Feasibility Studies under the System for Evaluating Government Policies in Japan

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1. Introduction

This report examines feasibility studies on government projects that are carried out under the system for evaluating government policies in Japan, especially in terms of how such studies address cost-benefit analyses. To this end, the report outlines the legal framework and history of feasibility studies under such system and introduces cases of projects subjected to feasibility evaluation.

The feasibility studies conducted under the system for evaluating government policies in Japan are characterized by 1) mandatory cost-benefit analysis, 2) application to new and ongoing projects, and 3) use in deciding whether to continue or terminate projects.

This report defines “feasibility study” as “the comprehensive evaluation of government projects, including cost-benefit analysis; the analysis of customer needs; and the implementation of engineering surveys.”

Government policy in Japan has begun to be evaluated at the prefectural government level. The system began as one for reassessing or conducting interim evaluations of ongoing projects. The first attempt at such evaluation was done by the Hokkaido prefectural government in 1997, under a policy for assessing projects for which a long time had passed since inception. The policy was called Project Assessment by Time. 1)

Such a movement was not limited to the local level. The central government, recognizing the importance of such a system, quickly established the Government Policy Evaluations Act (GPEA) 2) in 2001, to provide a legal framework for evaluating government policies. The GPEA aims to achieve accountability, to promote efficient, high quality government services and projects, and to ensure that the outcomes of these services and projects meet the needs of the nation.

The GPEA calls for all government policies, programs and projects, in principal, to be assessed before their inception (ex-ante evaluation) and to be evaluated after their completion (ex-post evaluation), and to be reassessed or subjected to interim evaluation when necessary. Ex-ante evaluation, including cost-benefit analysis, is comprehensive. Such comprehensive analysis is also required for interim evaluation when social circumstances have changed drastically since the project inception.

2. Structure of the Japanese Government

This section outlines the structure of Japanese government as background for discussing governmental project evaluations. The Japanese government is structured as a pyramid with 1,804 municipalities at the base, 47 prefectures above these, and 11 central government ministries above these (Figure 1). Government projects are classified by government level. Prefectural and municipal projects are roughly classified as those exclusively financed by the local government or those subsidized by higher levels of government. The Japanese law for a system for evaluating government projects mandates evaluations for all projects administered or subsidized by the central government.

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3.1 The first system for local-level interim evaluation
As one of the first attempts to evaluate government policies, programs and projects, the Hokkaido government developed the policy of Project Assessment by Time. Projects for which a long time had passed since inception without completion were evaluated using “time” as the key evaluation item. The policy achieved remarkable results by causing the suspension or termination of longstanding incomplete projects whose necessity had become uncertain. Then, the Hokkaido prefectural government introduced the System for Evaluating Government Policies on a trial basis in 1998. Following that trial, the system was officially introduced in 1999. All projects of the Hokkaido prefectural government became subject to ex-ante, interim and ex-post evaluation.

The Mie prefectural government started designing a system for evaluating ongoing projects in 1995. The system was introduced in 1998\(^3\). The Hokkaido, Miyagi, and Akita prefectural governments each established ordinances (local government laws) for a system for evaluating government policies in 2002.

There are two main reasons the system was introduced first at the local level rather than at the national level: 1) local governments are closer to their customers than is the central government, so it is easier for local governments to understand whether government projects meet customer needs, and 2) it is easier for local governments to reform their policies, because local bodies are smaller in scale than national bodies, and governors have more discretion in exerting leadership.

Interim evaluation for ongoing projects was first introduced because government financial reforms\(^4\) were planned for FY2004, after which financial assistance from the central government was expected to be drastically reduced\(^5\). In fact, prefectoral governments foresaw serious financial constraints, and they faced the need to improve project efficiency and reduce the costs of ongoing projects. They also began to consider terminating longstanding incomplete projects whose necessity had become uncertain.
because of socioeconomic changes.

