

# WORLD WATER SYSTEM HERITAGE PROGRAM

## NOMINATION FORM

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### A. General Information

1. Water Systems under this program are defined as software used to run the water infrastructure that meets the irrigation, drainage, drinking water, sanitation, water quality requirements and would include: Organizations; Rules; Procedures; Mechanism; Management Tools; but NOT the infrastructures.
2. The major objective of the program is to give recognition to the historically established and proven management practices/ organizations (soft tools) and in the process study these practices in order to unearth, establish and compile the reasons for their success (Please refer to the Scheme).
3. The objectives can be met through comprehensive compilation and thorough analysis of these practices/systems in details by the water management practicing and research agencies through an inter-disciplinary team of experts. The nomination form should be filled keeping these objectives in view.
4. The Register of water systems of heritage value will be a web based catalogue, where information on the recognized systems is proposed to be compiled. The information sought herein is the minimal that is required to be maintained in the Register.
5. The information provided herein can be used by WWC and ICID to inform, market and give publicity to the Register of World Water System Heritage (WSH) through various dissemination mechanism, giving due acknowledgement to the National Committee/ Committee/ WWC Members and the owner organization.
6. Each water system proposed to be included in the Register requires a separate form for submitting the required information.
7. The blank space provided in the nomination form is not indicative of the information required. Format of the Nomination Form should be adopted for guidance.
8. The nomination form has to be filled in by a national committee established for the purpose of WSH; or a member organization of WWC; or any of the national bodies of the professional organizations such as ICID, ICOLD, UNESCO-IHP etc.

### B Details of the System

#### 1. Location Details of the System

(a) . Name of the Water System

(i) In local language (written in roman alphabets)

Partnership ni-yoru "Genbegawa" no kanri/saisei system

(ii) Translated into English

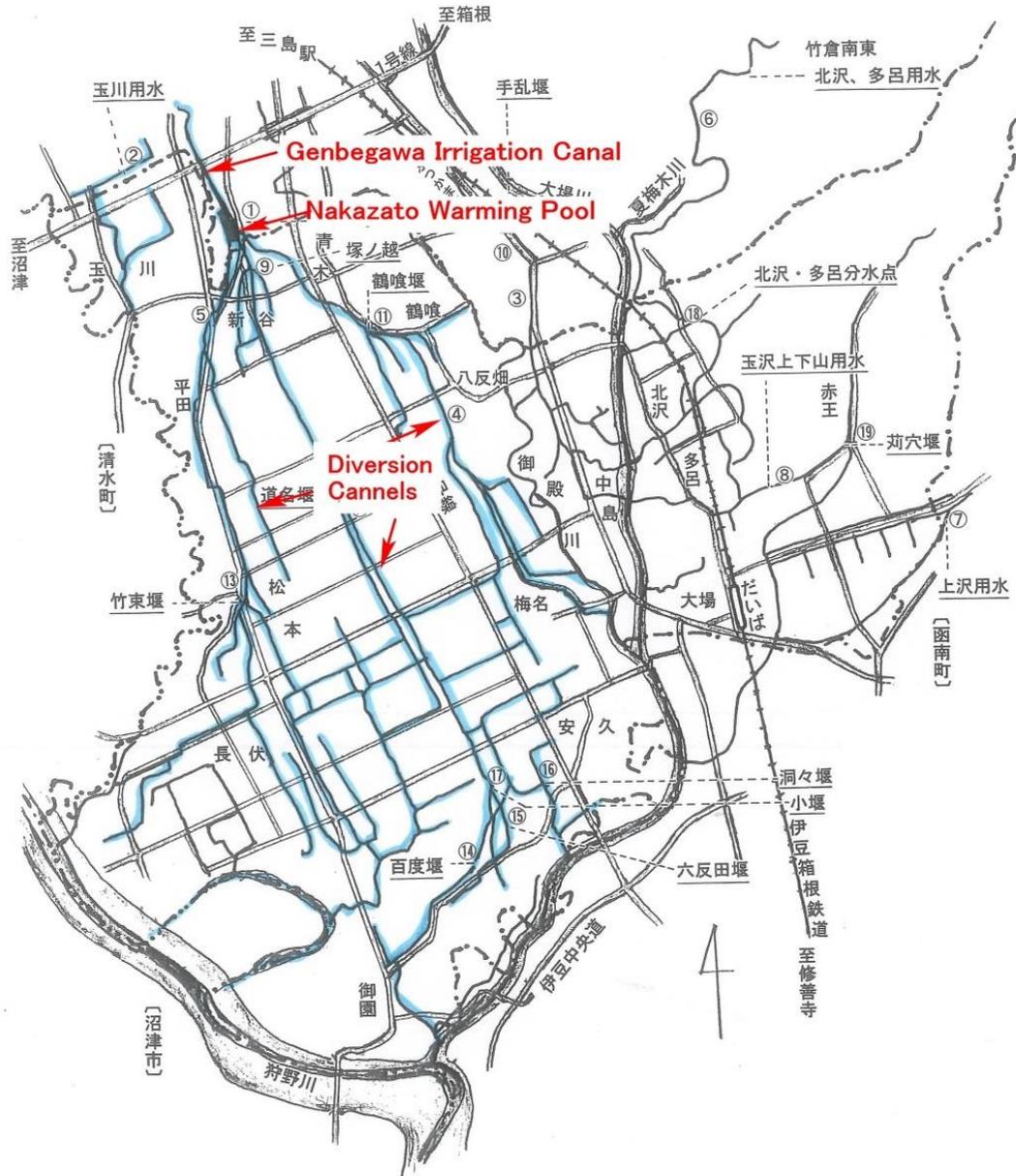
A Partnered Management and Restoration System of the Genbegawa Irrigation Canal

