

The Relationship between the Paddy Field Landscapes and River Activities after the Latter Part of the Middle Yayoi Period: A Case Study in the Kawachi Region, Osaka Prefecture

INOUE Tomohiro

This paper discusses the transformations of the paddy field landscapes in the Kawachi area of Osaka Prefecture from the Middle to the Late Yayoi Period (the 1st Century BC- the 2nd Century AD). The study of rice paddy fields during this period at two spatial scales, individual paddy fields and river basins, revealed that hierarchical paddy field compositions based on complex irrigation systems were formed. The establishment of the new paddy field compositions were triggered by the river activities such as the shifting of river channels and the formation of new landforms. The changes of the river activities were related to summer precipitation variabilities reconstructed from oxygen isotope ratio variations in tree rings. The paddy field landscapes during this period are thought to have been changed by the interaction of two factors: the changes of natural environments such as river activities and precipitation, and human activities such as the developments of arable lands.

Key words: Yayoi period, paddy fields, irrigation systems, landform changes, precipitation changes