3.2 Trans-Hidaka Prefectural Road (Hokkaido): The suspension of a large-scale project

Until 1998, when The Decentralisation Promotion Plan⁶ was decided by the Cabinet, local
governments had difficulty terminating longstanding projects that had been subsidized by the central
government. This was because they were afraid of being forced to repay subsidies that had been
invested in the projects. The Decentralisation Promotion Plan allowed local governments to
terminate such projects without repaying the subsidies when the projects fulfilled certain conditions.
One such condition is the evaluation of the project by a steering committee, under the system for
evaluating government policies.

The Hokkaido prefectural government established a system for evaluating government policies that
consists of ex-ante evaluation, interim evaluation and ex-post evaluation. It established another
system for evaluating longstanding projects, called Specified Project Evaluation⁷, which is the
successor of Project Assessment by Time. The Trans-Hidaka Prefectural Road⁸ was a large-scale
project that was suspended in 2004 under Specified Project Evaluation after 18 years of construction.

The Trans-Hidaka Prefectural Road (101.2 km) was planned to be an arterial prefectural highway over
the Hidaka Mountains, linking Shizunai Town in the Hidaka district and Nakasatsunai Village in the
Tokachi district (Figure 2). The mountain section (25.3 km), which was to include a tunnel, was
being constructed under the authority of what is now the Hokkaido Regional Development Bureau of
the Ministry of Land, Infrastructure and Transport (MLIT) (Figure 3). The planned road would have
been more convenient in winter than the two existing routes, because it would have passed over the
Hidaka Mountains at lower elevations. In cold, snowy Hokkaido, drivers suffer from severe winter
driving conditions, especially at mountain passes. Construction started in 1984, and by FY2002, the
prefectural and central governments had spent a total of 54 billion yen. However, only 40% of the
two-lane, paved road was complete. Additional construction costs of 98 billion yen were estimated,
and construction was expected to require an additional 35 to 40 years.

Figure 2. The Trans-Hidaka Prefectural Road, and two other routes over the Hidaka Mountains
The Specified Project Evaluation process of the Trans-Hidaka Prefectural Road conducted by the Hokkaido prefectural government included reassessment of the construction costs, but not cost-benefit analysis. Suspension of the road project arose from changes in the investment priorities of projects as a result of socioeconomic changes. Those changes were progress in construction of the Hidaka section of the Trans-Hokkaido Expressway, which had not been anticipated when the Trans-Hidaka Prefectural Road was planned, and financial constraints from economic stagnation and financial reforms of the central government. This was the first suspension – actually, a termination – of a large-scale ongoing project in Japan, and it generated much political discussion.

3.3 Introduction of the system at the central government level

Introduction of the system for evaluating government policies at the central government level was first suggested in the Final Report of the Administrative Reform Council in 1997. The establishment of such a system was included in the Basic Law for the Reorganization of Central Government Ministries and Agencies (1998). The National Government Organization Law and laws for the establishment of each ministry were amended in 1999, whereby evaluation of central government policies, programs and projects became mandated. In December 2000, the Cabinet decided to introduce systems for evaluating government policies as an essential part of comprehensive structural reform of government. A guideline for such a system was established in time for the organizational reform of the central government in 2001. Finally, the GPEA, which had been enacted in June 2001, took effect in April 2002. The time required to draft and pass the legislation was only four and half years after the final report by the Administrative Reform Council, which was much shorter than for similar processes in other countries.

Each ministry was required to establish basic guidelines for implementing policy evaluations, whereby reports of evaluations their implementation were made open to the public.


The system includes ex-ante and ex-post evaluation, and interim evaluation when necessary. Depending on the project objectives, evaluation items are selected from the following principal evaluation criteria. The GPEA does not specify assessment/evaluation methodologies, but suggests choosing technically applicable, proper methodologies.

