University (Providence, Rhode Island, USA) as a post-doctoral fellow in 2002 at the Population Studies and Training Center. She obtained a master's degree in economics for competition law (with distinction) from King's College London.

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Meg L. Regañon holds a master's degree in applied economics from the National University of Singapore and a bachelor's degree in economics (*summa cum laude*) from the University of the Philippines. She worked at the Philippine Competition Commission from 2016 to 2018. She is currently with Nathan Associates, implementing the Better Access and Connectivity (BEACON) Project of the US Agency for International Development in the Philippines.

**Agnes C. Rola** (University of the Philippines)

Agnes C. Rola is a professor emerita at the University of the Philippines Los Baños (UPLB) and a member of the National Academy of Science and Technology of the Philippines. Her research interests are sustainable agriculture and natural resources management, water governance, agriculture and development, gender and development, and policy analysis of the convergence of water, food security and climate risk management. She is a member of the boards of trustees of international agricultural research centres and the editorial board of several journals. She obtained her PhD in agricultural economics from the University of Wisconsin-Madison, USA.

**Mark W. Rosegrant** (International Food Policy Research Institute)

Mark W. Rosegrant is a research fellow emeritus at the International Food Policy Research Institute. With a PhD in public policy from the University of Michigan, he has extensive experience in research and



policy analysis in agriculture and economic development and the future of world food security, with an emphasis on water resources and other critical natural resource and agricultural policy issues as they impact food security, rural livelihoods and environmental sustainability. He is the author/editor of twelve books and over a hundred refereed papers in agricultural economics, water resources and food policy analysis. He has won numerous awards, and is a fellow of the American Association for the Advancement of Science and of the Agricultural and Applied Economics Association.

**Yasuyuki Sawada** (University of Tokyo)

Yasuyuki Sawada is a professor at the Faculty of Economics, University of Tokyo. From March 2017 until August 2021, he was the chief economist of the Asian Development Bank and director general of its Economic Research and Regional Cooperation Department. Earlier, he served as an adjunct professor of economics at Korea University and a visiting professor at Stanford University. He obtained his PhD in economics from Stanford University.

**Suthad Setboonsarng** (International Rice Research Institute)

Suthad Setboonsarng is currently the chairperson of the board of trustees of the International Rice Research Institute. He was on the board of the Bank of Thailand in 2014–20. He was appointed as one of Thailand's trade representatives in 2009, following his career as a partner at PricewaterhouseCoopers from 2000 to 2008. Prior to this, he was the deputy secretary-general of the ASEAN Secretariat, where he pioneered the work on the ASEAN Free Trade Agreement and financial cooperation. He was an associate professor at the Asian Institute of Technology, research fellow at the Thailand Development Research Institute, and lecturer at Thammasat University. He did postdoctoral work at Yale University. He obtained his PhD in economics from the University of Hawaii.

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Mercedita A. Sombilla is currently the undersecretary of the Regional Development Office of the National Economic and Development Authority, Philippines. She served as assistant secretary of the same office and concurrent director of the Agriculture, Natural Resources and Environment Staff. She also served as research and development manager of the Southeast Asian Regional Center for Graduate Study and Research in Agriculture. She had worked with the International Food



Policy Research Institute and the International Rice Research Institute. She completed her PhD in agricultural and applied economics at the University of Minnesota. She holds an MA in economics and a BS in mathematics from the University of the Philippines Diliman.

**Tetsushi Sonobe** (Asian Development Bank Institute)

Tetsushi Sonobe is the dean and chief executive officer of the Asian Development Bank Institute, the Tokyo-based think tank of the Asian Development Bank. Previously, he was vice president of the National Graduate Institute for Policy Studies, Japan, and a professor at Tokyo Metropolitan University. His research interests span the roles of industrial clusters, human capital, social capital, management practices and market competition in inclusive, resilient and sustainable economic development. He holds a PhD in economics from Yale University and is the vice president of the Japanese Association for Development Economics.

