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Edited by Mahmood-Ur- Rahman Ansari

*GC University*

*“Recent Advances in Rice Research”* is an interdisciplinary book dealing with diverse topics related to recent developments in rice research. The book discusses the latest research activities in the field of hybrid rice, various metabolites produced in rice and its biology, stress studies, and strategies to combat various biotic and abiotic stresses as well as rice economics, value addition, and product development. The book is written by an international team of researchers from all over the globe sharing their results in the field of rice research. I am hopeful that the scientific information available in this book will provide advanced knowledge for rice researchers, students, life scientists, and interested readers on some of the latest developments in rice research.

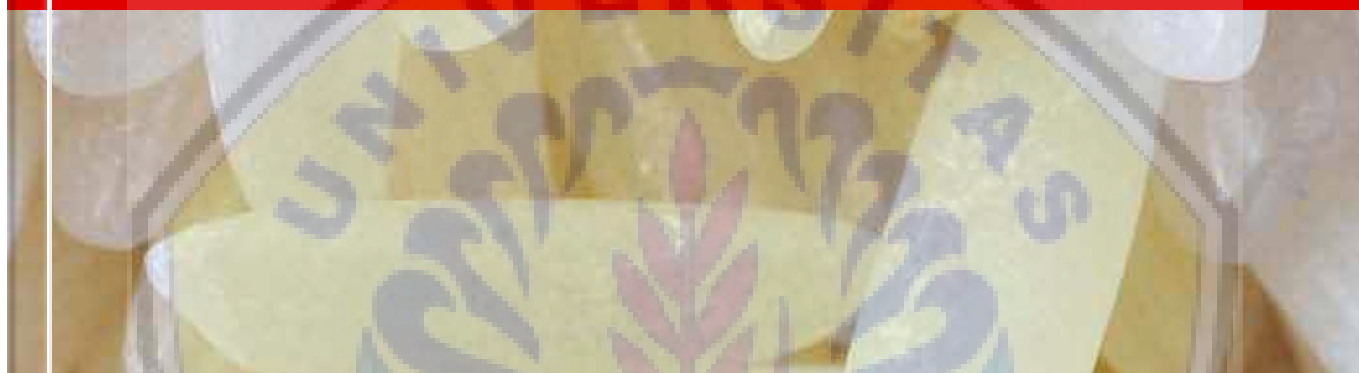


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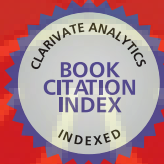
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Chapter

# Improving the Efficacy of Climate Policy in the Indonesian Rice Sector: The Potential Use of Perceived-Impact Measures in Targeting Policy Beneficiaries

*Rokhani, Mohammad Rondhi, Anik Suwandari, Ahmad Asrofi, Ahmad Fatikhul Khasan, Yasuhiro Mori and Takumi Kondo*

## Abstract

Climate change (CC) increases the frequency of flood and drought and is a significant threat to smallholder rice farming in Indonesia. Adapting to these changes is crucial to minimize the damages to the Indonesian food system. Accordingly, the Indonesian government has formulated National Adaptation Plans (NAPs) to mitigate the effect of climate change on priority sectors, including rice farming. To this end, the Indonesian government included climate change adaptation into the National Development Plan (2019–2024). Selecting the appropriate beneficiaries of this program is crucial to improve the efficacy of Indonesian climate policy. In the case of rice farming, farmers with a high probability to adapt are the appropriate beneficiaries of this program. Thus, this chapter aimed to identify the characteristics of Indonesian smallholder rice farmers with a high probability to adapt to climate change. To this end, this chapter used the findings of the study on 87,330 rice farmers in Indonesia. Education, gender, land tenure security, presence of irrigation infrastructure, application of chemical fertilizer, cropping system, access to extension services, and participation in farmer group are significant determinants of adaptation practices. The finding suggests that prioritizing farmers based on these characteristics are crucial to improve the efficacy of climate policy.

**Keywords:** climate policy, smallholder rice farming, climate change perceived-impact, national adaptation plans, the efficacy of public policy

## 1. Introduction

It is estimated that the Indonesian economy will suffer a loss of at least IDR 100 trillion (~USD 6.7 billion) annually in the period of 2019–2024 due to climate change (CC). The estimation comes only from four economic sectors that are heavily impacted by CC: agriculture, marine and fisheries, water resources, and health. Among others, agriculture (rice sector) is the hardest hit with a total loss

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