

Environmental Educational Effects in the Use of New Composite Index of Water Environment

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Through the growing public interest in water environment in recent years, people have strong recognition that the evaluation of water environment using only water quality index such as BOD and COD is insufficient. Following this public opinion, Japan Society on Water Environment to which the author belongs has developed a new composite index for citizens to evaluate water environment easily, with the support from Ministry of the Environment.

The new composite index has been developed for the evaluation of water environment, especially river environment. The index consists of five evaluation factors and five individual indicators in each factor (25 indicators). The five factors are (1) natural state, (2) biological diversity, (3) water usage, (4) amenity to people and (5) regional culture on water. They are decided not only from natural scientific point of view ((1) and (2)), but also from social perspective ((3), (4) and (5)). Individual indicators include unique ones concerning sensory evaluation such as visual and tactile amenity in (4). Each evaluation criteria is described in the scores of 5 to 1. The scores of the individual indicators are averaged to obtain the evaluation score of the factor. The evaluation scores for five factors are indicated by using a pentagon chart in order to show the characteristics of the surveyed site.

The environmental educational effects were investigated in the evaluation survey of urban river environment using the new composite index by citizens. Before survey, the participants showed little concern to unprecedented indicators such as industrial use and cultural resources in (5) and incomprehensible indicators such as benthos in (2) and COD in (3). However, after survey, participant's interest in those indicators increased. Moreover, 85% of the participants represented their growing interest in the indicators to which they showed little concern.

From these results, it is suggested that the practical use of the new composite index provides a certain level of environmental educational effects to users. On the other hand, it was found that the indicators concerning sensory evaluation are unique but have some problems to be considered in the point of index stability because of wide variation in the evaluation.

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