(b) Year of its Establishment (approx.)

Late 15th century to early 16th century (late Muromachi Period)

(c) Geographical (Attach a map)

(i) River Basin/Sub-Basin where System is in operation



Geographical map :  
Genbegawa irrigation canal, Nakazato warm-water reservoir, and a map of the water supply network for downstream agriculture in river basin

(ii) Approximate Boundaries in Latitude and Longitude

N:Latitude 35.12 Longitude 138.91  
E:Latitude 35.10 Longitude 138.93  
W:Latitude 35.09 Longitude 138.91  
S:Latitude 35.08 Longitude 138.92

(iii) Approximate Area (sq km)

Total:0.05km<sup>2</sup>  
Genbegawa irrigation canal 1,500 m ×10 m = 15,000 m<sup>2</sup>  
Nakazato warm-water reservoir: 25,436 m<sup>2</sup>  
Water supply network for downstream agriculture: 5 major watercourses  
approximately 10,200 m<sup>2</sup> ( 3,400 m (L) × 3 m (W) )

## 2. Objectives served by the System

(i) Objectives of the System: (May tick one or more objectives)

- |                                     |                                |                                     |                                 |
|-------------------------------------|--------------------------------|-------------------------------------|---------------------------------|
| <input checked="" type="checkbox"/> | Maintaining Infrastructure     | <input checked="" type="checkbox"/> | Managing and Distributing Water |
| <input checked="" type="checkbox"/> | Maintaining Bio-Diversity      | <input type="checkbox"/>            | Collecting Cess/Funds           |
| <input checked="" type="checkbox"/> | Organizing Collective Response | <input checked="" type="checkbox"/> | Regulatory Functions            |
| <input type="checkbox"/>            | Flood Control                  |                                     |                                 |

(ii) Have the Objectives changed over the years?

In addition to the river water being used for irrigation since its excavation, Groundwork Mishima began to work with the locals in managing the Genbegawa irrigation canal in recent years in order to protect its biodiversity.

## 3. Description of the System

*(Provide a write up in a separate sheet in about 500 words. The description should be crisp so that it can be included in the Register of WSH. Additional information should be provided in a separate Annex)*

(i) List the various stakeholders involved in management:

Nakazato Water Land Improvement District  
NPO Groundwork Mishima  
Mishima city

(ii) Are there written Rules of Operation/Management? Yes  No

(a) If yes, attach the evidence.

(b) If No, how are the rules communicated

The Nakazato Water Land Improvement District, Groundwork Mishima, Mishima city, and the farmers and residents near the river basin have come up with an ongoing agreement in principle based on distribution of roles.

(iii) Present Source of Fund for Management of the System

Source of funds include union dues (contributions for maintenance and management) by the members of Nakazato Water Land Improvement District, budgets and subsidiaries by Mishima city, and funds and donations by Groundwork Mishima.

(iv) How has the System performed over the years?

“Genbegawa”, Genbe River, is an agricultural irrigation canal that utilized the waters from the Kohamaike group of springs and was constructed in between late 15th century to early 16th century by an influential figure in Mishima, Genbe TERAO. This region along the river was called “Nakazato” and waters from the Genbe River was drawn to irrigate and grow the rice paddy fields. Throughout the entire Edo period (17th – 19th century), the locals battled for the water supply continually until a water union was established by the 13 villages in the Nakazato area at the end of the 19th century to fairly distribute water supply. At the same time, a water management system governed by a council of regional communities was also established.

