

# CREATION OF A RIVER ENVIRONMENT REFLECTING THE CHARACTERISTICS OF COMMUNITIES ~ A NEW PROGRAM FOR RIVER IMPROEMENT

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## 1. Introduction

Because of the increasing needs in recent years for an environment with a higher living standard and abundant water, it is becoming important to recognize the functions of rivers, such as provision of a variety of natural environment and waterfront spaces to local communities, and there has been a growing demand for preserving and sharing river environment. The importance of rivers is now widely recognized, since they not only serve as flood and high-tide prevention facility (flood control) and water resource (water use) but also help preserve rich natural environment and create a high-quality living environment in local communities.

Since ancient times, rivers have been playing crucial roles in creating the features and culture of local communities, and serving as common property. In recent years, there has been a growing trend to rebuild the relationship between human and rivers that had been weakened due to the rapid urbanization and intensive land use, and it is becoming important that river management takes into consideration the characteristics of rivers and the features and culture of local communities, and enhances the virtues of the communities. This indicates that rivers must be improved by both the local residents and the municipal government, not by the river administrator alone, and that they need to build a partnership to preserve rivers as the common property.

In response to this background, the River Law was revised in 1997 to add "Improvement of River Environment" to its original two purposes, i.e., "Flood Control" and "Water Use," and procedures to reflect opinions of local residents in river improvement at the planning stages were established. This report represents the background of the revision of the River Law, concept of river improvement based on the revised River Law, and the example of the improvement plan for the Tama River.

## 2. Revision of the River Law

### 2.1. Preceding River Law and river improvement planing system

Since the first River Law was formulated in 1896, the modern river improvement system in Japan has a history of about 100 years. The law was revised several times in accordance with the changes in economic and social status. The revision in 1964 aimed to establish a comprehensive system for flood control and water utilization, including the introduction of basinwide management system.

In parallel with the revision of the River Law in 1964, it was decided that the Basic Plan for the Implementation of Construction Works be prepared by each river administrator under the framework of the river improvement planning system, so that river systems would be improved in a consistent manner. However, although river administrators consulted with the River Council when preparing the Basic Plan, the final decision was usually made by themselves. In addition, the contents of such a basic plan were not detailed enough and were insufficient as a means for river improvement.

### 2.2 Revision of the River Law

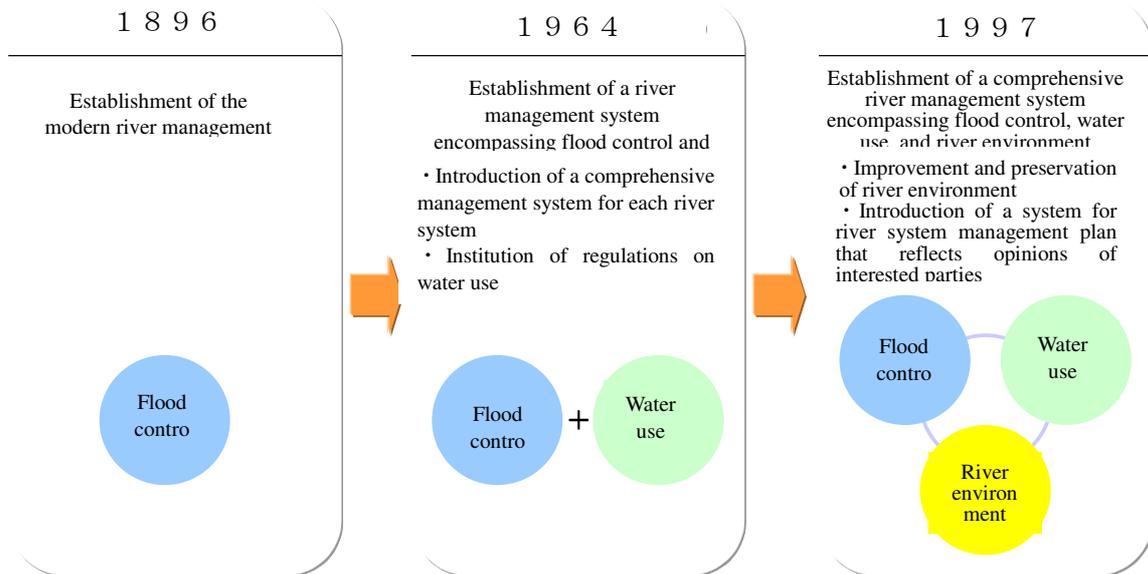
Due to the socio-economic changes afterwards, the river environment has dramatically changed in recent years. Nowadays, rivers serve not only for flood control and water use but also as an environment that provides various species of wildlife with abundant water and habitats. In parallel with this, demands for creating rivers which form the culture of regional communities in accordance

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with their characteristics are growing.