<table>
<thead>
<tr>
<th>Principal items for evaluating a policy, program or project</th>
</tr>
</thead>
<tbody>
<tr>
<td>Necessity: Is the objective proper? Is the policy, program or project necessary? Should the policy, program or project be done by the government?</td>
</tr>
<tr>
<td>Efficiency: Will the output meet or exceed the input?</td>
</tr>
<tr>
<td>Effectiveness: Will the policy, program or project achieve the expected outcomes?</td>
</tr>
<tr>
<td>Equitability: Will the burdens/outcomes be equitably distributed?</td>
</tr>
<tr>
<td>Priority: In light of the above, should the policy, program or project have high priority?</td>
</tr>
</tbody>
</table>

The system for evaluating government policies in Japan is characterized by the following:

1) Mandatory evaluation based on the law:
Evaluation of government activities is mandated by national law (the GPEA). In contrast, other countries have introduced systems to evaluate government activities by means other than law, such as presidential order, cabinet decision, etc. For example, the U.S. Regulatory Impact Analysis Program was introduced by presidential order, and the UK’s Public Service Agreement was introduced as a
Cabinet policy. The evaluation systems in Japan are more firmly established in the national regulatory process, because they are implemented by means of law.

2) Comprehensiveness and exclusivity:
All aspects of government activities are subject to ex-ante and ex-post evaluations, and to interim evaluation when necessary. The system’s three types of evaluation are project evaluation, performance measurement, and comprehensive evaluation of multi-ministerial policy. Their evaluations include various approaches, such as use of quantitative standards, management models, accounting systems, and social scientific or organizational approaches. The U.S. has several systems for evaluating government policies, programs, projects and services. These are based on different laws, orders, guidelines, and so on, and are implemented by different bodies. Examples of such systems are the above-mentioned Regulatory Impact Analysis established by presidential order, program evaluation by the Government Accountability Office (GAO), and the national government activity evaluation systems resulting from the Government Performance and Result Act (GPRA). In Japan, all aspects of evaluating governmental activities are subject to the GPEA.

3) The combination of existing evaluation systems:
No new system or approach was created. The Japanese system has been made up from various systems that have already been adopted elsewhere in the world.

4) Dual evaluation systems:
Evaluations may be conducted by the Ministry of Internal Affairs and Communication (MIC) for national policies and programs in addition to each ministry. Each ministry evaluates its own polices and programs. The MIC conducts comprehensive evaluation of multi-ministerial policies and programs in order to maintain consistency among policies. In addition, the MIC re-evaluates or oversees each ministry’s “evaluation of polices, programs and other activities” in order to secure overall objectivity and appropriateness of the systems for evaluating government policies and activities.

5) Flexibility:
Each ministry designs its own policy evaluation system to meet its needs. Each ministry conducts evaluations for the policies and programs, projects, etc. under its jurisdiction and publishes evaluation records.

5. The System for Evaluating Policies, Programs and Projects of the MLIT

5.1 The system for evaluating policies
Upon the enactment of the GPEA (2001), the MLIT established basic guidelines for implementing policy evaluations, under which both public works projects and other ministerial activities including research and development would be subject to evaluation. The system aims to establish a policy management cycle of “Plan – Do – See.” The cycle includes Policy Assessment (ex-ante evaluation), Policy Check Up (interim evaluation) and Policy Review (ex-post evaluation) (Figure 3).
5.2 System for evaluating projects
All public works projects, excluding maintenance and management of existing infrastructure and disaster-restoration works, are subject to evaluation. Evaluations are conducted in the year before their implementation approval and budgeting (ex-ante evaluation), when the project is subject to the decision of continuation/termination (interim evaluation), and after completion of the project to determine whether further improvement is necessary (ex-post evaluation). This process is shown in Figure 4.

Project evaluation flow

Figure 4. System for Evaluating Projects of the MLIT\textsuperscript{13)}
Ex-ante evaluation is comprehensively conducted based on evaluation items such as necessity, efficiency and effectiveness. Consideration should be given to the environmental effects of the project. Records and risks of disaster are checked and taken into account, when necessary.

An interim evaluation is conducted 1) when five years has passed since project approval and construction has not started, 2) when 10 years has passed since the inception of construction but without its completion, 3) when five years has passed since project planning started without approval for implementation, 4) every five or ten years after the first interim evaluation, or 5) when the necessity for reassessment has resulted from drastic socioeconomic changes or technical innovations. Ex-post evaluation should be conducted within five years after project completion.