After the war, a public institution called the “Nakazato Water Union” was founded, and its name subsequently changed to “Nakazato Water Land Improvement District”. The district was responsible for the maintenance and management of the river ever since then. Even it has been 400 years since the river canal was excavated, residents are still enjoying a stable supply of irrigation water from the Genbe River.

While the Genbe River had been managed by the union for irrigation purposes, the local communities began to join the union in recent years and this has resulted in a change of the management style.

In the beginning, even though the water from the Genbe River was to be used for agricultural irrigation, the watershed residents began to use it for domestic purposes such as cooking and laundry. However, after the 1964 Tokyo Olympics, the upstream area of the river underwent industrialization and groundwater was pumped up, leading to a dramatic decrease in the amount of spring water. In addition, the urbanization of cities was accompanied with domestic effluent and trash that were discharged and dumped into the river. The state of the river deteriorated to such an extent that in 1985, the land improvement district even considered to construct concrete river culverts.

From the 1990s onwards, the Mishima residents decided to take action and established the Groundwork Mishima. Together with the Shizuoka prefecture, Mishima city, experts, residents, companies, and the land improvement district, they held over 200 discussions in a period of three years before they finally came up with a plan to turn the Genbe River into a water park. The river improvement works that were mainly conducted by the citizens nurtured their love for their hometown. Their careful daily maintenance has transformed the Genbe River into a clear stream where fireflies, dragonflies, and kingfishers abound, and children now also play and catch fish in it (see attachment h-1 ,and other attached figures to the sending mail for more information about the history).

*(Is the System fulfilling its objectives and how it is? As on date vis-a-vis its designed utility. Has the extent of its jurisdiction changed over time? Enumerate and describe factors that are affecting or have affected the utility of the System in the past in about 500 words. Additional information should be provided in a separate Annex)*

**4. Justification for nomination:** Criteria which the nominated structure fulfils

*(Please provide a write up of about 1000 words how the following primary criteria the system fulfils. Additional information should be provided in a separate Annex)*

**Primary**

- (a) The system should have served for over generations but at least a hundred years,

When the Genbe River was excavated 400 years ago, the upstream area of the river was widened and made shallow in order to increase the original low temperature of the spring water. Flow channels were also constructed at high altitudes so as to prevent the muddy water from flowing into the river during raining. This resulted in a river structure of natural waterway that was easy to maintain and manage, and is thought to be the reason as to why the river has continued to flow for so many centuries.

Lava spewed from Mount Fuji was also used in the masonry of the river dikes in Genbe River. This is valuable from geological, historical and scenic aspects, as most of the river dikes remained intact and undamaged throughout the years with only minimal renovation work. Even in the repair work conducted in 1990, the river dikes were preserved in their original state for cultural value.

- (b) The system should have involved various stakeholders,

Despite the fact that the Genbe River was constructed for agricultural purposes, the regional communities began to make use of its waters too. "Kawabata" (households on the riverbank that used river water to do their laundry and enjoyed cool evenings), facilities used to pump river water into their private ponds, "Water God" that was enshrined at various places and wells within and around the river; these have been designated as cultural properties and assets of Mishima, the "City of Water". They have been carefully preserved by the regional community system that is managed by the locals. In recent years, the local residents with their strong desires to retain the original historical scenery of the river have restored wooden bridges and constructed a water park that closely resembled nature.

The Genbe River of today has been restored to the river that was once closely entwined with Japanese people's lives of the olden days. In order to carry on this value and tradition, the locals established the "Genbegawa wo aisuru kai" (Love Genbe River Association) and have continued to preserve the river environment. This included the preservation of natural aqueducts, diversions gates and overflow weirs for over a century, which continue to remain functional and are utilized in the water park and landscaped facilities.

- (c) The system should have been created by bringing together local community's wisdom, coordinating and developing customs, rules and practices, and

The state of the Genbe River deteriorated from a reduced amount of spring water, wastewater effluence and dumping. In order to restore the original face of Mishima, the City of Water, the residents, NPO, government and companies came together to form the first Groundwork (originally started in the UK) and established Groundwork Mishima to improve the environment.

From 1990 onwards, the Shizuoka prefecture began development works on the Genbe River, where the Groundwork Mishima, ecosystem conservation experts, Mishima city, the Land Improvement District, farmers, watershed residents and industries all worked together. A corporations also lent a helping hand and supplied cooled water to the reduced amount of spring water in the river. The efforts of the company restored the river and they were able to secure a stable, daily water supply of 36,000 m<sup>3</sup> in summers and 21,600 m<sup>3</sup> in winters.