**Figure. 1 Past Amendments on the River Law**

In response to this background, the River Law was revised in 1997 to incorporate the following contents with respect to the relationship between river environment and residents in local communities (Figure.1).

1) Improvement and preservation of river environment

With the main purposes being flood prevention and water use, the River Law before revision aimed to utilize rivers for such purposes as preventing disasters due to floods and high tides. The 1997 revision added "improvement and preservation of river environment" to the preceding two purposes "flood control" and "water use." This indicates that the revised law is not only for the natural environment of rivers, but also for the living environment for human beings supported by rivers, and that it is essential to take into consideration the balance among "flood control", "water use" and "improvement and preservation of river environment" for comprehensive river control.

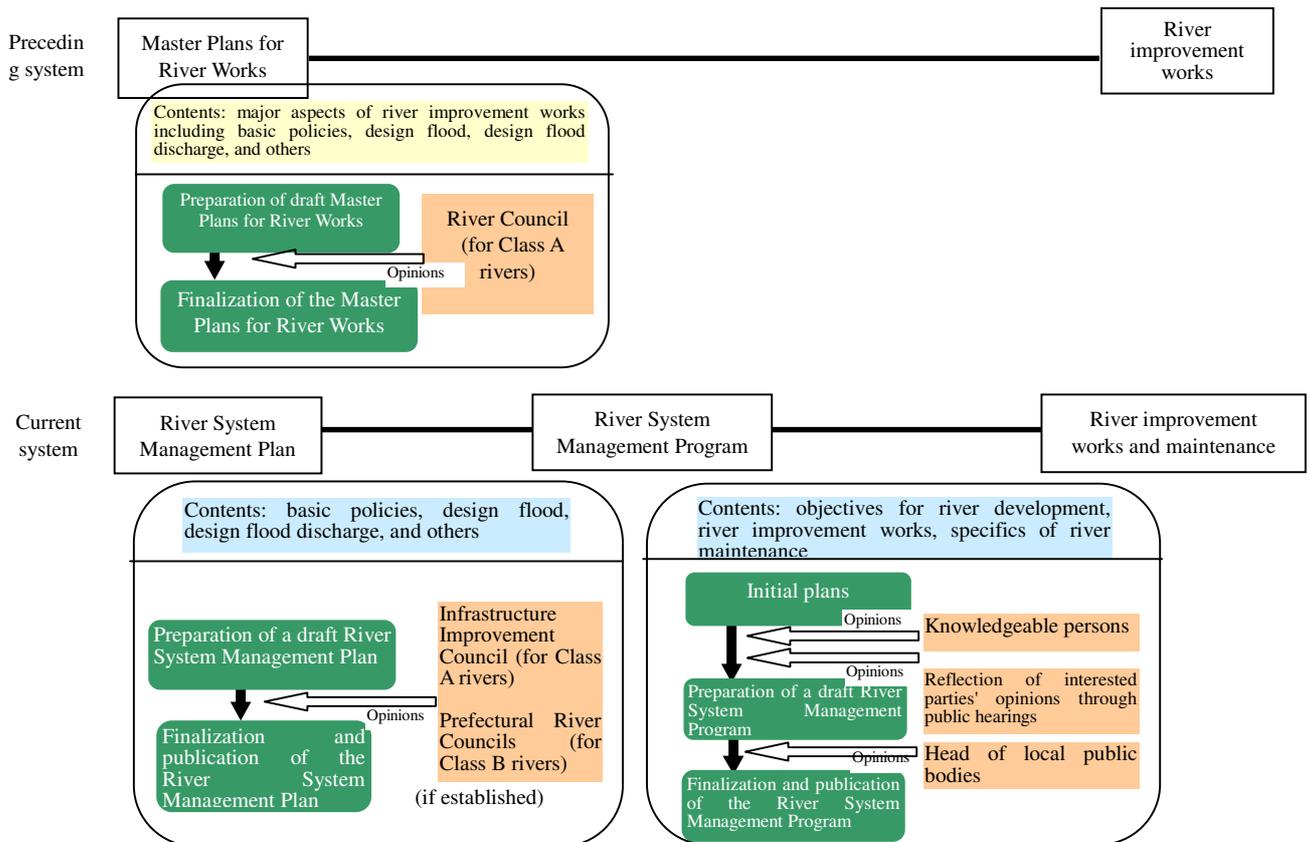
2) Review of river improvement planing system

It was decided to divide the former "Master Plan for River Works" into "Basic River Development Policy" which lays down long-term policies for river improvement, and "River Development Plan" which lays down 20- to 30-year policies with details of necessary activities. The latter has more detailed policies for creating proper river environment than the "Master Plan for River Works," and incorporates procedures to reflect opinions from local community residents and the heads of municipalities (Figure.2).