Each of these evaluations is recorded on a form called the “evaluation chart” which serves as an at-a-glance record of a project’s evaluation history. The evaluation chart also allows information to be provided on project progress and for methods of evaluation to be studied. Together with the results of cost-benefit analysis, the evaluation charts are open to the public on a website.

6. Cost-Benefit Analysis for MLIT projects

6.1 General
Cost-benefit analysis compares the total costs of a project to its total social benefits. Under the GPEA (2001), the MLIT conducts cost-benefit analysis on every project, in principal, based on the Technical Guidelines of Cost-Benefit Analysis for Public Works Projects (2004)\(^{14}\). Maintenance and management of existing infrastructure and disaster-restoration works are excluded. In addition to the technical guidelines, detailed manuals are made for each type of public works.

Cost-benefit analysis was not conducted for most projects before the enactment of the GPEA. For example, in the case of a road, the necessity and effectiveness of a road requested by locals were studied qualitatively, the demand for such a road was assessed by traffic volume estimation, and the costs of constructing, managing and maintaining the road were estimated for several scenarios of routes and construction methods, in order to determine the best route and construction method. In this way, the costs were assessed, but the social benefit of the route was not estimated.

6.2 Factors for cost-benefit analysis
Cost-benefit items:
To estimate the benefit, the project effects should be listed and monetized as comprehensively as possible by measuring changes in consumer surplus and by using the Contingent Valuation Method (CVM), the Travel Cost Method (TCM), or a hedonic approach. Table 1 gives the cost and benefit items for each type of project of the MLIT.

Indicator:
Cost-benefit ratio (B/C) is mainly used. This is a ratio of total benefits to total costs. When the ratio exceeds 1, the project is regarded as cost effective. The ratio applied as a precondition for approval of project implementation depends on the project type. For example, a road project of the MLIT must have a B/C of at least 1.5, but an agricultural road project of the Ministry of Agriculture, Forestry and Fisheries needs a B/C of 1.0.

Discount rate:
A fixed discount rate of 4% is adopted for all projects.
Table 1. Cost and Benefit Items for Each Type of Project (MLIT)\(^{(15)}\)

<table>
<thead>
<tr>
<th>Project Type</th>
<th>Cost-Benefit Analysis</th>
<th>Other Principal Eval. Items</th>
</tr>
</thead>
<tbody>
<tr>
<td>River</td>
<td>annual damage reduction, water quality</td>
<td>effects in the event of a disaster, records of disaster, risk of disaster, river environment</td>
</tr>
<tr>
<td>Dam</td>
<td>construction, maintenance, management</td>
<td>damage reduction, human life saving</td>
</tr>
<tr>
<td>Sabo dam</td>
<td>construction</td>
<td>effects in the event of a disaster, records of disaster, risk of disaster</td>
</tr>
<tr>
<td>Coastal</td>
<td>flood protection, erosion protection,</td>
<td>socioeconomic environment, logistics, urban revitalization, living environment safety</td>
</tr>
<tr>
<td>Road</td>
<td>travel time reduction, travel cost reduction, traffic accident reduction</td>
<td>negotiation w/ locals, environmental impact</td>
</tr>
<tr>
<td>Port and harbor</td>
<td>freight transport cost reduction, travel</td>
<td>negotiation development, negotiation w/ locals</td>
</tr>
<tr>
<td></td>
<td>cost reduction</td>
<td></td>
</tr>
<tr>
<td>Airport</td>
<td>travel time reduction, cost reduction,</td>
<td>regional development, negotiation w/ locals</td>
</tr>
<tr>
<td></td>
<td>supplier benefit</td>
<td></td>
</tr>
<tr>
<td>Subway</td>
<td>user benefit (travel time reduction, etc.),</td>
<td>traffic congestion mitigation, effects on local economy</td>
</tr>
<tr>
<td></td>
<td>supplier benefit</td>
<td></td>
</tr>
<tr>
<td>Air/sea route</td>
<td>safety, transport benefit</td>
<td>safety improvement, conformity to international standards, reliability improvement</td>
</tr>
<tr>
<td>delineation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Admin. office</td>
<td>land use benefit, user benefit, building</td>
<td>urgency, appropriateness of plan</td>
</tr>
<tr>
<td>building</td>
<td>performance improvement, environmental</td>
<td></td>
</tr>
<tr>
<td></td>
<td>friendliness</td>
<td></td>
</tr>
</tbody>
</table>