- (d) The system should have contributed to the socio-economic development in the region of its operation.

The construction and maintenance of the Genbe River has allowed the farmers to irrigate their rice paddy fields in the Nakazato region with the abundant snowmelt water from Mount Fuji. This led to the construction of an irrigation system to stably supply agricultural water, which brought riches to the farmers. In order to reproduce the water landscape of the olden Japan, a near-natural method of construction was recently introduced and implemented for the first time in the country so as to create a charming and natural waterfront. The design received high praise from home and abroad and won many prestigious awards (see attachment h-2). These achievements allowed Mishima to gain fame as the “City of Spring Water” and tourism also significantly contributed to the city’s economic development as the number of visitors to the city quadrupled to 6.2 million visitors (increase of 4.6 million) in a period of 20 years (see attachment h-3).

## 5. Documents to be attached

### b. Document describing the complete System.

#### 1. Overview

The Genbe River was excavated over 400 years ago by a powerful family clan in Mishima as a waterway for agricultural purposes by using the spring water from Mount Fuji as its water source. Locals in the Mishima and nearby regions fought over their water rights and allotment of water supply constantly for many years, and this only came to a halt near the end of the Edo Period when government officials of 13 villages established a water management system that was governed by a council of regional communities. The system is still maintained by the union, the Land Improvement District, even as today and continues to supply irrigation water to nearby rice paddies.

On the other hand, as the river water was meant for irrigation purposes, residents in the upstream river adhered to their moral principles and used the river water for their daily lives too. Since the olden days, the responsibilities of managing and maintaining the river water quality and repair work have not been only undertaken by the farmers and the Land Improvement District, but also by the regional communities. However, in the 1960s, much ground water was pumped up from the industrialization of the city; this led a dramatic decrease in the amount of spring water and the Genbe River soon became a mere dumping ground.

To resolve this issue, the government and the residents joined hands in the 1990s and constructed a water park using a near-natural river construction method. Environmental improvement activities such as cleaning were mainly performed by the locals since soon, experts, government officials and farmers joined them and they formed the "Partnered Management and Restoration System of the Genbe River". Corporations and industries in the upstream river also assisted by abundantly releasing good-quality, cooled water into the river to increase the river volume, which significantly improved the river's function as an irrigation source.

#### 2. Characteristics

##### (1) Sophisticated maintenance and management system

The Genbe River is an irrigation waterway that does not require much maintenance and management by maintaining a certain water temperature and minimizing the inflow of muddy water from rains. The river has not only kept its irrigation functions throughout the years by the water management system of the union, but its river dikes also remained intact and undamaged and are still preserved as they were back then. This system is considered rare in the world because it has been managing the river with a spring water source since the olden days. Recent improvement and upgrading works also sought to preserve its cultural value.

##### (2) Formed and protected by the regional community

The local residents have been utilizing the cultural remains in the river and on the riverbanks, together with the old irrigation facilities, as a regional community system, water park and landscaped facilities. In recent years, the government officials, residents, farmers and companies joined hands to create a water park using a near-natural construction method, which also served to deepen their relationships with the river and watershed residents. A corporations also lent a helping hand by supplying abundant water to transform the Genbe River into a river more attractive than before.

