

## Declining bio-cultural diversity in the seas: The case of Satoumi –Socio-Ecological Production Seascapes of Japan.

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This paper explores the connection between declining bio-cultural diversity in the socio-ecological production seascapes in Kunisaki peninsula in Japan. Kunisaki peninsula is characterized by a complex mixture of different landscapes with rice agriculture involving the traditional 'tameike' irrigation system forming its backbone. Due to the peninsula's proximity to the Seto Inland Sea, the area can be studied as a coupled system. For centuries, the seas around the peninsula were rich with fish and other marine creatures that sustained local population. Kunisaki Peninsula was a vibrant bio-cultural landscape or 'Satoyama', managed by traditional forestry and farming methods. The people of the peninsula had a close relationship with agriculture, forestry and fisheries. However, in recent past this area also underwent land use change, which included the collapse of lower parts of the food web in coastal areas. This change is poorly understood and thus the main objective of the paper is to look at Satoyama-Satoumi as a coupled system and to provide an analysis of 'Satoumi' through the use of historical profile, and ecosystem service analysis of the area. The paper will also describe the background and methods for understanding changes in this system in order to help future rehabilitation and sustainable (ecosystem based) approaches for developments in the area.

Keywords: Satoyama-Satoumi ecosystems,, social-ecological systems, , coastal fisheries, , Japan.