**Timothy Thomas** (International Food Policy Research Institute)

Timothy S. Thomas has been a research fellow for the International Food Policy Research Institute since 2010. His research has focused on various aspects of climate change, agriculture, nutrition and the environment. Much of his research involves the use of crop models and bioeconomic models that embed direct climate effects in a wider model, reflecting global changes in the demand and supply of food. His recent work includes analysis of extreme events under climate change, effects of climate on aflatoxin frequency, and the effects of infrastructure, markets and climate on land-use change.

**V. Bruce J. Tolentino** (Bangko Sentral ng Pilipinas)

V. Bruce J. Tolentino serves as an independent member of the Monetary Board of the Bangko Sentral ng Pilipinas, tasked to focus on promoting financial inclusion for rural and agricultural development. He has over thirty-six years of senior-level experience working with international development agencies, government agencies and non-governmental organizations in development, governance, finance and socio-economic projects and organizations in Asia and Africa.

**Philip Arnold P. Tũaño** (Ateneo de Manila University)

Philip Arnold P. Tũaño is an associate professor and chair of the Department of Economics, School of Social Sciences, Ateneo de Manila University. He is also a project coordinator of the Human Development

Network, a network of academics and civil society leaders involved in advancing the cause of human development. His current research interests include welfare economic mobility, climate change and sustainable development, and the poverty and equity impacts of macroeconomic policies.

**Marilou Uy** (G-24 Secretariat)

Marilou Uy is the director of the Intergovernmental Group of Twenty-Four on International Monetary Affairs and Development (G-24). In this role, she manages the Group's work programme and is the focal point of its engagements with international forums, such as the G20, G77 and the United Nations. Previously, she was the senior adviser to the managing director at the World Bank. While at the World Bank, she held various management roles, among them as director, managing the Bank's financial and private sector programmes in the Africa and South Asia Regions and overseeing the Bank's financial sector operations and advisory work globally. She pursued her graduate studies in economics and finance at the University of the Philippines and the University of California, Los Angeles.

**Peter Warr** (Australian National University)

Peter Warr is the John Crawford Professor Emeritus of agricultural economics at the Australian National University. He studied at the University of Sydney, the London School of Economics and Stanford University, where he received his PhD in applied economics. His current research is on the relationship between economic policy and poverty incidence in Southeast Asia. He is a fellow of the Academy of Social Sciences in Australia and is a distinguished fellow and past president of the Australian Agricultural and Resource Economics Society.

**Jeffrey G. Williamson** (Harvard University)

Jeffrey G. Williamson, PhD, is the Laird Bell Professor of Economics (Emeritus) at Harvard University, where he twice received the Galbraith Prize for best teacher in the graduate economics programme. He is past-president of the Economic History Association (1994–95), from whom he received the Hughes Prize for outstanding teaching. He is also an affiliate and visiting professor at the School of Economics, University of the Philippines.

# Acronyms

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3SLS	three-stage least squares
4Ps	Pantawid Pamilyang Pilipino Program
ABS	Asian Barometer Survey
ADB	Asian Development Bank
AFMA	Agriculture and Fisheries Modernization Act
AFC	Asian financial crisis
AFTA-CEPT	ASEAN Free Trade Area-Common Effective Preferential Tariff
AI	artificial intelligence
AICO	ASEAN Industrial Corporation Scheme
AJAD	Asian Journal of Agricultural Development
ANOVA	analysis of variance
AO	Administrative Order
APCC	Asia-Pacific Policy Center
APTERR	ASEAN Plus Three Emergency Rice Reserve
AR4	Assessment Report 4
AR5	Assessment Report 5
ARMM	Autonomous Region in Muslim Mindanao
ASAE	Asian Society of Agricultural Economics
ASEAN	Association of Southeast Asian Nations
ASPBI	Annual Survey of Philippine Business and Industry
AT	agricultural transformation

