

Globalization of Food and Agriculture and the Poor

Globalization of Food and Agriculture and the Poor

Edited by Joachim von Braun and Eugenio Díaz-Bonilla



INTERNATIONAL FOOD
POLICY RESEARCH INSTITUTE

OXFORD
UNIVERSITY PRESS

OXFORD
UNIVERSITY PRESS

YMCA Library Building, Jai Singh Road, New Delhi 110001

Oxford University Press is a department of the University of Oxford.
It furthers the University's objective of excellence in research,
scholarship, and education by publishing worldwide in

Oxford New York

Auckland Cape Town Dar es Salaam Hong Kong Karachi Kuala Lumpur
Madrid Melbourne Mexico City Nairobi New Delhi Shanghai Taipei Toronto

With offices in

Argentina Austria Brazil Chile Czech Republic France Greece Guatemala
Hungary Italy Japan Poland Portugal Singapore South Korea Switzerland
Thailand Turkey Ukraine Vietnam

Oxford is a registered trade mark of Oxford University Press
in the UK and in certain other countries

Published in India
by Oxford University Press, New Delhi

© 2007 The International Food Policy Research Institute

The moral rights of the author have been asserted
Database right Oxford University Press (maker)

First Published 2008

Chapter 6, based partly on Thomas Reardon and C. Peter Timmer, 'Transformation of markets for agricultural output in developing countries since 1950: How has thinking changed?', in Handbook of Agricultural Economics, Vol. 3: Agricultural development: Farmers, farm production, and farm markets, Robert Evenson and Prabhu Pingali (eds.), 2827–2849, copyright © 2007 Elsevier, is published with permission from Elsevier.

All rights reserved. No part of this publication may be reproduced or transmitted, in any form or by any means, electronic or mechanical, including photocopying, recording or by any information storage and retrieval system, without the prior permission in writing of Oxford University Press. Enquiries concerning reproduction outside the scope of the above should be sent to the Rights Department, Oxford University Press, at the address above

You must not circulate this book in any other binding or cover
and you must impose this same condition on any acquirer

ISBN-13: 978-0-19-569528 1

ISBN-10: 0-19-569528 3

Printed in India
Published by Oxford University Press
YMCA Library Building, Jai Singh Road, New Delhi 110 001

Contents

	List of Tables	vii
	List of Figures	ix
	Preface	xi
	Abbreviations and Acronyms	xiii
Chapter 1	Globalization of Agriculture and Food: Causes, Consequences, and Policy Implications	1
	Joachim von Braun and Eugenio Díaz-Bonilla	
Chapter 2	Globalization, Poverty, and Food	47
	Joachim von Braun	
Essay 1	Making Globalization Work for the Poor: Technology and Trade	81
	M. S. Swaminathan	
Chapter 3	Implications of Globalization for Agricultural Research	97
	Per Pinstrup-Andersen and Tewodaj Mengistu	
Chapter 4	Globalization and Smallholders: A Review of Issues, Approaches, and Tentative Conclusions	131
	Sudha Narayanan and Ashok Gulati	
Chapter 5	Agricultural Trade, Globalization, and the Rural Poor	155
	Kevin Watkins	
Essay 2	Agriculture and Market Power	181
	Sophia Murphy	

Chapter 6	The Rise of Supermarkets in the Global Food System	189
	Thomas Reardon and C. Peter Timmer	
Chapter 7	Globalization of Agrifood Systems and the Nutrition Transition	215
	Corinna Hawkes	
Essay 3	Economic Policies in Developing Countries to Make Globalization Work for the Poor	245
	Isher Judge Ahluwalia	
Chapter 8	Globalization, Governance, and Agriculture	251
	Eugenio Díaz-Bonilla	
Essay 4	Changing Paradigms during Globalization	289
	Sartaj Aziz	
Chapter 9	Conflict, Food Insecurity, and Globalization	299
	Ellen Messer and Marc J. Cohen	
Essay 5	National Governments: The Key to Food Security under Globalization	337
	Robert L. Paarlberg	
Essay 6	Addressing Inherent Asymmetries of Globalization	345
	Nancy Birdsall	
	Contributors	355
	Index	357