2.3 Creation of river environment reflecting local communities' opinions

"Basic River Development Policy" lays down long-term policies, which allow river administrators to carry out river improvement (construction and maintenance of river structures) while taking into consideration the balance among river systems nationwide, and which serve as guidelines for the determination of key factors such as design flood; allocation of water volume to river channel and flood control facilities; and design flood discharge.

The River Improvement Plan is designed for rivers which will be improved in accordance with river improvement policies in stages; lays down policies for river improvement which reflect opinions of municipal governments and local residents; and gives the total picture of river improvement 20 to 30 years from now which covers both construction and maintenance of river structures.



**Figure. 2 Comparison of current and preceding planning system**

The 1997 revision requires that 1) when river administrator intends to draft a river improvement plan, he shall consider opinions from persons with experience or an academic background when necessary; and 2) river administrator shall take necessary measures, such as public hearings etc., to reflect the opinion of the people concerned whenever necessary. The most striking feature of the revision is hearing opinions from local residents from planning stages to reflect their demands in the river improvement plans. The methods for collecting opinions depend on the characteristics of river improvement plans and the communities, and include 1) public hearing and briefing; 2) official announcement, public inspection, and submission of written opinions; 3) distribution of brochures; 4) and Internet.

It should be noted that the duty of the river administrator is to take necessary measures to reflect the opinion of the people concerned, and this does not necessarily mean that he should revise the river improvement plan in accordance with the opinion. The final decision of the river administrator, however, is made with due consideration given to the opinion.

### **3. Process to the finalization of a river improvement plan - example of the Tama River**

There have been demands for creating a safe living environment in the catchment area of the Tama River which flows through the Tokyo Metropolitan Area and empties into Tokyo Bay, and which has

been serving as one of the few urban oases with abundant water and greenery, attracting local residents, and providing them with a space for human interaction.

In recognition of this background, the River Improvement Plan for the Tama River was formulated in March 2001. This clause explains how the Plan was prepared.

3.1 Brief history of citizen participation in Tama River improvement

Activities to protect the environment of the Tama River by civic associations have been active since around 1970. In those days, protecting living environment from pollution was a nationwide concern, but activities to preserve natural environment were already underway in the catchment area of the Tama River. As early as 1974, the Association for Protecting the Natural Environment of the Tama River System was jointly founded by 22 groups. In 1975, the River Environment Enhancement Division was established within the Keihin Branch Work Office, which was in charge of the administration of the Tama River, providing the local residents with opportunities for direct talks with government authorities for the first time. Following this in 1980, the Environmental Management Plan for the Tama River was created which reflected the opinions of municipalities and civic associations along the river. The environmental management plan aimed to make the maximum use of the potential of the Tama River; serve as the guideline for the use of the valuable open space provided by the river; and create new criteria for river environment control such as the classification of the functions of the river space.

Supported by the mutual trust with civic associations, the natural environment preservation and use of the Tama River has been kept in a good order.

3.2 Discussion Group for the Tama River Catchment Area

The Discussion Group for the Tama River Catchment Area was founded in 1998. The purpose of the discussion group is to provide various parties related to the Tama River - such as citizens (including civic associations), companies, academic experts, municipalities, and the river administrator - with opportunities for sustainable exchanges of opinions and information, and to allow them to create a "soft" consensus for realizing a good river environment and community while building partnership.

The discussion group consists of such parties as the administrative committee (formed by municipalities in the catchment area and the river administrator) and civic forums (voluntary civic groups), and is run by a steering committee formed by the representatives from the local residents and governmental organizations. The secretariat of the steering committee is jointly formed by the Keihin Branch Work Office and the Tama River Center (a non political organization).

The discussion group selected the river improvement plan as a short-term priority, and hosted the after-mentioned catchment area seminars to provide local residents and municipalities with opportunities for discussions.

For such discussions, three fundamental principles and seven rules as shown below, which were created as the fundamental spirit for the direct talks for the improvement of the Tama River catchment area, were adopted to ensure fairness.

