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Crop management practices and coping strategies of rice farmers in typhoon prone Eastern Visayas, Philippines

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Abstract

The Philippines ranks among the world's most typhoon-affected regions, with climate change intensifying their frequency and strength. Over recent decades, typhoon occurrences have surged from 15 to 20 annually, particularly impacting Samar and Leyte islands in the Eastern Visayas region. The super typhoon Haiyan on November 07, 2013, ravaged the region and caused unprecedented losses to crops, properties, and lives. In the present study, we surveyed 40 lowland rice farmers in Borongan, San Julian, and Dolores, Eastern Samar, to assess the impact of climate change on farming practices and identify coping mechanisms.

While farmers exhibit resilience towards recurrent typhoons and floods, their primary concerns revolve around the scarcity of seeds, fertilisers, and reliable irrigation systems, exacerbated by changing rainfall patterns. Rising temperatures, erratic rainfall, and dwindling water resources pose significant challenges to agricultural productivity. In response, farmers adjust planting calendars based on rainfall and soil moisture availability, resort to chemical fertilisers to alleviate declining soil fertility and use pesticides to control increased pest and disease occurrences. In some cases, rice farmers switch to sweet potato cultivation to adapt to limited soil moisture and the occurrence of strong typhoons. Farmers have observed that sweet potatoes can tolerate strong typhoons, as they experienced during Typhoon Haiyan.

This study implies the critical need for adaptive strategies to address the complex challenges posed by climate change and safeguard the livelihoods of Filipino rice farmers in the face of escalating climate risks. Moreover, the findings can help the local government formulate policies that would help farmers improve their rice production in a changing climate.

Keywords: Climate change, rainfed rice production system, typhoon-prone agroecosystem