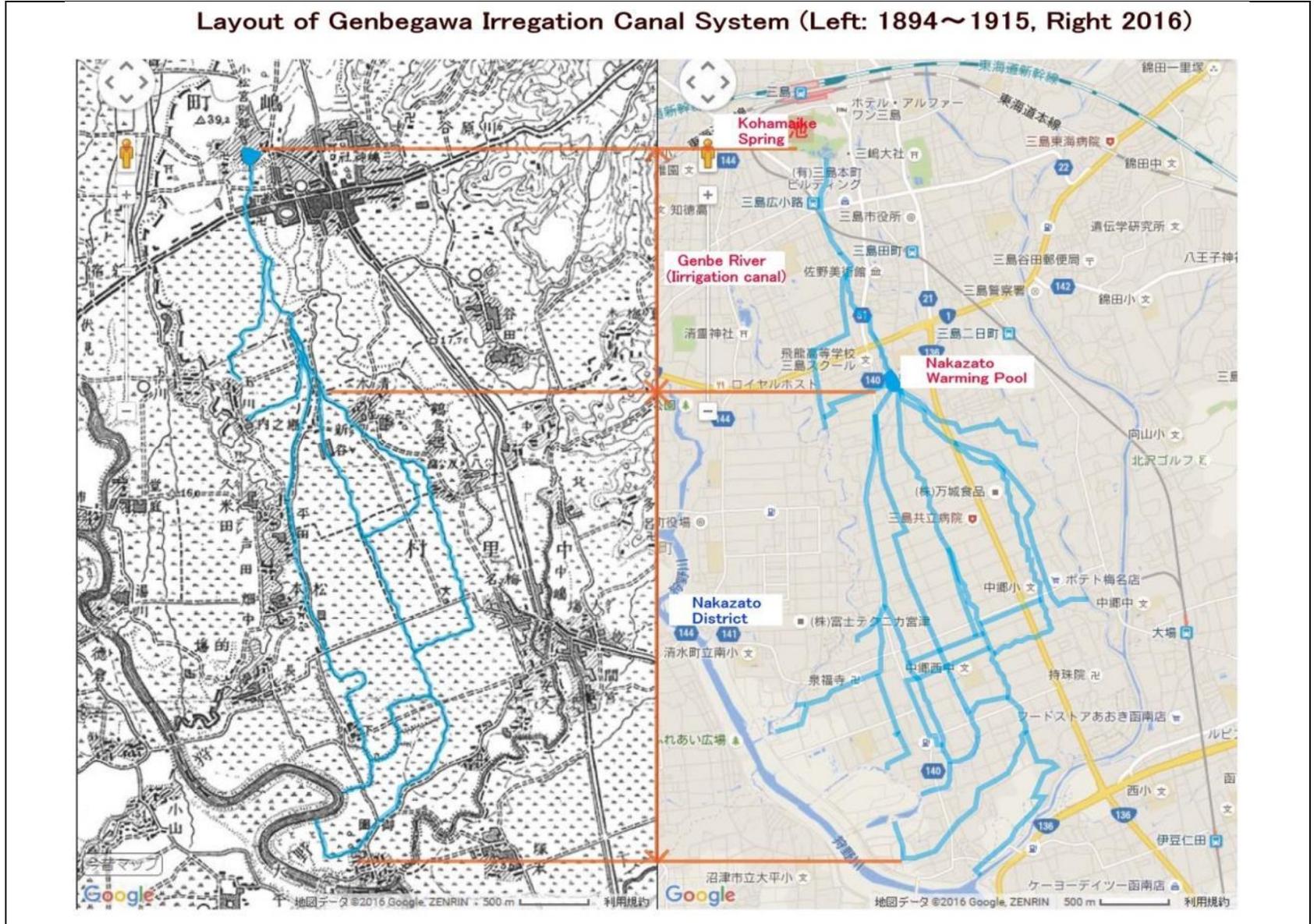
##### (3) Historical and cultural value

One of the Japan's oldest irrigation facilities is also highly appraised as an advanced agricultural civil engineering project. It is also rare and has a high geological value because its water source is the volcanic spring water and the river flows over lava-formed ground. The Genbe River has now become a rich ecosystem for many endangered species even though it is a city waterway. The river has received many awards and is considered to an innovative case of environmental improvement with many observation tours.

##### (4) Contribution to the regional socio-economic development

The irrigation system that was constructed using the waters from the Genbe River has enabled the stability of rice farming. It has won many awards for its highly commendable design and naturalness and enjoys booming tourism from around Japan. The Genbe River has significantly contributed to the regional socio-economic development of Mishima city as a famous tourist attraction.

c. A map showing the location of the region where the system is operational



d. Documents/Reports enumerating benefits accrued from the System.

1. The unique structure, combined with the union's maintenance and management system has enabled the river to function as an irrigation facility for over 400 years, and made great contributions to the local economy mainly through agriculture. Also, the waters of the Genbe River were used by households on the riverbanks and played an important role in the development of the area.

2. The government, residents and NPO worked together to improve the health and state of the river that had deteriorated after the war. Their work has been recognized widely as an innovative example of environmental improvement and significantly helped to increase the environmental awareness in Japan.

3. Along with the numerous cultural relics that remain within and near the river, the advanced agricultural civil engineering project, high geological value and rich ecosystem, the Genbe River has brought about various cultural values that can be passed on to future generations.

4. The Groundwork that was formed through the partnership of the residents, NPO, government and companies, is recognized as a successful case of citizen movement that sought to improve their nearby living environments, and has led to the formation of many similar NPOs working on environmental improvements.

5. The system has enabled a secure and stable agricultural water supply for rice farming. Also, this area has been recognized as a city of spring water and enjoys tourism boom that significantly contributed to the local economy.

6. Genbe River, the waterway that was originally constructed for rice farming (indispensable to the Japanese people) has a long history and is full of natural beauty with a high cultural value. This is a world heritage site that should not be limited to just Japan, but should be recognized by the rest of the world as well.