INFORMATION DISSEMINATION ABOUT SUSTAINABLE WATER ENVIRONMENT BASED ON CVM INQUIRY

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For years sewage system has been arranged for the use of flush toilets, improvement of surroundings and good quality of water. But it is the fact that water quality of rivers has not been so improved yet even in cities where the sewage system is mostly completed. Problems of water environment in the Dejima River basin seem to be as follows, Noguchi et all. (2003), (2004), (2005):

Residential or commercial pollutants as point sources, which should be flowed into a sewer, are washed out into rivers.

Non-point pollutant sources in the Dejima River basin are washed off at a stroke under the wet weather condition.

For the decrease of water in rivers, which urban life brings, pollutants cannot be flowed away and accumulate in rivers.

We cannot solve the problem only by usual strict regulations by administration because point pollutant sources are directly connected with productive activities which we call "benefits", though we can specify the sources of them. About non-point pollutant sources which spread to a side, an effective method has not been suggested yet because we cannot specify the sources and they are carried to the basin with a great amount of storm water.

In order to realize a sound and sustainable water environment, suitable methods from the stand point of "management of the basin-water" are necessary and we have to embody BMPs that is suitable for the landscape and land-use in Japan. BMPs is built up under the agreement, the contents of which are economical achievable for citizens and business establishment.[4)]

To realize a sound sustainable water environment is one of the most important services that citizens expect from administration and have a great meaning to activate the community. Nagasaki Seaside Park, which is an exhausting point of the Dejima River taken up in this study, a new sightseeing spot in Nagasaki for the lover of water, is produced and expected to be used as a relaxation spot for citizens.

But we wonder how much meaning and value citizens actually recognize in keeping the water quality in "Nagasaki Seaside Park" good. To realize good water environment is one of politics by local governments and the expense of it is mainly supported by taxes by citizens. Therefore, to grasp the citizens' demand for realization of a sound and sustainable water environment and to connect it will be an important subject.

In this study in a fixed quantity to the maximum we estimate the necessity, meaning and effect of keeping water quality clean in the waterway in Nagasaki Seaside Park, which we call "Waterway in the park" from now on. Concretely speaking, we tried to search "How people think of the water environment of the Dejima River basin" and "Are their way of thinking different

according to sex, age and districts which are in or out the basin?" by means of Contingent Valuation Method which is the method converting the value of environment into money. Further we tried to get a new method of estimation which can be used to estimate not only public utilities in Nagasaki City but also other business such as environment protection. At the same time we studied the application of a new trial; that is to public utilities citizens take part in.

In many cases, the relation between diffusion of sewage system and water quality of the river is indicated as an index of improvement of water environment. It goes without saying that these statistics are important to show the effect of improvement of water quality, but they are indicated only as an index of numerical value. It is not possible to estimate the residents' opinion or meaning as to the quality of water through these statistics.

Since realizing the good water environment is for all the residents, the population that is to estimated the value must be all the residents including the people having no direct relation with the environment aimed at. From these points of view, the value to keep the good water environment that does not exist in the present condition was tried to be measured by using CVM which was the method to estimate the value of non-market property. As a result, a high WTP to the environment was estimated, while it is confirmed that there exist 20% of citizens who show the resistance to the improvement of water environment. And, the investigation at this time shows the result that WTP to the environment is largely related to 'the recognition of phenomenon of worsening environment'. Realizing the good water environment must be done under the cooperation with the residents at the stage of investigation, operation and estimation. For that purpose, it is required that the administration should open a wide information to the residents at each stage, and have the information in common, and reach a consensus of opinion.

On the other hand, it is also important not only to compute the expense of environment by using CVM investigation but also to raise awareness of environment. When the result of CVM investigation is used as a basic data of cost profit analysis, in general, the estimated WTP is multiplied by number of household to calculate the whole profit sum. But, the purpose of investigation at this time is to grasp the value in large to improve the water environment, so such a trial calculation is not dared to be made. Reconsidering the sampling method and improving the investigation accuracy by reforming the content of questionnaire are necessary to more strictly determine the value concerning the improvement of environment, which we'd like to be a next subject.

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