

Editor's Preface

This book, entitled “Sustainable Agriculture and Rural Development in the Era of Climate Change: Asian Perspectives,” provides detailed documentation of the 2nd Asia-Japan Research Institute (AJI) International Workshop, which took place on August 15, 2023, at Nong Lam University in Ho Chi Minh City, Vietnam. This event marked a significant milestone as the first face-to-face workshop following the pandemic period. The workshop emerged as a vital component of the International Collaborative Research Program, representing a strong partnership between the Asia-Japan Research Institute of Ritsumeikan University and Nong Lam University's Faculty of Economics. The primary objective was to create a dynamic platform for international dialogue and facilitate the exchange of cutting-edge scientific findings among researchers specializing in sustainable agriculture and rural development. The focus was particularly directed toward Southeast Asia, a region that faces increasing challenges from extreme weather events and growing concerns about food insecurity due to accelerating climate change impacts. In keeping with its inclusive approach, the workshop welcomed participation from a diverse audience, encompassing not only academics but also farmers, agricultural officers, students, and members of the public interested in these critical issues.

Agriculture plays a fundamental role in ensuring global food security and sustaining rural livelihoods across communities worldwide. In the current context, climate change has emerged as a significant threat, profoundly impacting both agricultural production systems and rural communities, particularly in regions already experiencing vulnerability such as Asia. Sustainable agricultural practices have shown promising potential as effective solutions for both mitigating the adverse effects of climate change and enhancing rural livelihoods.

This consideration holds particular significance for Asian nations, which constitute the world's primary rice-producing region. Although sustainability principles have gained widespread recognition and acceptance as fundamental guidelines for developing low-carbon economies and agricultural systems, the practical implementation of sustainable practices continues to present substantial challenges, even as some successful initiatives have been documented.

This volume delivers in-depth analyses and valuable insights into sustainable agriculture and rural development in the context of climate change. The book's scope is enriched through detailed case studies drawn from various Southeast Asian countries, including Thailand, Cambodia, Indonesia, and Vietnam, offering diverse perspectives and practical experiences from across the region.

The first part of the book explores rural strategies for mitigating climate change and sustainable rice farming through social and economic approaches. In Chapter 1, Dr. Ha Anh Hoang investigates farmers' intentions and behaviors regarding sustainable agriculture in Vietnam. In Chapter 2, Dr. Orawan Srisompun examines poverty and vulnerability among farmer households in Northeastern Thailand, analyzing the combined impact of drought and COVID-19. In Chapter 3, Dr. Dinh Quy Mai studies pig farmers' preferences for adopting Good Animal Husbandry Practices (GAHP) in Vietnam using a choice experiment. In Chapter 4, Dr. Mohammad Rondhi analyzes farmers' perceptions and adaptation strategies in response to climate change, focusing on shallot farmers in Indonesia. In Chapter 5, Dr. Phuc Trong Ho evaluates cost efficiency and its determinants in rice farming in the Mekong River Delta. In Chapter 6, Dr. Hay Chanthol discusses agriculture and poverty reduction in Cambodia, emphasizing the role of rice yield. In Chapter 7, Dr. Thanh Tam Ho examines the benefits of sustainable rice farming and factors influencing rice farmers' choices in

Long An Province, Vietnam.

The second part of the book focuses on technological innovations and soil management in sustainable agriculture. In Chapter 8, Dr. Thi Huong Sen Tran examines Ca^{2+} Sensitive and Non-selective Na^+/K^+ Channel Activity of a Barley Aquaporin HvPIP2;8 under Saline Condition. In Chapter 9, Dr. Loc Thuy Tran investigates the effect of high temperature on Vietnamese rice cultivars and strategies to cope with it. In Chapter 10, Dr. Quoc Thinh Tran presents SOFIX analysis for soil fertility evaluation in Japan.

I would like to express my deepest and most sincere appreciation to the Asia-Japan Research Institute of Ritsumeikan University for their invaluable support in facilitating, and to Nong Lam University for their generous hospitality in hosting this significant international workshop. I extend my heartfelt gratitude to Professor Yasushi Kosugi, Director of the Institute, whose thoughtful guidance and consistent encouragement have been instrumental throughout this entire process. I am particularly thankful to Professor Anthony Brewer, our distinguished special advisor, whose meticulous editorial guidance and insightful feedback have substantially enhanced the quality and coherence of this booklet. I would like to express my profound gratitude to Professor Koji Shimada for his unwavering and dedicated support, not only during the workshop but throughout my entire academic journey, which has been truly transformative. I also extend my sincere appreciation to Nong Lam University – Ho Chi Minh City, Vietnam, for their exceptional assistance in organizing and coordinating the workshop onsite. I am particularly grateful to Associate Professor Nguyen Tat Toan (President), Dr. Nguyen Ngoc Thuy (Director, International Relations Office), Professor Nguyen Kim Loi (Director, Climate Change Research Institute), Associate Professor Do Tien Duy (Director, Scientific Research Office), Dr. Le Cong Tru (Dean, Faculty of Economics), and

all other faculty members who contributed their time and expertise to make this workshop a success. I extend my heartfelt thanks to our international authors and collaborators who, despite the challenges of different time zones, contributed valuable time, expertise, and insights to enrich this book with their meaningful contributions. Finally, I would like to express my deepest gratitude to my partner and family for their unwavering emotional support, endless patience, and constant encouragement throughout this challenging but rewarding academic endeavor.

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7. Dr. Thanh Tam HO



Chapter 7. Benefits of Sustainable Rice Farming and Influential Factors on Rice Farmers' Choice: A Case Study in Long An Province, Vietnam

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Her research focuses on climate change adaptation and mitigation, sustainable agriculture policies, and behavior analysis. Currently, she is conducting several research projects related to sustainable agriculture and promotion policies in Japan and Vietnam.