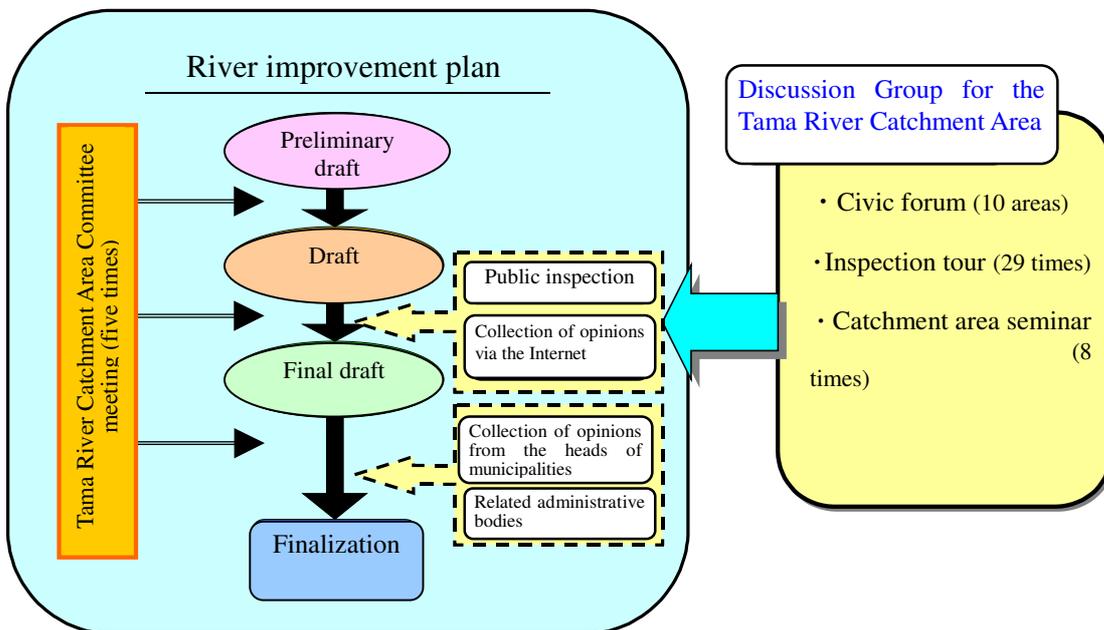
**Table. 1 Three fundamental principles and Seven rules**

<p>Three fundamental principles</p> <ol style="list-style-type: none"> <li>1) Free statement</li> <li>2) Thorough discussions</li> <li>3) Consensus building</li> </ol>	<p>Seven rules</p> <ol style="list-style-type: none"> <li>1) The opinions of the participants are not considered as the official views of the party they belong to.</li> <li>2) Participants are not allowed to blame organizations and individuals by referring to their names.</li> <li>3) Discussions shall be conducted in a fair way.</li> <li>4) Discussions shall be conducted by using reliable data.</li> <li>5) Consensus shall be reached after clarifying problems.</li> <li>6) Problems in dispute shall be treated in an objective manner.</li> <li>7) When preparing programs, long-term and short-term ones shall be classified, and viability shall be taken into consideration.</li> </ol>
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### 3.3 Sequence of river improvement plan preparation

It is legally required that, when preparing river improvement plans, river administrators should consult with academic experts and reflect the opinions of the local residents. For the Tama River Improvement Plan, the draft was prepared by taking into consideration the results of the discussions of the afore-mentioned Discussion Group for the Tama River Catchment Area, and then the Tama River Catchment Area Committee (secretariat: Keihin Branch Work Office) consisting of local residents, academic experts, and municipalities, discussed the details of the draft. Following the formulation of the guideline for the improvement of rivers in the Tama River System in December 2000, opinions on the draft prepared by the river administrator were solicited from the Tama River Catchment Area Committee. Opinions were also collected from the local residents via such media as the Internet. After these stages, opinions from the heads of the related municipalities were collected to finalize the river improvement plan.

The outline of each stage is as follows (see Figure 3 for reference):



**Figure. 3 Sequence of the preparation of the Tama River Improvement Plan**

#### 1) Preliminary draft by civic forum

The civic forum, one of the members of the Discussion Group for the Tama River Catchment Area, organized workshops at several locations to prepare a draft by local residents for the Tama River Improvement Plan. During the workshops, named civic actions, the participants walked along the river and exchange their opinions.

The civic actions (run by many civic associations with diverse values) were held in 10 areas from July 1999 to February 2000, and provided opportunities for active discussions.

The civic action in Setagaya conducted many discussions, and the results were incorporated into the Improvement Plan for Setagaya along the Tama River (draft by citizens).