ATI	Agricultural Training Institute
ATIGA	ASEAN Trade in Goods Agreement
ATM	automatic teller machine
BARMM	Bangsamoro Autonomous Region in Muslim Mindanao
BEPS	Base Erosion and Profit Shifting
BLU	branch lite unit
BMBE	Barangay Micro-business Enterprise
BOC	Bureau of Customs
BPI	Bureau of Plant Industry
BPO	business process outsourcing
BRICS	Brazil, Russia, India, China and South Africa
BSP	Bangko Sentral ng Pilipinas
CALABARZON	Cavite, Laguna, Batangas, Rizal and Quezon
CAR	Cordillera Administrative Region
CARL	Comprehensive Agrarian Reform Law
CARP	Comprehensive Agrarian Reform Program
CFS	Consumer Finance Survey
CGE	computable general equilibrium
CHED	Commission on Higher Education
CP	Charoen Pokphand
CPBI	Census of Philippine Business and Industry
CPIP	Credit Policy Improvement Project
CPR	contraceptive prevalence rate
CR4	four concentration ratio
CSE	consumer support estimate
CSIRO	Commonwealth Scientific and Industrial Research Organisation
CTE	consumer tax equivalent
DA	Department of Agriculture
DAR	Department of Agrarian Reform
DBM	Department of Budget and Management
DBP	Development Bank of the Philippines

DDA	Doha Development Agenda
DENR	Department of Environment and Natural Resources
DepEd	Department of Education
DFA	Department of Foreign Affairs
DILG	Department of Interior and Local Governments
DPWH	Department of Public Works and Highways
DOLE	Department of Labor and Employment
DOF	Department of Finance
DOF-BTr	Department of Finance-Bureau of Treasury
DOH	Department of Health
DOTr	Department of Transportation
DSSAT	Decision Support System for Agrotechnology Transfer
DSWD	Department of Social Welfare and Development
DTI	Department of Trade and Industry
EC	European Commission
EMI	electronic money issuer
EO	Executive Order
EPZ	export processing zone
EU	European Union
FAO	Food and Agriculture Organization
FDI	foreign direct investment
FFF	Federation of Free Farmers
FGP	farm-gate prices
FIES	Family Income and Expenditure Survey
FIES-LFS	Family Income Expenditures Survey and Labor Force Survey
FIML	full information maximum likelihood
FTA	free trade agreement
GATT-WTO	General Agreement on Tariffs and Trade-World Trade Organization
GCM	general circulation model
GDP	gross domestic product

GFC	global financial crisis
GFDL	General Fluid Dynamics Laboratory
GFI	government financial institution
GHG	greenhouse gas
GMVC	global manufacturing value chain
GNI	gross national income
GOCC	government-owned and controlled corporation
GPN	global production networks
GSDP	Grains Sector Development Program
GSIS	Government Service Insurance System
GVA	gross value added
GVC	global value chain
HadGEM	Hadley Centre Global Environmental Model
HCI	heavy and chemical industries
HDI	Human Development Index
HDD	hard disc drive
HHI	Herfindahl-Hirschman Index
ICT	information and communication technology
IDN	Indonesia
IMF	International Monetary Fund
IMPACT	International Model for Policy Analysis of Agricultural Commodities and Trade
IPCC	Intergovernmental Panel on Climate Change
IPSL	Institut Pierre-Simon Laplace
IR	inverse relationship
IRR	Implementing Rules and Regulations
IRRI	International Rice Research Institute
IT	information technology
IT-BPM	information technology-business processing management
IUSSP	International Union for the Scientific Study of Population
KFTC	Korean Fair Trade Commission
KHM	Cambodia

