

Deterioration of Coastal Environment Due to Lack of Overall Planning -The Example of Moriye Bay in Oita Prefecture

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Japanese coasts have been managed by four independent sectors; Ministry of Transport for the construction of ports, Ministry of Construction for the preservation of general coastline and Ministry of Agriculture and Fishery for the preservation of agricultural land and construction works of fishing port. Even in a small bay, development plans were formed by the sector-by-sector method. Many artificial landform changes have been conducted in Moriye Bay, Oita Prefecture. Several sectors of the public works exist independently for coastal and river management in order to achieve their own targets with insufficient corporation. Following facilities and resulted impacts are found in this area:(1) construction of port facilities such as the breakwaters and jetties to protect wave action and to prevent sand deposition, (2) land reclamation to create residential area, parking lot and land for fishery facilities, (3) offshore dredging hole for sand-mining,(4) river improvement, (5) construction of seawall and river revetment,(6) construction of earth dam for agricultural use, (7) channel dredging, (8) refreshing operation on mud flat surface for cram fishery and (9) inflow of treated sewage water.

These changes resulted in the accumulated impact on the ecosystem and fishery resources of this enclosed bay. The breakwaters of Naya Port are efficient to block waves for the fishery boats, but they narrowed the mouth of bay almost half. The jetty of Nadate fishing port was built to protect the channel from the sand deposition through the river mouth. It has been successful, but resulted that the circulation of the bay water was separated into two parts by this jetty. 37 ha of mudflat have been reclaimed since late 1960s. In the construction of port facilities, dredged mud was utilized for the material of land reclamation. River improvement works were conducted continuously. Channel dredging has been recurrently conducted for port maintenance, but a part of the foreset slope of the mud flat and sand spit were lost by this work. Offshore dredging to obtain construction materials was extensively carried out off the sand spit leaving 12 m deep hole, which was the shallow sea of the water depth of around 2-3m and the good fishery ground of shrimp and cram. Each work has been conducted by the public works department individually, and no one could realize the whole of the natural system of this bay. Difficulties of integrated management of the bay are in the lack of the imagination and corporation. The final target of the protection of estuarine environment and formation of sound fishing ground would be the same, because rich fishing ground strongly depends on the sound estuarine environment. Who is responsible for the creation of integrated plan?