

Preservation of Coastal Water by Sustainable Development Strategies of River Water

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Environmentally sound new development for the purpose of increasing urban water supplies should be brought about by the use of downstream river water and groundwater. In the probabilistic dry season, the existing waters in many river basins in Japan have historically been used for agriculture and still the possibility of drought remains. If enough water resources for paddy fields are developed, water for urban use can be obtained even in the dry season by the return flow or recharged groundwater. The large quantity of river flow is discharged into the sea. The quantity of the flow at river mouth is large compared with that of domestic and industrial uses. The water resources would be developed in the dry season by pumping up as the urban use.

The object of this paper is to discuss a method of reusing and recovering flows and to find a solution of preserving the coastal water. Water for urban use is pumped from the lower part of a river where there is no water intake downstream. The same volume of water is treated and discharged from urban areas to cover the river maintenance flow. The level of water resource development varies in each district. This level of development is classified in relation to the reuse method above. The priority of water resources development is discussed for the preservation and restoration of river water in the categorized stages. The important thing is the order of the water resource development. If the resources are maintained according to historical priority, and the water goes through the natural purification system of forest soils and paddy fields, pollution levels can be lowered substantially.