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Edited by CHRISTOPHER B. BARRETT

**FOOD SECURITY &  
SOCIOPOLITICAL  
STABILITY**

# Food Security and Sociopolitical Stability

EDITED BY  
CHRISTOPHER B. BARRETT



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FOOD SECURITY AND SOCIOPOLITICAL  
STABILITY

## *Acknowledgments*

After food riots wracked many low- and middle-income families during the global food price spike of 2007–8, and then again in 2010–11, food policy issues suddenly re-emerged on the global stage with a prominence they had lacked since the mid-1970s. An era of agricultural plenty ushered in by the Green Revolution had lulled policymakers and many scientists into a false sense of security that food would always be abundant and food prices low. Reawakened to the challenges of meeting the food needs of a growing, and increasingly well-off and urban, world population facing growing threats of climate change, the global policy community suddenly became keen to learn how food security and sociopolitical stability relate to one another. It also became re-sensitized to the daily preoccupation of a large share of the world's population with their struggles to feed their families.

Thankfully, a cadre of exceptional scholars remained very engaged with these issues even while much of the world's focus drifted elsewhere. The contributors to this volume—each an eminent scholar in his or her field—generously contributed their considerable expertise and goodwill to help pull this volume together. My greatest thanks goes to them, an extraordinary group of brilliant men and women without whom this volume could never have been produced. I learned an enormous amount from our interactions over the year it took from the inception of this project, through our authors' workshop, to a completed book manuscript. Not only are they a remarkable group of sharp minds and cooperative spirits, but they are admirably committed to translating the oftentimes-technical details of their scholarship into clear language accessible to a wide range of prospective readers beyond their core academic disciplines. This volume is intended for a broad audience of scholars, policymakers and their advisers, students, and interested lay readers who want to deepen their understanding of the complex relationship between food security and sociopolitical stability in the twenty-first century.

Such an ambitious project could not have progressed without valuable contributions from many people in addition to the contributing authors. Kathryn Boor, the Ronald Lynch Dean of the College of Agriculture and Life Sciences at Cornell University, and Mike Hoffmann, Director of the Cornell University Agricultural Experiment Station, first brought this opportunity to my attention and were invaluable advocates in getting this project launched. Linda Zall, Rich Engel, and their staffs in the United States intelligence community provided encouragement and a tangible target audience for the contributors. This project was also supported financially by the United States intelligence community. Any opinions, findings, conclusions, or recommendations expressed

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Cynthia Mathys choreographed all aspects of this project with exceptional professionalism, skill, and good humor. She deserves the lion's share of the credit for the pulling together of the innumerable details of this project so quickly and well.

Finally, I thank my family for their patience and unwavering support as I slogged away at this project. My wife, Clara, and our children, Brendan, Mary Catherine, Joanna, Julia, and Lizzy, are a fabulous support and inspiration. My sincere hope is that the scholarship reflected in this volume and the private and public policy choices it helps inform will help usher in substantial progress in advancing food security and sociopolitical stability worldwide over the course of their lifetimes.

Chris Barrett  
Ithaca, NY

December 2012

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## *List of Abbreviations*

|            |   |
|------------|---|
| ALBA       | Bolivarian Alliance for the Americas                                      |
| AMO        | Atlantic Multidecadal Oscillation   |
| AMV        | Atlantic Multidecadal Variability   |
| AO         | Arctic Oscillation  |
| BACI       | before-after-control-impact   |
| BFSP       | Brazil's food security policy   |
| BiOS       | Biological Innovation for Open Society                                    |
| BPL        | below poverty line  |
| BRIIC      | Brazil, Russia, India, Indonesia, and China                               |
| CA         | conservation agriculture  |
| CAADP      | Comprehensive Africa Agriculture Development Program                      |
| CAMBIA     | Centre for Applications of Molecular Biology in International Agriculture |
| CBD        | Convention on Biological Diversity  |
| CCT        | conditional cash transfer   |
| CGIAR      | Consultative Group on International Agriculture                           |
| CI         | contour interval  |
| CIMMYT     | International Maize and Wheat Center                                      |
| COMESA     | The Common Market for Eastern and Southern Africa                         |
| CONSEA     | National Food Security Council (Brazil)                                   |
| CPI        | Consumer price index  |
| CPN-M      | Communist Party of Nepal—Maoist   |
| CTE        | consumer tax equivalents  |
| DDA        | Doha Development Agenda   |
| DPRK       | Democratic People's Republic of Korea                                     |
| DSR        | direct seeding of rice  |
| ECCAS      | Economic Community of Central African States                              |
| ECOWAS     | The Economic Community of West African States                             |
| ENSO       | El Niño–Southern Oscillation  |
| FAO        | United Nations Food and Agriculture Organization                          |
| FAO-FIVIMS | Food Insecurity and Vulnerability Mapping System                          |
| FCI        | The Food Corporation of India   |
| FEWS NET   | The Famine and Early Warning System Network                               |
| GATT       | General Agreement on Tariffs and Trade                                    |
| GCM        | General Circulation Models  |
| GEAC       | Genetic Engineering Approval Committee                                    |
| GHI        | Global Hunger Index   |
| GIEWS      | Global Information Early Warning System                                   |