Unit value:
For the sake of consistency, attempts have been made to use uniform ways of setting unit prices and conducting B/C calculation. However, unit prices can greatly differ by project type even between similar projects.

Salvage value:
It is the residual value of the project at the end of evaluation period, calculated as the expected net benefit.

Sensitivity analysis:
It is made, if necessary, to incorporate future uncertainty into the cost-benefit analysis. Major factors that affect the cost-benefit calculation, such as demand, project cost and project duration, are varied to see how the result of the evaluation changes, and if the varied results are within an acceptable range. The results are used in decision-making.
6.3 Cost-benefit analysis for ex-ante and interim evaluations
As mentioned above, the cost-benefit analysis is conducted for the ex-ante evaluation, and for interim evaluation when necessary.

For ex-ante evaluation, the investment efficiency of the entire project is assessed. The social benefit when the project is implemented versus that when it is not implemented are compared. For interim evaluation, a project is assessed in terms of the investment efficiency of the entire project, and the investment efficiency of the remaining portion of the project. Both assessments should be carried out. The former assessment reviews the investment efficiency of the entire project at the time of interim evaluation, to achieve accountability. The total costs and benefits when the project is implemented versus those when it is not implemented are compared. The latter assessment provides information on whether the project should be continued. “The investment efficiency of the remaining portion of the project” is compared for the case that the project is completed and for the case that it is terminated at the time of interim evaluation. The additional costs to complete the project and the estimated benefit increase between interim evaluation and project completion are compared regardless of investments that have already been made or benefits achieved by the time of interim evaluation.

6.4 Results of cost-benefit analyses in FY2006
For 353 of the 570 new projects of the MLIT, the results of cost-benefit analyses under ex-ante evaluation were made open to the public. For 828 of the 879 ongoing projects of the MLIT, the results of cost-benefit analyses under interim evaluation were made open to the public, including the results of cost-benefit analyses for 8 of the 18 projects that were terminated as a result of the interim evaluation (Table 2).

Table 2. Results of Interim Evaluation of MLIT Projects for FY2006

<table>
<thead>
<tr>
<th>Project Type</th>
<th>All Projects</th>
<th>Projects to be Continued</th>
<th>Projects to be Continued w/ Modification</th>
<th>Projects to be Suspended</th>
<th>Projects under Evaluation</th>
</tr>
</thead>
<tbody>
<tr>
<td>River</td>
<td>80 (79)</td>
<td>79 (79)</td>
<td></td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Dam</td>
<td>11 (9)</td>
<td>7 (7)</td>
<td>2 (1)</td>
<td>1 (1)</td>
<td>1</td>
</tr>
<tr>
<td>Sabo</td>
<td>65 (65)</td>
<td>65 (65)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Coastal</td>
<td>66 (65)</td>
<td>60 (60)</td>
<td>2 (2)</td>
<td>3 (3)</td>
<td>1</td>
</tr>
<tr>
<td>Road</td>
<td>207 (205)</td>
<td>200 (199)</td>
<td>5 (5)</td>
<td>2 (1)</td>
<td></td>
</tr>
<tr>
<td>Land readjustment</td>
<td>62 (61)</td>
<td>59 (59)</td>
<td>2 (2)</td>
<td>2 (2)</td>
<td>1</td>
</tr>
<tr>
<td>Urban redevelopment</td>
<td>10 (9)</td>
<td>9 (9)</td>
<td></td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Port and harbor</td>
<td>142 (131)</td>
<td>129 (1)</td>
<td>2 (2)</td>
<td>8 (0)</td>
<td>3</td>
</tr>
<tr>
<td>Subway</td>
<td>2 (2)</td>
<td>2 (2)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Public housing</td>
<td>12 (1)</td>
<td>11 (1)</td>
<td></td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Housing and urban infrastructure development</td>
<td>15 (15)</td>
<td>15 (15)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Housing and urban area development</td>
<td>22 (2)</td>
<td>21 (2)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sewerage</td>
<td>149 (148)</td>
<td>147 (147)</td>
<td></td>
<td>1 (0)</td>
<td>1</td>
</tr>
<tr>
<td>Urban park</td>
<td>36 (35)</td>
<td>36 (36)</td>
<td></td>
<td>1 (1)</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>879 (828)</td>
<td>840 (810)</td>
<td>11 (10)</td>
<td>18 (8)</td>
<td>10</td>
</tr>
</tbody>
</table>

