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Thousand-Citizen Survey Network 2010)**

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Horikawa Sen-nin Chosatai (HSC) (Horikawa River Thousand-Citizen Survey Network 2010)

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ABSTRACT

The Horikawa River, a first-grade river approximately 16km in length, flows north to south through the central part of Nagoya City. A test of transmitting water from the Kiso River to the Horikawa River at a rate of 0.4m³/s commenced in March 2007, gaining the understanding of stakeholders, including people in the Kiso basin area. At the same time, the “Horikawa Sen-nin Chosatai 2010 (HSC 2010) began its activities. Clarification of the Horikawa River has been a long-sought goal of, and a tough challenge for, the Citizens of Nagoya. However, the resident-administration partnership of the HSC has precisely met the challenge. The network’s activities suggest the possibility of revitalizing the limpid flow of the Horikawa, and offer hope and assurance to citizens.

Keywords: HSC2010 (Horikawa River Thousand-Citizen Survey Network 2010),
Resident-administration Partnership

1. Introduction: Nagoya's Mother River

The Horikawa River, a first-grade river approximately 16 km in length, flows north to south through the central part of Nagoya City. Some 400 years ago, when Nagoya Castle was built, this man-made river was constructed as a water channel for transporting castle construction materials such as timber and stone.

Subsequently, lumber and other businesses developed on both sides of the Horikawa, using the river as a canal, Woodworking industries, such as Buddhist alter and wind-up doll-making also prospered, building the base for today’s advanced manufacturing district.

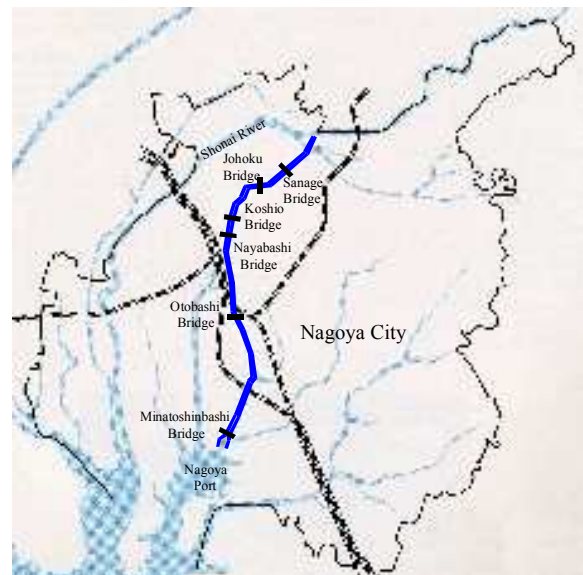


Figure 1 Location of Horikawa River

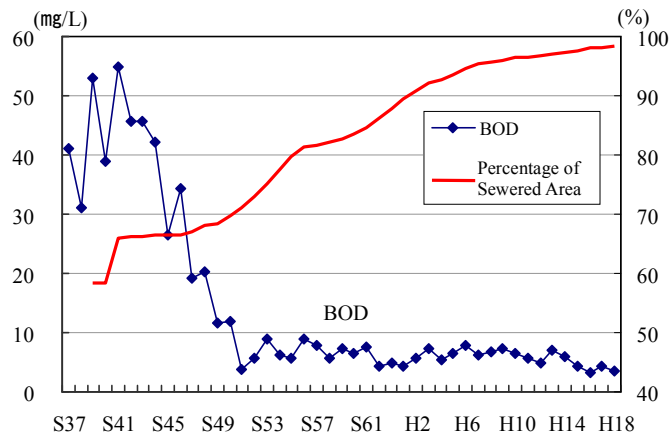


Figure 2 Change of the Water Quality at Koshio Bridge

Because the Horikawa lacked a natural water source, it tended to stagnate. During the period of high economic growth in 1960s, the river became increasingly contaminated due to wastewater from factories and residences.

The people of Nagoya had honored the Horikawa for more than 300 years as the City's "mother river." Now, however, it had been transformed into a sludgy, smelly and filthy river. Its contamination peaked in 1965 when, according to records from that time, the number of animal carcasses thrown into the river reached 1965. Buildings began to be built with their backs to the river. The Horikawa was abandoned by the public as a sewage canal.



