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Nota di contenuto	Front Cover; Climate Change Risks and Food Security in Bangladesh; Copyright Page; Contents; List of Figures and Tables; Acknowledgements; Foreword by Isabel M. Guerrero; Executive Summary; Glossary of Terms; Acronyms; 1. Introduction; 1.1 Objectives of Study; 1.2 Literature Review; 1.3 Integrated Modelling Methodology; 1.4 Organization of Study; 2. Vulnerability to Climate Risks; 2.1 The Success of Agriculture; 2.2 Living with Annual Floods; 2.3 Lean Season Water Availability; 2.4 Sea level Rise in Coastal Areas; 2.5 Regional Hydrology Issues; 3. Future Climate Scenarios 3.1 Future Estimated Precipitation and Temperature3.2 Future Sea level

Rise; 4. Future Flood Hydrology; 4.1 GBM Basin Model Development; 4.2 National Hydrologic Super Model; 4.3 Approach to Modelling Future Flood Changes; 4.4 Future Changes over the Ganges-Brahmaputra-Meghna Basin; 4.5 Future Flood Characteristics and Analysis; 5. Future Crop Performance; 5.1 Development of the Baseline Period; 5.2 Developing Flood Damage Functions; 5.3 Incorporating Coastal Inundation Effects; 5.4 Projections of Future Potential Unflooded Production (Climate Only) 5.5 Projections of Future Projected Flood Damages 5.6 Projections of Potential Coastal Inundation Damages; 5.7 Projections of Integrated Damages; 5.8 Using the Crop Model to Simulate Adaptation Options; 6. Economy-wide Impacts of Climate Risks; 6.1 Integrating Climate Effects in an Economy-wide Model; 6.2 Economic Impacts of Existing Climate Variability; 6.3 Additional Economic Impacts of Climate Change; 7. Adaptation Options in the Agriculture Sector; 7.1 Identifying and Evaluating Adaptation Options; 8. The Way Forward - Turning Ideas to Action 8.1 A Framework for Assessing the Economic of Climate Change Annex 1 - Using DSSAT to Model Adaptation Impacts; Annex 2 - Description of the CGE Model; Annex 3 - Constructing the Social Accounting Matrix for Bangladesh; References; Index

Sommario/riassunto

Managing climate variability and change remains a key development and food security issue in Bangladesh. Despite significant investments, floods, droughts, and cyclones during the last two decades continue to cause extensive economic damage and impair livelihoods. Climate change will pose additional risks to ongoing efforts to reduce poverty. This book examines the implications of climate change on food security in Bangladesh and identifies adaptation measures in the agriculture sector using a comprehensive integrated framework.

2. Vulnerability to Climate Risks
3. Future Climate Scenarios
4. Future Flood Hydrology
5. Future Crop Performance
6. Economy-Wide Impacts of Climate Risks
7. Adaptation Options in the Agriculture Sector

Annexes:
Annex 1 - Using DSSAT to Model Adaptation Impacts
Annex 2 - A Simple Economy-Wide CGE Model
Annex 3 - Constructing the Social Accounting Matrix for Bangladesh

First, the most recent science available is used to characterize current climate and hydrology and its potential changes. Second, country-specific survey and biophysical data is used to derive more realistic and accurate agricultural impact functions and simulations. A range of climate risks (i.e. warmer temperatures, higher carbon dioxide concentrations, changing characteristics of floods, droughts and potential sea level rise) is considered to gain a more complete picture of potential agriculture impacts. Third, while estimating changes in production is important, economic responses may to some degree buffer against the physical losses predicted, and an assessment is made of these. Food security is dependent not only on production, but also future food requirements, income levels and commodity prices. Finally, adaptation possibilities are identified for the sector. This book is the first to combine these multiple disciplines and analytical procedures to comprehensively address these impacts. The framework will serve as a useful guide to design policy intervention strategies and investments in adaptation measures.

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