Survey research on development of the reclaimed water utilization initiative in the sewerage service

Whole term	2006.1 ～ 2007.3	

(Purpose)

Fukuoka Prefecture has suffered drought damage on many occasions because of its terrain, meteorological conditions, and other natural characteristics. The Prefecture, therefore, considers securing water resources to meet regional water demand a critical goal of its water policy, which also stresses the need to promote water saving and efforts to create a recycling society.

This study deals with how the sewerage system of Fukuoka Prefecture should best be developed to meet residents' needs and social requirements by focusing on the question of reusing treated wastewater in regional sewerage systems. Its principal objective is to contribute to the development of a basic policy on utilizing reclaimed water appropriate to the water situation and regional conditions in the drainage basins of the Prefecture.

(Results)

(1) Organizing data on the characteristics of the regional sewerage system

a) Actual water-use conditions in Fukuoka Prefecture

The Prefecture experienced extraordinary drought in the summers of 1978 and 1994. The annual precipitation is approximately equal to the national average, but when calculated after conversion to the amount of available water resources per capita, it is as small as about one-third the national average.

b) State of sewerage system development

As for sewerage system development in the Prefecture, the percentage of the population with sewerage service (sewered population) is 69.2%, which slightly exceeds the national average of 68.1% and ranks 12th in Japan. In addition, a regional sewerage system is operated in eight locations in the Prefecture, and the sewered population is growing annually. Total treated wastewater in the Prefecture, which was about 1,400,000 m^3/day (daily average) as of the end of 2004 (daily average), is also increasing. This figure includes about 236,000 m^3/day (daily average) from regional sewerage systems. It is expected that this stable volume of water will be utilized as a new water resource.

c) Actual state of reuse of treated wastewater

Since Fukuoka City became the first city in Japan to implement the reuse of treated wastewater, the Prefecture has successfully utilized treated wastewater for ambient water and water for miscellaneous purposes. However, the Prefecture has not yet reached the point of having established an integrated policy on reusing treated wastewater or having developed concepts or guidelines on how the reuse should be approached. This absence of a policy and concepts is one of the factors hindering further reuse of treated wastewater.

(2) Questionnaire survey

A questionnaire survey will be conducted to identify new uses of reclaimed treated water and latent demand for water that might be met by utilizing reclaimed water. The draft questionnaire was prepared to survey utilization purposes, such as water for miscellaneous uses, and ambient water. Intended as survey subjects are local authorities and others working in drainage basins, including those in such fields as water supply and sewerage, city planning, agricultural administration, rivers, environment, commerce and industry.

(Future schedule)

The plan includes the following survey and study projects:

（1） Conducting a questionnaire survey targeting local authorities and others in the basin, and compiling and reporting on the survey results

（2） Conducting a study on the reuse of treated wastewater for model drainage basins.

（3） Conducting a study on optimal reuse of treated wastewater.

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key words	Reclaimed water, reuse of treated water, drought damage