Figure 3 Horikawa River (Remarkably Contaminated)(1966)



Figure 4 Horikawa River (Remarkably Clarified)(2007)

2. Administrative Moves and Citizens' Growing Interest

In 1985, the national government announced that the "My Town, My River Development Project" would first deal with the Horikawa River. This decision accelerated Nagoya City's project to full scale toward river revitalization.

Since as a result of these efforts the Horikawa gradually became cleaner, citizens had a growing interest in positive action and revitalizing the river. Cleaning and learning activities were going on everywhere.

In 1999, the citizen-led signature-gathering campaign "Clean Up the Horikawa!" collected 200,000 signatures in only one month. Citizens' interest in clarifying the river grew rapidly.



Figure 5 The Citizen-led Signature-gathering Campaign

3. The First Horikawa Sen-nin Chosatai

In 2003, the citizen-proposed program of the “Horikawa Sen-nin Chosatai (HSC) (Horikawa River Thousand-Citizen Survey Network)” was adopted as “All-Japan Urban Renewal Model Enterprise” and received a subsidy from the national government.

Since the Horikawa lacks a natural water source, water is transmitted at a rate of $0.3\text{m}^3/\text{s}$ from the Shonai River, which runs through the northern part of Nagoya City, in order to maintain the Horikawa's aquatic environment.

The First HSC was organized to allow many citizens to take part in surveying the changes in the Horikawa's water quality and waterfront environment that resulted from the temporary increase in water volume. The Thousand-Citizen Survey Network was so named in hopes of boosting activities by forming 100 survey groups, each comprising ten or so persons.

With the survey project receiving assistance from national, prefectural and municipal government, water from the Shonai River was increased as a pilot program.

Residents were invited to participate in the survey network. During its two-month duration, 2007 persons (217 groups) applied for participation, far beyond expectations. The survey by citizens grew on an unprecedented scale.



Figure 6 The Water From The Shonai River at Kurokawa Sluice

4. Survey Results and Problems of the Horikawa River, Presented by the First HSC

In 2004, the First Horikawa Sen-nin Chosatai conducted surveys for four months and held a meeting to announce the results. The meeting pointed out that the Horikawa had various problems from citizens' point of view.

Specifically, many citizens participating in the HSC were shocked by the fact that there was no noticeable water quality improvement resulting from a simple increase in water volume from the Shonai River into the Horikawa River. Then the participants became aware of the need for a water quality improvement campaign throughout the entire basin area, including the upstream region, as well as for citizen-level exchanges and cooperation.

Moreover, participating citizens shared awareness that the river would remain unclean unless improvements were made on treated wastewater from sewage treatment plants, because such discharge is a substantial water source of the Horikawa River.

In the survey results presentation meeting, many attendees from the administrative side, including Nagoya Mayor Matsubara, listened to enthusiastic reports presented by residents.

5. Municipal Policies in Nagoya and Formation of the Second HSC

In light of problems revealed by the First HSC, moves were initiated on the administrative side. In 2005, the municipal government of Nagoya decided to implement a social experiment aimed at improving the quality of the water source by conducting an advanced treatment test for one month at the Meijo Sewage Treatment Plant.

They also decided to verify the effects of the test, from citizens' perspective, via the Second HSC (HSC2005). The three-month survey conducted by citizens revealed that the quality of water source improvement test, including advanced sewage treatment, was highly effective for clarifying the Horikawa River.



Figure 7 The Formation of Horikawa Thousand-Citizens Survey Network 2005

6. Toward the Next Stage

On the basis of test results, the municipal government of Nagoya announced a plan to consider implementing permanent advanced treatment at the Meijo Sewage Treatment Plant in 2010. This was followed by the announcement of a social experiment to transmit water from the Kiso River to the Horikawa River, a dream of the people of Nagoya.

Through the activities of the First HSC, citizens pointed out the problems of the Horikawa. In the light of those problems, the municipal government conducted the quality of water source improvement testing. The test results were verified by the second HSC, which was followed by the municipal government's decision to test taking water from the Kiso River and carrying out sewage treatment plant enhancement.

