Behavior of the sediments and detritus transported by floodwater on the embanked riverside land and its depositional record in the lower reaches of the Natori River

*Hiroshi Shimazu[1], Takako UTSUGAWA[1]

1. Department of Geography, Faculty of Geo-Environmental Science, Rissho University

The Natori River flows down in the Sendai Plain. After World War II the lower reaches of the Natori River the floodplain was divided into the riverside land and the habitable floodplain by construction of the continuous embankments. After that as the high water channel of the riverside land was used for private farmland without artificial landform change, the original micro-landform and small forests have been preserved. The high water channel is inundated with various detritus during the flood stage. Some of that was deposited on the high water channel. The flood stage caused by the Typhoon 1919 in 2019 was above about 2m on the surface of the farmland. Although the surface of some farmlands was eroded, fine sediments were deposited on the surface of the most farmlands. The large amount of detritus was caught on the upper side of the small forest. The forest played screening effects as well as flood control forest. The cliffs between the high water channel and river channel were partially eroded by the flood, so that the sand and gravel layers mainly constituting the high water channel were exposed. Based on the observation of characteristics of their sediments, some man-made materials in the layers, vegetation on the high water channel around the outcrops and the root distributions of the trees and grass in the layers, the subsurface sedimentological structure of high water channel and history of sedimentation were examined.

Keywords: embanked floodplain, flooding, deposition, micro-landform, Natori River, Sendai Plain