Parentheses indicate the number of projects subjected to cost-benefit analysis under interim evaluation.
7. Case studies: Termination of projects based on interim evaluation

Examples of projects terminated based on the interim evaluation in FY2006 include some dam projects whose B/C’s exceeded 1. This was because the combination of channel improvement and retaining basin was considered more cost effective than dam.

Another example of a terminated project is a subway project in Kawasaki City (Kanagawa Prefecture), near Tokyo. The 15.5-km Trans-Kawasaki Subway Project between Shinyurigaoka and Motosumiyoshi (10 stations) was approved in 2001, with a total investment of 522.6 billion yen. However, Kawasaki City suspended construction in FY2003 as a result of demographic changes and financial constraints foreseen from financial reforms of the central government. The project was subject to interim evaluation, because five years had passed since project approval and constriction had not started.

Feasibility studies on demand estimation, cost estimation, cost-benefit analysis and revenue-expenditure balance estimation were carried out under interim evaluation for three scenarios (Table 3).
- Scenario (a): The plan from the FY2001 approval, but with costs reduced because of decreases in interest rates.
- Scenario (b): Reduced ridership based on new demographic projections, reduced construction costs afforded by specification revisions, and increased revenues achieved by operational improvements.
- Scenario (c): A new route to a new population center.

<table>
<thead>
<tr>
<th>Table 3. Feasibility Study for the Trans-Kawasaki Subway Project (Shinyurigaoka – Motosumiyoshi) Ex-Ante Evaluation vs. Interim Evaluation</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Ex-ante Eval.</strong></td>
</tr>
<tr>
<td>---------------------------------------------------------------</td>
</tr>
<tr>
<td>Construction cost (bil. yen)</td>
</tr>
<tr>
<td>522.6</td>
</tr>
<tr>
<td>Estimated ridership (thou. person/day)</td>
</tr>
<tr>
<td>Revenue-expenditure balance</td>
</tr>
<tr>
<td>breakeven cum. loss</td>
</tr>
<tr>
<td>breakeven cum. cash need</td>
</tr>
</tbody>
</table>

The B/C was estimated to be 2.2 under the feasibility study at FY2001 ex-ante evaluation. The 2006 feasibility study estimated a B/C of 1.7 for Scenario (a); however, the revenue-expenditure balance estimation shows that the project would never break even. Even Scenario (b), with a B/C of 1.9, would take more than 40 years to break even, which is the ministry-recommended maximum for sound operation of a subway. Consequently, Kawasaki City terminated the subway project because there was little likelihood of ever recouping the construction costs.

Kawasaki City will apply for approval in the near future of a project with a new route; however, the city will closely scrutinize its financial situation, especially the amounts and timing of disbursements for other ongoing, large-scale projects, such as sewerage system improvements, in order to properly time the project approval of the new subway route.

This case shows that the feasibility study conducted under the interim evaluation eventually led the city...
to choose a more cost-effective plan. The feasibility study under interim evaluation served to improve the efficiency of the project.


