Outline of the Ago Bay Environmental Restoration Project

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This project is exactly called as "Environmental Restoration Project on enclosed Coastal Seas in Ago Bay" and deals with efforts to restore the environmental conditions at the bay under the CREATE program of Japan Science and Technology Agency. This bay is a typical enclosed coastal sea, which connects the Pacific Ocean with very narrow and shallow entrance of the bay and is known to be the most world-famous region as the starting bay on the culture of pearl. The bay is contaminated in the continuation of pearl culture spanning 110 years.

Therefore, attempts are being made to improve the natural self-cleaning capability in the bay region by forming artificial tidal flat, shallow water area and sea alage and/or sea-grass bed inside the bay. At the same time, aquaculture systems that comply with the forecasts for water-quality changes are being established in order to build a new environmental in which pearl oyster culture can be regenerated, while helping to protect the oceanic environment.

Each member of the project network aims to develop technologies for improving the oceanic environment while systematically collaborating with the others in conducting on-site investigations.

Development of Technologies to Create a Clean Costal Environment

1. Environmental restoration from country thicket to country ocean inlet.

   In order to clean up the dredged sediments accumulated at the bottom of the sea, where contamination is progressive, we are developing technologies to decompose the organic materials. Technology development for dewatering dredged sediments is attempted and the treated sediments are applied to the raw materials to construct artificial tidal flat.

   The environmental cleaning capabilities of tidal flat, shallow waters and seaweed beds are evaluated quantitatively in order to help establish the reliable method to artificially create them and to make the best use of them. We are also developing pearl cultivation methods that are environmentally friendly.

2. Development of environmental forecasting technology based on an environmental dynamics simulation model

   We are developing an automatic monitoring system to monitor Ago Bay's water-quality and a model for forecasting environmental changes. In addition, by combining these two tools, we aim to construct a system that can forecast environmental changes in water quality in real time and can effectively transmit the forecast information.

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