Tables

- 1.1 Global food sales (US\$ billions) 7
- 1.2 Agriculture trade (percent of production) 9
- 1.3 Developing countries' exports and imports over production (percent) 9
- 1.4 Foreign direct investment stock in the food and agricultural sectors, 1990 and 2004 13
- 1.5 Agricultural and food production growth, total and per capita, 1960s to 2004 (percent per year) 15
- 2.1 Regional Gini coefficients 56
- 2.2 Hunger, poverty, and globalization in selected developing countries 62
- 2.3 Percentage change in poverty head count in Brazil and Chile 65
- 3.1 Adoption rate of modern varieties across all crops (percent) 101
- 3.2 Returns to rural GDP from public investments in China (yuan, per yuan expenditure) 103
- 3.3 Returns to poverty reduction from public investments in China (number per 10,000 yuan) 103
- 3.4 Returns to poverty reduction from public investments in India, 1995 (number per million Rs) 103
- 3.5 Genetically modified (GM) crops around the world 111
- 3.6 Average net revenue for all surveyed farmers in northern China (US\$ per ha) 111
- 4.1 Global drivers and meta-trends 133

- 5.1 Foreign exchange losses in selected Sub-Saharan African countries as a result of U.S. cotton subsidies (US\$ millions) 168
- 7.1 World oilcrops primary production (thousand tons) 219
- 7.2 Brazil: Soybean and soybean oil production, exports, and consumption 220
- 7.3 China: Soybean product imports and consumption of soybean oil 221
- 7.4 India: Soybean product imports and consumption of soybean oil 222
- 7.5 Price and income elasticities for vegetable oils in China, northeast region (urban) 223
- 7.6 Price elasticities (Marshallian) for food groups, Mexico 228
- 8.1 General government consumption expenditure (percent of GDP) 264
- 8.2 Public and publicly guaranteed debt service (percent of gross national income) 265
- 8.3 Inflation rates in developing countries 273
- 8.4 Supply of money (percent of GDP) 275
- 8.5 Real interest rates (percent) 277
- 9.1 Countries in conflict and food insecurity, 2002–03 304
- 9.2 Postconflict countries and food insecurity, 2002–03 307
- 9.3 Contending schools of thought on conflict, globalization, and food security 309
- 9.4 Countries in conflict and coffee, cotton, and sugar export values (percent of total export value) 318
- 9.5 Postconflict countries and coffee, cotton, and sugar export values (percent of total export value) 319

Figures

- 1.1** Overview of issues and coverage of book chapters by drivers of globalization and the food chain 3
- 1.2** The global agrifood business chain, 2006 7
- 1.3** World prices of agricultural products 11
- 1.4** Consumer-driven agrifood systems 25
- 2.1** Conceptual framework for linkages among globalization, poverty, and food security 49
- 2.2** Food-insecurity trends in developing countries 52
- 2.3** Vitamin A deficiency in preschool children 53
- 2.4** Poverty headcount ratios at US\$1 and US\$2 a day purchasing power parity 54
- E1.1** Milk production, India and United States, 1961–2003 83
- E1.2** The Ever-Green Revolution: Synergy between organic farming and biotechnology 86
- E1.3** Integrating genetic efficiency with genetic diversity 87
- 3.1** Yields for selected crops in developing countries 101
- 3.2** Total CGIAR contributions, 1972–2004 109
- 4.1** Policy implications: A two-pronged approach 145
- 5.1** U.S. cotton subsidy and the gross national incomes for selected West African countries, 2000 169

