

Questionnaire survey on benefit from advanced treatment adoption in Tokyo Bay basin

Whole term

2000.10 - 2001.3

(Purpose)

The water quality of Tokyo Bay has been in the same condition in recent years since the Showa 50s, (the red tide has occurred even now) hence, it is hard to be called comfortable water environment. The advanced water treatment is essential to improve water quality of Tokyo Bay, although the water quality has been kept the current level by the various measures including the construction of the sewerage.

Under such a situation, the related local government in the catchment put up the promotion of the advanced treatment as one of the measures to recover water environment that is more desirable for local people.

It is hard for the residents to financially and objectively evaluate the effect of the advanced treatment compared with the effect of conventional sewerage maintenance and the measure against a flood, and the advancement in a safety of property and a life.

However, it is strongly required to financially and objectively explain the benefit of water environment improvement of Tokyo Bay and the river by introducing an advanced treatment as with other public works.

In this research, value evaluation of Tokyo Bay which is non-market goods called a water environment was implemented by using CVM (Contingent Valuation Method).

Thereby, the purpose of this study is to examine the benefit of the water quality improvement by implementation of advanced treatment, and to clarify the necessity for an advanced treatment for the future project in the Tokyo Bay watershed.

(Results)

In this research, the target for CVM evaluation was the water quality improvement effect of Tokyo Bay. Regarding the period of evaluation, the evaluation starting point was decided as the Heisei 10 fiscal year, and the terminal point of the water quality improvement effect was set as the time of the environmental standards of Tokyo Bay being attained.

(1) Questionnaire survey

In this research, a questionnaire survey to the citizens of the Tokyo Bay watershed was conducted in order to evaluate the water quality improvement effect of Tokyo Bay. The total of 12,000 interviewees was selected by the random selection from the Basic Resident Register or the telephone directory. 37.7% of those interviewees answered the questionnaire.

(2) Appropriate payment level for water quality improvement of Tokyo Bay

As the result of questionnaire, the appropriate payment level for water quality improvement was 825 yen/month/family in the Tokyo Bay watershed.

(3) Attribute analysis of the payment level

When people are aware of the difficult situations (such as generation of the red tide) in Tokyo Bay as well as difficulties in the nitrogen and phosphorous removal in the sewage treatment, their payment level tended to be high. However, when they are not interested in nor concerning Tokyo Bay, their payment level tended to be low. About 93% of interviewees recognized the importance of the water quality improvement in Tokyo Bay. About 80% of interviewees desire the further water quality improvement than environmental standard.

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Key words

CVM, Convenience analysis, Advanced wastewater treatment