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Material and non-material contributions of rice agroecosystems to indigenous farmers in the Upper Baram, Malaysia

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Abstract

Traditional rice agroecosystems enrich the world’s agricultural heritage and diversity of farming practices. The main output of these agroecosystems is the production of rice for food. However, traditional rice agroecosystems contribute to farmers in many ways beyond the material contribution of rice, including non-material contributions that are important to farmers’ individual and cultural lives. This research aimed to understand the material and non-material contributions of swidden and wet rice agroecosystems to indigenous farmers in a traditional rice cultivation landscape in the Upper Baram, Malaysia, using the IPBES nature’s contributions to people framework. In the year 2020, 43 semi-structured interviews were conducted with indigenous farmers in two villages to collect data, which were analysed using qualitative content analysis. The contributions of rice agroecosystems were deductively classified into the categories of the IPBES framework. The findings demonstrated that the rice agroecosystems support farmers through material contributions, including rice and non-rice food, and non-material contributions, such as supporting farmers’ identity as well as contributing to knowledge transfer and a feeling of happiness. The rice agroecosystems are therefore more than just a source of food, as they also contribute to the social and cultural aspects of farmers’ lives. The farmers also perceived differences between the rice agroecosystems. The wet rice agroecosystem is perceived as providing a higher rice yield with less labour-intensive farming practices. The swidden rice agroecosystem is associated with a greater variety of material contributions, such as the provision of building materials, firewood and more non-rice food, often found in the system’s fallow land. Besides the beneficial contributions, a detrimental contribution of the swidden rice agroecosystem is the tiring and difficult farming practices, such as weeding or slashing the field. Due to the different contributions, most farmers prefer the wet rice agroecosystem because of the economic and lifestyle benefits. This preference, combined with ongoing socio-economic changes in the area, could lead to a shift from swidden rice cultivation to more permanent wet rice cultivation. However, the traditional swidden rice agroecosystem may also be maintained as a risk mitigation measure in case the wet rice agroecosystem fails to produce sufficient rice.

Keywords: Agricultural change, Borneo, ecosystem services, indigenous perceptions, IPBES

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