LA/AIDS	linear approximation of an almost ideal demand system
LFPR	labour force participation rate
LGU	local government units
LBP	Land Bank of the Philippines
MAV	minimum access volume
MBO	micro-banking office
MFA	Multi Fibre Arrangement
MFI	microfinance institution
MFN	most favoured nation
MIMAROPA	Mindoro, Marinduque, Romblon and Palawan
MIROC	Model for Interdisciplinary Research on Climate
MIX	Microfinance Information eXchange
MMSU	Mariano Marcos State University
MNE	multinational enterprises
MORB	Manual of Regulations for Banks
MSME	micro, small and medium enterprise
MRFTA	Monopoly Regulation and Fair Trade Act
MWL	minimum wage legislation
NBFI	non-bank financial institution
NCR	National Capital Region
NDA	National Dairy Administration
NDHS	National Demographic and Health Survey
NEDA	National Economic and Development Authority
NFA	National Food Authority
NGO	non-governmental organization
NHIS-PR	National Household Targeting System for Poverty Reduction
NIA	National Irrigation Administration
NIE	newly industrialized economy
NRA	nominal rate of assistance
NRP	nominal rate of protection
NSFI	National Strategy for Financial Inclusion

OECD	Organisation for Economic Co-operation and Development
OFW	overseas Filipino worker
OTCC	Office of the Trade Competition Commission
PAR	portfolio-at-risk
PCA	Philippine Coconut Authority
PCA	Philippine Competition Act
PCC	Philippine Competition Commission
PCIC	Philippine Crop Insurance Corporation
PCM	price cost margin
PD	Presidential Decree
PDP	Philippine Development Plan
PEZA	Philippine Export Zone Authority
PFC	Philippine Forest Corporation
PFDA	Philippine Fisheries Development Authority
Phil-DCGE	dynamic computable general equilibrium model of the Philippines
PhilMech	Philippine Center for Post-Harvest Development and Mechanization
PhilRice	Philippine Rice Research Institute
PHL	Philippines
PIDS	Philippine Institute for Development Studies
PISA	Programme for International Student Assessment
POUM	prospects for upward mobility
PLGU	provincial local government unit
PRiSM	Philippine Rice Information System
PSA	Philippine Statistics Authority
PSE	producer support estimate
PSIC	Philippines Standard Industry Classification
QR	quantitative restrictions
RBH2	Resolution of Both Houses No. 2
RCEF	Rice Competitiveness Enhancement Fund
RCEP	Regional Comprehensive Economic Partnership



RE	random effects
RER	real exchange rate
RMR	regular-milled rice
ROSCA	rotating savings and credit association
RPEP	Rice Productivity Enhancement Program
RSBSA	Registry System for Basic Sectors in Agriculture
RRA	relative rate of assistance
RRP	Rice Resiliency Program
RTL	Rice Tariffication Law
SCP	structure-conduct-performance
SDG	Sustainable Development Goals
SEARCA	Southeast Asian Regional Center for Graduate Study and Research in Agriculture
SEC	Securities and Exchange Commission
SEZ	special economic zone
SIJORI	Singapore-Johor-Riau Island
SLEX	South Luzon Expressway
SME	small and medium enterprise
Soccksargen	South Cotabato, Cotabato, Sultan Kudarat, Sarangani and General Santos
SPS	sanitary and phytosanitary
SPSIC	safety-based sanitary and phytosanitary import clearance
SSS	Social Security System
ST	structural transformation
TCA	Trade Competition Act
TCC	Trade Competition Commission (Thailand)
TCE	transaction cost economics
TESDA	Technical Education and Skills Development Authority
TFP	total factor productivity
TFR	total fertility rate
TiVA	trade in value added
TRAIN	Tax Reform for Acceleration and Inclusion

TRI	trade reduction index
TRIPS	Trade Related Aspects of Intellectual Property Rights
U5MR	under-5 mortality rate
UNDP	United Nations Development Programme
UNFPA	United Nations Population Fund
UPLB	University of the Philippines Los Baños
UPSE	University of the Philippines School of Economics
USAID	US Agency for International Development
VMP	value of the marginal product
VNM	Vietnam
WaNuLCAS	Water, Nutrient and Light Capture in Agroforestry Systems model
WGI	World Governance Indicators
WIBI	weather index-based insurance
WMR	well-milled rice
WRI	welfare reduction index
WTO	World Trade Organization