#### 2) Preliminary draft by administrative committee

In parallel with the above civic actions, the administrative committee (one of the members of the Discussion Group for the Tama River Catchment Area) conducted inspection tours with the participation of local residents including the members of neighborhood associations and PTAs, to collect their opinions and prepare the draft for the improvement plan for the Tama River. About 2,400 opinions were collected as a result of 29 inspection tours held in 17 cities and districts along the river.

#### 3) Discussions at seminars for the Tama River's catchment area

Using the various preliminary drafts which were prepared as a result of the civic actions and inspection tours, the Keihin Branch Work Office conducted "catchment area seminars" for the administrative committee and civic forums to provide them with opportunities for discussions, and to finalize the draft for the Tama River Improvement Plan.

During eight seminars, active discussions were held on various issues, such as opinions collected through civic actions by civic forums and inspection tours by the administrative committee; and objectives of and actions for river improvement.

Thus, thorough discussions were held before the river administrator prepared the draft of the river improvement plan.

#### 4) Committee for the Tama River Catchment Area

The Committee for the Tama River Catchment Area was founded to create a good river environment and good catchment area, with the Keihin Branch Work Office serving as the secretariat.

While the Discussion Group for the Tama River Catchment Area aims to build a "soft" consensus through discussions among local residents, academic experts, and administrative bodies, the Committee for the Tama River Catchment Area aims to realize the contents of the consensus by discussions by many people in various fields.

Since the 1st meeting in December 1999, the committee meeting was held five times for discussions on the preparation of the Tama River Development Plan. During the fifth committee meeting which was held following the establishment of the guideline for the improvement of rivers in the Tama River System in December 2000, opinions on the draft prepared by the river administrator based on the results of previous discussions were collected in accordance with legislative procedures.

#### 5) Collection of opinions from local residents and establishment of river improvement plan

So far, opinions have been collected from many local residents in various ways. For the draft of the Tama River Development Plan, opinions were solicited using the Internet and through public inspections arranged by municipalities.

#### 6) Collection of opinions from the heads of municipalities

Opinions on the draft of the Tama River Improvement Plan were solicited from the heads of the related municipalities.

Following the above procedures, the Tama River Improvement Plan was formulated in March 2001.

### 3.4 Characteristics of the Tama River Improvement Plan.

As mentioned above, during the preparation of the Tama River Improvement Plan, which took about two years, thorough discussions were conducted under a wide partnership of local residents, administrative bodies, and the river administrator to build a "soft" consensus. Some of the key points of the consensus are outlined as follows:

#### 1) Prevention of damage from floods equivalent to the heaviest flood after the WW II

The Improvement Plan aims to prevent the Tama River from sustaining damage from floods equivalent to the one in September 1974 (the heaviest flood after the World War II) for the next 30 years. The Catchment Area Committee studied the near-term objectives of river improvement and the measures for flood prevention, and discussed alternatives including the zero option in which neither river channel improvement nor dam improvement is carried out. The plan prepared by the river administrator, which aimed to protect the Tama River from floods equivalent to the heaviest one after the World War II and which explained why safety against this flood must be ensured, was finally adopted. Adding the zero option allowed wide discussions and helped clarify whether the ideas and the conclusions of the river administrator were proper or not.

#### 2) Classification of functional spaces - accelerating the creation of rules for nature protection and for the use of the Tama River

The Environment Management Program for the Tama River, which was formulated for the first time in Japan, divides river terraces into zones for human purposes and those for nature purposes, and defines

eight functional spaces. Discussions were held between the river administrator and local residents to clarify the role of the management program. Some of the opinions from the local residents are: "Dividing the functional spaces into eight categories is complicated, so a simpler classification would be preferable" and "isn't it necessary to consider not only river terraces but also river channels as functional spaces?" However, the river administrator responded that 1) reducing the number of the functional spaces from eight could create confusion in river management; and 2) this number should remain unchanged to avoid problems related to flood control, so only the locations of the functional spaces would be allowed to be changed. This idea was fully supported by nature conservation societies. There were some sections where the demands for the use of a river terrace were confronted with each other due to the changes in the locations of functional spaces. Such sections were classified as suspended sections and the functional space classification was made after building a consensus among the related parties through discussions which lasted for one year.

#### **4. Conclusion**

This paper explained the roles of river environment which were renewed due to the revision of the River Law; review of river improvement planning system; and the improvement plan for the Tama River as an example.

It is expected in the future that the improvement plan for all rivers in Japan will reflect opinions of the local residents.