RESEARCH ARTICLE

Effectiveness of community participation in Mangrove restoration: the evidence from northern Sri Lanka

Sarujan Sathiyamoorthy[1] · Takeshi Sakurai[1]

Abstract

As a result of the past failures in centralized management, community-based management approach was evolved as a better alternative in Mangrove management. However, effectiveness of community-based Mangrove management is remained as an important policy question with limited empirical evidence. This study aims to empirically investigate the effectiveness of community participation on Mangrove restoration using the village-level data collected from lagoon-based fishing villages in northern Sri Lanka during 2009–2020. In addition to the field data, this study adopts satellite imagery data of Landsat-7 and Landsat-8 to estimate the extent of Mangrove cover as an indicator of Mangrove restoration performance. The results show that community participation has a significant and positive impact on Mangrove restoration, suggesting the importance of strengthening community management practices for future Mangrove management.

1 Introduction

Mangroves are one of the most precious and productive wetland ecosystems in the tropical and sub-tropical intertidal environments (Datta et al. 2012; ITTO 2002). They offer a wide array of ecosystem services such as protection of shorelines, mitigation of climate risks by carbon sequestration, maintenance of ecological stability, and support coastal livelihoods through increasing fish production

---

✉ Sarujan Sathiyamoorthy
   sarujan89@gmail.com

1   Laboratory of Rural Development and Finance, Department of Agricultural and Resource Economics, Graduate School of Agricultural and Life Sciences, University of Tokyo, 1-1-1, Yayoi, Bunkyo-ku, Tokyo 113-8657, Japan