Biodiversity in paddy field ecosystem and its use and management in Lao PDR

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Local ecological knowledge play a key role in sustainable resource management in Asian rural villages. This study focuses on a case of natural resource use and management in the paddy field ecosystem in Lao PDR. Field surveys have been conducted in the paddy fields in Savannakhet Province in 2001-2006 and in Houaphan Province since 2006. Agricultural activities start in the monsoon onset by plowing and harrowing in May-June, transplanting in June-July, weeding in July-August, harvesting in October-November. Rice yield is 1 - 3 ton per hectare in the fields without applying chemical fertilizer, herbicide or pesticide. The paddy fields harbor a variety of trees, and they are used as timber, fuelwood, soil improvement, food, medicine, and fodder. Multiple wild herbaceous plants growing with rice plants are collected as vegetable either for self-consumption or sale in a local market. Fish, frog, crab and aquatic insects are collected with crafted tools in the rainy season, whereas cricket in the ground and lizard on the trees are gathered in the dry season as important food sources. This study considers the possibility of human-nature relationship in the paddy field ecosystem in Laos in line with the re-evaluation of sustainable farming system against the excessive agricultural intensification.





