Processes of structural deterioration of an abandoned old concrete bridge in Kozushima Island, facing the Pacific Ocean

Shota Kakei², *Chiaki T. Oguchi¹

1. Institute for Environmental Science and Technology, Graduate School of Science and Engineering, Saitama University, 2. Undergraduate Student, Department of Engineering, Saitama University

Many concrete structures face serious structural deterioration several decades after construction necessitating countermeasures. This study focuses on the impacts of weathering on the structural deterioration of concrete, by investigating a concrete bridge constructed around 1942. The bridge was used for transporting building stone in Kozushima-Island. The current physical and mechanical properties were investigated by non-destructive methods and chemical properties were analysed from small samples. The results shows that the central part of the bridge now has low strength as a result of sea-salt weathering under tidal conditions.

Keywords: deterioration, weathering, Concrete, Kozushima Island