|        |  |
|--------|--|
| GM     | genetically modified   |
| GMO    | genetically modified organisms   |
| HDI    | Human Development Index  |
| ICISS  | International Commission on Intervention and State Sovereignty                   |
| IFPRI  | International Food Policy Research Institute                                     |
| IGAD   | Intergovernmental Authority on Development                                       |
| ILRI   | International Livestock Research Institute                                       |
| IMPACT | International Model for Policy Analysis of Agricultural<br>Commodities and Trade |
| IP     | intellectual property  |
| IPR    | intellectual property rights   |
| IPO    | Interdecadal Pacific Oscillation   |
| IRRI   | International Rice Research Institute  |
| ITCZ   | Intertropical Convergence Zone   |
| LOC    | low-income countries   |
| MAS    | marker-assisted selection  |
| MCC    | Maoist Communist Center  |
| MDA    | Ministry of Agrarian Development   |
| MEP    | minimum export prices  |
| MST    | Movimento dos Trabalhadores Sem Terra  |
| NAM    | Northern Annular Mode  |
| NAO    | North Atlantic Oscillation   |
| NARES  | National Agricultural Research and Extension Systems                             |
| NERICA | New Rice for Africa program  |
| NRA    | nominal rates of assistance (to an industry or sector)                           |
| OECD   | The Organization for Economic Co-operation and Development                       |
| OFAC   | Office of Foreign Assets Control   |
| OPEC   | Organization of the Petroleum Exporting Countries                                |
| PAA    | Food Acquisition Program (Brazil)  |
| PDO    | Pacific Decadal Oscillation  |
| PDV    | Pacific Decadal Variability  |
| PIPRA  | Public Intellectual Property Resource for Agriculture                            |
| PMV    | Plan Maroc Vert  |
| PNSAN  | National Food and Nutritional Security Plan (Brazil)                             |
| PRONAF | National Program for Strengthening Family Farming (Brazil)                       |
| PSNP   | Productive Safety Net Program  |
| PVP    | plant variety protection   |
| PWG    | The People's War Group   |
| R2P    | responsibility to protect  |
| R&D    | research and development   |
| REDD   | Reducing Emissions from Deforestation and Forest Degradation                     |
| RMB    | renminbi   |
| RRA    | relative rate of assistance  |

|         |   |
|---------|---|
| SADC    | The Southern African Development Community                        |
| SAM     | Southern Annular Mode   |
| SELA    | The Latin American and Caribbean economic system                  |
| SIDS    | small-island developing states                                    |
| SLP     | sea-level pressure  |
| SOCLA   | Sociedad Científica Latinoamericana de Agroecología               |
| SOI     | Southern Oscillation Index  |
| SRI     | system of rice intensification                                    |
| SST     | sea surface temperature   |
| SSTA    | sea surface temperature anomaly                                   |
| s/u     | stock-to-use  |
| TAL     | transcription activator-like                                      |
| TAO     | Tropical Atmosphere Ocean   |
| TFG     | Transitional Federal Government (Somalia)                         |
| TFP     | total factor productivity   |
| TOGA    | Tropical Ocean Global Atmosphere Program                          |
| TRIPS   | trade-related aspects of intellectual property                    |
| UNDP    | United Nations Development Program                                |
| UNESCO  | United Nation Educational, Scientific, and Cultural Organization  |
| UPOV    | International Union for the Protection of New Varieties of Plants |
| USAID   | United States Agency for International Development                |
| USDAERS | United States Department of Agriculture Economic Research Service |
| WFP     | World Food Programme  |
| WTO     | World Trade Organization  |

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