INFLUENCE OF SEASONAL CHANGES IN AGRICULTURAL ACTIVITIES ON BIRDS IN WEST JAVA, INDONESIA

KATAOKA Miwa [1], IWATA Akihisa [1] and Dewi M. Prawiradilaga [2]

1 Graduate School of Asian and African Area Studies, Kyoto University, Kyoto 606-8501, Japan

2 Research Centre for Biology, The Indonesian Institute of Sciences, Cibinong 16911, Indonesia

E-mail: mkataoka@asafas.kyoto-u.ac.jp

Commercialization and intensification of agriculture have triggered an expansion of arable land and changes in cropping patterns. Although such changes are known to alter both the spatial and temporal heterogeneity of an agricultural environment, the habitat associations of bird species to seasonal changes in habitats are not well understood. We compared seasonal patterns of bird species and their habitat preferences between two villages in which villagers practiced different cropping patterns in the rice fields. Results showed that few species used the rice fields directly, and some species such as carnivores and granivores adapted to the cultivation cycle in the rice fields. Single-cropping in rice fields caused a longer postharvest period. Harvested fields provided suitable foraging sites for Spotted Doves, which are ground-foraging specialists of waste grain or weed seeds. However, double-cropping in the rice field provided stable foraging sites for Javan Kingfishers, which search for food on open-water surfaces, although double-cropping changed the seasonal transitions in the rice paddy environment on a whole-village scale. Both Spotted Doves and Javan Kingfishers need a suite of habitats for foraging and perching. Thus, we determined the importance of the variety in habitats and revealed the effects of seasonal changes on these suites of habitats. Our results suggest that differences in cropping patterns influence temporal variations in bird species through changing the temporal functions of habitats.

Keywords: Bird species, Seasonal change, Cropping pattern, Agricultural landscape.