- 5.2 Support to U.S. cotton farmers under the Farm Security and Rural Investment Act 171
- 5.3 Cereals sector support in the European Union, 1999/2000 172
- 8.1 Globalization dynamics 253
- 8.2 Agricultural expenditure in Latin America and the Caribbean 267
- 8.3 Aggregate net resource flows as a percentage of GDP 271
- 9.1 Countries in conflict and percentage of food-insecure people, 2002–03 302
- 9.2 Countries in conflict and estimated need for humanitarian assistance, 2002–03 302
- E6.1 Growth and employment volatility in developing and OECD countries, 1960–97 349
- E6.2 Changes in wage differentials in Latin America in the 1990s 350
- E6.3 Net foreign direct investment by region, 2001 350
- E6.4 Annual average growth rate at real GDP per capita and country commodity dependence, 1980s and 1990s 351

Preface

Work on this volume was initiated by a workshop and policy dialogue in honor of Per Pinstrup-Andersen in recognition of his outstanding service as the International Food Policy Research Institute (IFPRI) director general from 1992 to 2002. *Therefore, this volume is in honor of Per Pinstrup-Andersen.*

The workshop was held in 2002, and Per Pinstrup-Andersen played an active role in its design with us. The chapters of this volume and the policy essays have been revised and updated thereafter, and some new chapters have been added. We are grateful for the helpful critique by anonymous reviewers through IFPRI's Publications Review Committee.

The globalization debate related to food and agriculture remains heated and controversial. IFPRI is continuously engaged in this debate with its research on markets and trade, on technology and environmental issues, and on consumption and nutrition issues and their implications for poverty. To bring out controversial aspects of the debate, and to confront it with research-based findings, this volume explicitly combines in-depth chapters written by IFPRI staff and other researchers, and the broader research community with a set of policy essays by leading experts on globalization processes in which they share their concern, extensive experiences, and insights. The essays are marked as such in the table of contents to guide the reader.

We hope that this volume furthers the debate for the benefit of rational decision-making on food and agriculture and the poor as related to globalization policy issues.

Joachim von Braun
Eurgenio Díaz-Bonilla

Abbreviations and Acronyms

AMS	Aggregate Measure of Support
AoA	Agreement on Agriculture (of World Trade Organization)
APAARI	Asia-Pacific Association of Agricultural Research Institutions
CAP	Common Agricultural Policy (European Union)
CGIAR	Consultative Group on International Agricultural Research
DRC	Democratic Republic of the Congo
EPA	Environmental Protection Agency (United States)
FAO	Food and Agriculture Organization of the United Nations
FARA	Forum for Agricultural Research in Africa
FDA	Food and Drug Administration (United States)
FDI	foreign direct investment
FORAGO	Forum for the Americas on Agricultural Research and Technological Development
FSRI	Farm Security and Rural Investment Act (United States)
GATT	General Agreement on Tariffs and Trade
GDP	gross domestic product
GFAR	Global Forum on Agricultural Research
GM	genetically modified
GTAP	Global Trade Analysis Project
HDI	Human Development Index

HIPC	Heavily Indebted Poor Countries
HVFP	high-value food product
HYV	high-yielding varieties
IARC	international agricultural research center
ICAC	International Cotton Advisory Committee
ICT	information and communications technology
IFPRI	International Food Policy Research Organization
ILO	International Labour Organization
IMF	International Monetary Fund
IPR	intellectual property rights
MDG	Millennium Development Goal
MV	modern variety
NAFTA	North American Free Trade Agreement
NARS	national agricultural research systems
NGO	nongovernmental organization
NSI	national system of innovation
ODA	official development assistance
OECD	Organisation for Economic Co-operation and Development
PPP	purchasing power parity
PRIO	International Peace Research Institute, Oslo
PSE	Producer Subsidy Estimate
R&D	research and development
SPS	sanitary and phytosanitary
TFC	transnational food company
TNC	transnational corporation
TRIPS	Trade-Related Aspects of Intellectual Property Rights Agreement (of World Trade Organization)
UNDP	United Nations Development Programme
WHO	World Health Organization
WTO	World Trade Organization