

# Research Trends and Results

## Toward Upgrading the Evaluation Method for Public Works

~Dealing with the Non-monetary Effects ~

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### 1. Introduction

In the public works, except for maintenance, repair, disaster recovery and so on, it is required that the benefit cost ratio (B/C), which is an index to show the economic efficiency, is greater than 1. The effects of public works covers not only the direct effects such as the reduction of damage through flood prevention projects and the reduction of driving time and reduction of driving cost in road projects, but also the activation of the district, the conservation of environment and so on. However, not all of these effects are counted as benefits. In the evaluation of public works in our country, the items out of B/C, as well as B/C, are quantitatively or qualitatively listed up and totally evaluated. Therefore, to upgrade the evaluation method for public works, we are researching the project evaluation systems of other countries and domestic cases about how to manage the efficiency without currency conversion.

### 2. Evaluation of Public Works in Other Countries

In regards to evaluation of public works in other countries where B/C is placed as an important index, in Germany and New Zealand, it is required that  $B/C > 1$  for the adoption of projects. In UK and France, B/C is an important evaluation element, however,  $B/C > 1$  is not necessarily a requirement. Decisions are made to adopt the projects including these items without estimating the benefit and evaluating the combination of B/C and the items except B/C totally, or about how to distribute the budget to projects.

When we compare the items of other countries with ours, we find that they outnumber ours as a whole. There are some countries that estimate the benefit of the influence on local economy, the effects on the preservation of environment, and so on, which are dealt as non-monetary items in Japan. But they are careful about not to double count. The items calculated as benefit vary by country and by project type.

The evaluation method of non-monetary items also varies. In UK the selection or the priority order of the

projects is decided in reference to the total points calculated from B/C and other items using multi-criteria analysis. On the other hand, in Germany, they select projects with  $B/C > 1$ . Then, using qualitative items concerning the national land development plan they give the priority order to the projects. In US, some projects concerning disaster prevention put the stress on the fact that lives and property are in danger.

Generally in other countries, considering the wide-range effects of public works, while they put the stress on economic efficiency, they build the mechanism to take the wider effects into evaluation and pursue its fulfillment.

### 3. The Opinions of Local Organizations

The opinion of some Regional Development Bureaus (RDB) that practice the projects are the consideration on local characteristics ( ex. urban and local ) that practice the projects, the effects on the districts, making the standard of minimum services to give and review the units and levels of projects evaluation. We see the same opinions as this in the proceedings of the committees on projects evaluation and surveillance which are established at every RDB.

### 4. Prospect

We will continue the investigation on the trend and movements of other countries and domestic projects. According to these results, in concern with the project evaluation of public works, we are going to arrange the treatment of effects with non-monetary items and the disputed points in case it is incorporated into the evaluation method. We will proceed to investigate about these disputed points.

### (Reference)

- 1) Department for Communities and Local Government : Multi-criteria analysis : a manual, 2009, Department for Transport : Transport Analysis Guidance, April 2011
- 2) Federal Ministry of Transport, Building and Urban Development; Federal Transport Infrastructure Plan 2003, 2003