In other words, residents and the administration followed a reciprocal course toward the long-sought-for goal of purifying the Horikawa. For residents taking part in the survey network activities, this was a highly hopeful and assuring experience.

7. Third HSC Activities

A test of transmitting water from the Kiso River to the Horikawa River at a rate of 0.4 m³/s commenced in March 2007, gaining the understanding of stakeholders, including people in the Kiso basin area. At the same time, the third HSC (HSC 2010) began its activities. The third survey network consists of 241 groups of 3,630 persons by May 2008.

There are now up to 200 reports from the HSC each month. Citizens who love the Horikawa are watching the river all the time, from all aspects. Their reports, containing photos, are posted on web-pages in real time. Survey groups implement their activities vigorously, encouraging and sharing information with one another.



Figure 8 The Formation of Horikawa Thousand-Citizens Survey Network 2010

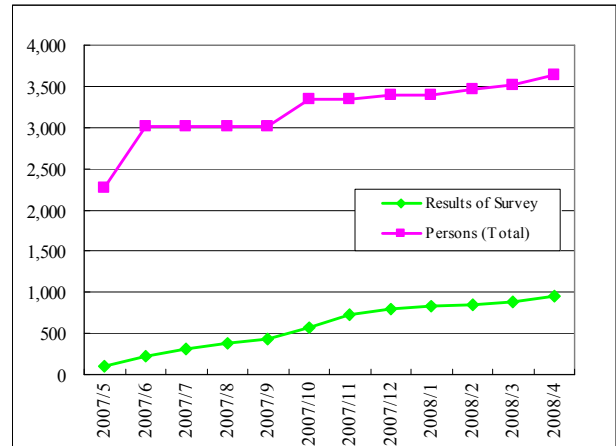


Figure 9 Results of Survey and Persons

Table 1 Survey Items of HSC(Horikawa River Thousand-Citizen Survey Network)

Program		Recruit	Activities
Fixed Point Observation Groups	with transparency survey	50 groups	Surveys of transparency, COD, water pollution, odor of water, water color, river appearance, etc.
	without transparency survey	unlimited	Surveys of COD, water pollution, odor of water, water color, river appearance, etc.
Free Survey Groups		unlimited	Not only surveying the appearance of water flow and aquatic creatures, but also investigating history and culture of Horikawa and discovering the attractive side of Horikawa with free viewpoint
Horikawa Cheering Groups		unlimited	Cheering the Chosatai in their own style, by joining the event, expanding the exchange, receiving the information about Horikawa from the secretariat of HSC, PR activity for citizen who doesn't know about Horikawa, etc.

Citizens' reports thus far reveal steady improvement in the clarity of the Horikawa since the commencement of water transmission from the Kiso River. Furthermore, noticeable growth of underwater algal and waterweed has also been reported.

These reports indicate signs of revitalization of the self-cleansing capabilities of the Horikawa, changes made possible by the oxygen-rich clean water of the Kiso River.

I believe We will be able to improve the self-cleaning capabilities of the Horikawa, thanks to

the potential of the valuable Kiso River water, as well as to further clarify the water before it is released to the sea. This will much repay the efforts of the participants.

It is of course most important that residents of Nagoya do not contaminate the river. If they become more interested in purifying the river, there may be reduced garbage scattered into the Horikawa. To that end, we are implementing activities to widen the circle of people who love the horikawa, as well as to survey and monitor the river. Citizen groups and corporations engaging in voluntary cleaning activity have gradually increased in number.



Figure10,11 The Activity of Citizen Groups and Corporations

Citizens take the lead in the vigorous activities of the HSC, making the best use of their network. Their lively activities make us feel that this is a viable form of organization for the new age of the 21st century.

Clarification of the Horikawa River has been a long-sought goal of, and a tough challenge for, the citizens of Nagoya. However, the resident-administration partnership of the HSC has precisely met the challenge.

The network's activities suggest the possibility of revitalizing the limp flow of the Horikawa, and offer hope and assurance to citizens.