It is uncertain how feasibility studies, especially cost-benefit analyses, influence whether new projects are approved. This is because only the data for initiated projects are made open to the public. However, it seems that thorough examination has been carried out within the administration toward rejecting inefficient projects, because the data on approved projects would have to be made open to the public. Therefore together with the principal of accountability under the system of evaluating policies and government activities, feasibility studies that include the cost-benefit analyses seem work well. Nevertheless, concerns remain.

1) Issues associated with the fact that cost-benefit analysis is carried out by the project implementer (the local governments or the MLIT) and by the project subsidizer (the MLIT)\(^{15}\). 
   a) The estimations of costs and benefits may include biases to maintain the necessary B/C values. 
   b) Because environmental protection, disaster prevention and other such benefits are difficult to monetize, they are excluded from the estimation of benefits. Instead, they are qualitatively described. In such case, such benefits may be excessively stressed or ignored.

2) The items subject to estimation and the methods of cost and benefit estimations, as well as the unit price of such items, differ greatly by the type of project. Even for similar project types, the cost-benefit analyses may be carried out using vastly different approaches. Consequently, the cost-benefit ratio cannot be compared from one type of project to the other. This is true even for projects within the MLIT.

3) A new project is evaluated one year before submission for approval and budgeting. In the case of a large-scale project, such as a long mountain road, the project is divided into phases, and approval and budgeting are carried out successively for each phase. This means ex-ante evaluations and even interim evaluations are carried out for each phase. It is very difficult to judge efficiency and effectiveness of a large project by looking at it in small phases.

4) In the case of a multi-government level project in which the central government and a prefectural government have shares, such as a multi-purpose dam, the central government and prefectural government evaluate respectively the project and there is no unified evaluation system so far.

9. Conclusions

Under systems for evaluating public policies and projects, every government activity in Japan is subject to evaluation. As part of the public policy management system, ministerial policies of the MLIT are evaluated before policy implementation and after project completion, as well as during the implementation, if necessary. The GPEA provides a legal framework for such evaluation systems; thus, feasibility studies for most government projects are mandatory. The components, results, issues and outcomes of Japanese feasibility studies for public projects are summarized as follow:

Components:
1) Cost-benefit analysis is conducted, in principal, for all projects. B/C is used to judge the
effectiveness of each project. Project implementation and continuation require a B/C of at least 1. The value required of the B/C may differ by the type of project.

2) Other analyses, such as demand estimation, revenue-expenditure balance estimation, and environmental assessment, are conducted as necessary.

Results:
1) Ex-ante evaluations served to prevent inefficient projects from being implemented, because of the possibility of public scrutiny. Information and data, including B/C, for each project must be made public, because of the accountability achieved by the system for evaluating government policies.
2) Interim evaluation caused the modification or termination of projects that no longer possessed their initial necessity, effectiveness, efficiency or priority.

Issues:
1) The body that implements the project (the government) is the body that conducts the feasibility study.
   - Estimations of costs and benefits may include intentional or unintentional biases toward results that justify a project.
   - Some benefits excluded from the benefit estimation because of the difficulty of monetizing them are qualitatively described. Such descriptions may overstate or understate the benefit.

2) Allowing each ministry to design its own system for evaluating government policies achieves flexibility, but it results in different approaches to cost-benefit estimation. Consequently, the B/C’s of different types of project cannot be compared. Even within the MLIT, direct comparisons of B/C are not possible for different types of project.

3) A large-scale project is divided into phases, and approval and budgeting are carried out successively for each phase. It is very difficult to judge efficiency and effectiveness of a large project by looking at it in small phases.

4) In a multi-government-level project, in which the central government and a prefectural government have shares, each level of government separately evaluates the project. There is no unified evaluation system so far.

Outcomes:
Feasibility studies are carried out not only for new projects but also for ongoing projects under interim evaluation of the policy management system. This allows the modification or termination of longstanding incomplete projects whose necessity has become uncertain because of socioeconomic changes.

Systems for evaluating government policies in Japan started at the local level, from interim evaluation. Reflecting such background, feasibility studies for project evaluation serve as a basis for modifying or terminating inadequate projects. In this way, the system greatly contributes to improving the efficiency of public investment.

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