

Survey of Hanaguri in Babagusu-ide

Hanaguri in Babagusu-ide was designated as cultural asset by the town municipal government in 1979, but a measuring survey or close survey to confirm the shape of the channel when it was first constructed had not been provided, so there was much that remained unknown. But a survey by excavation of the river bottom of Hanaguri, and Nakasuyama. (a walking path area), was conducted between 2011 and 2015.

What was found from the survey?

From the survey of the river bottom of Hanaguri, layers of clay and sand, which were arranged alternately by manual work, were found. A thickly accumulated area was about 60cm deep. It shows that the river bottom was not formed naturally by dirt and sand but it was artificially made to create a slope.

However, no relics were found to specify the age of the surveyed area. The height of the Hanaguri walls with semicircular hole was not clear, as they were collapsed by the flux of water, but they were approximately 2m high according to the survey.

On the wall and on the bottom area, clear traces of gravers and pickaxes used in the construction remained, and the border of wall and the bottom was designed vertical and the bottom was smooth, after the careful work of adjustment. As for Hanaguri-bashi, the upper part has some steps, and the steps can be climbed from the left bank of the Shira River to Nakasuyama. This Nakasuyama could have been provided as the path for the excavation of Hanaguri.

At first, Nakasuyama was thought to have been constructed by using debris taken from the excavation site, Hanaguri, but it is not confirmed. So how debris after the excavation was used, or where it was transported is still ambiguous.

Based on the opinions of experts, further research will be carried out on Hanaguri-ide, and the resultant data is to be applied for science and tourism in our town.



Access to Hanaguri-ide

From the direction of the Driver and Vehicle Licensing Center

Go eastward on Kokutai Street, Tozai Line.
Turn left at the intersection near Kikuchi no Manma.
Turn right at the first signal (parking is available).

From the direction of the Airport

After turning right at the intersection at the Airport Entrance, continue straight, passing the intersection near Kikuchi no Manma.
Turn right at the first signal.

From the direction of Aso

Go westward on the Kikuchi Bypass Road.
Turn left at the Kikuyo Intersection near the municipal government office.
Go straight toward the airport, and turn left at the fourth signal.

From Kumamoto Interchange - 20 min. drive

From Kumamoto Airport - 15 min. drive

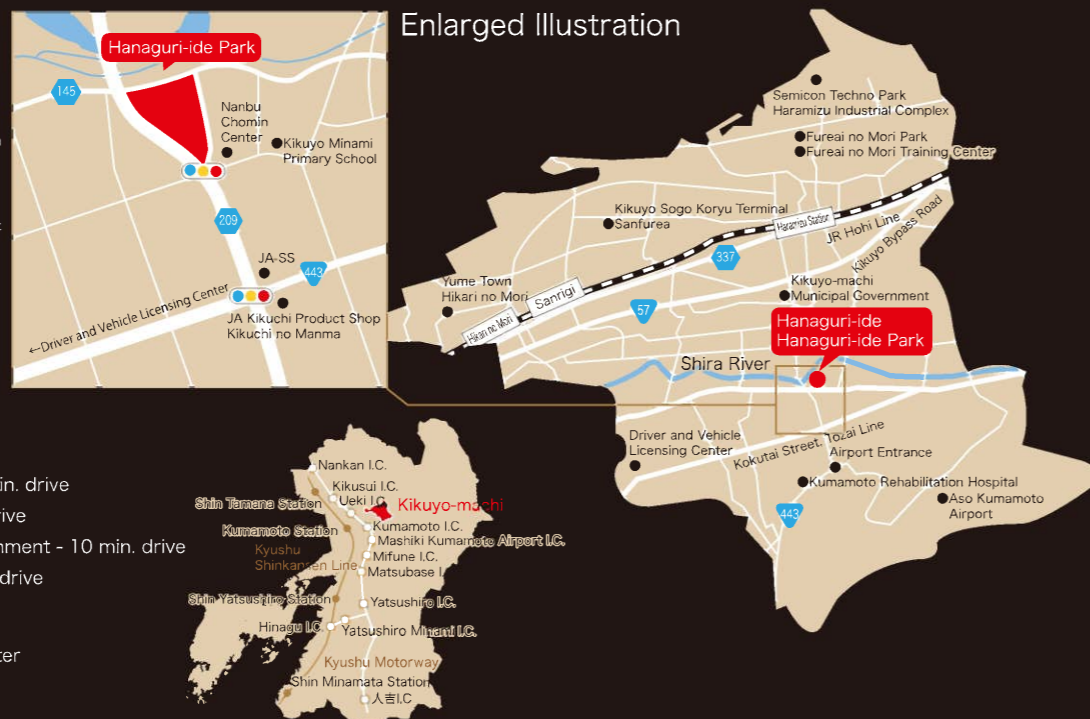
From Kikuyo-machi Municipal Government - 10 min. drive

From JR Haramizu Station - 11 min. drive

Search by navigation

→ Kikuyo-machi Nanbu Chomin Center

Or 096-292-3200



Where to call

Life Long Learning Department,
Board of Education,
Kikuyo-machi Municipal Government
2598, Kubota, Kikuyo-machi, Kikuchi-gun (Chuo Komin-kan)
TEL.096-232-4917

Request for guide

TEL.096-292-3200 (Prior booking essential)
Kikuyo-machi Volunteer Guide Association
498-3, Magate, Kikuyo-machi, Kikuchi-gun
(Nanbu Chomin Center)

Administration

Babagusu Seki Land Improvement District
1-chome, 2-26, Ishiwara,
Higashi-ku, Kumamoto City
TEL.096-374-8188

in Babagusu-ide

Historic Work of Irrigation and Drainage Surviving in Modern Times

A 400 -Year-Old Legacy
that is unparalleled in Japan

Babagusu-ide
& Hanaguri

Hanaguri

Board of Education, Kikuyo-machi Municipal Government

Hanaguri in Babagusu-ide

Historic Work of Irrigation and Drainage Surviving in Modern Times

What is Babagusu-ide? (A part of the inlet was designated as a town cultural asset on February 16th, 2009.)

Even now, water is constantly supplied to paddies and fields of a 176 hectare-area through a 1.2 km-long ide, the channel extending from the inlet of the Shira River at Babagusu, Kikuyo-machi to Oe Toroku in Kumamoto City, and is under the control of the Babakusu Seki Land Improvement District. There is no data to show when Babagusu-ide was constructed, but Kato Kiyomasa is said to be the man to have constructed it during his reign in the Higo Domain (circa 1608).

※Ide is the man-made channel designed to irrigate paddies and fields. Before water was supplied by well or tap, the water from the ide was used as domestic water as well.

The southern area of the Shira River was slightly higher than the river basin, and it was difficult to draw water from the river. Therefore, the development of new paddy fields and water control were planned by excavating channels in the upper reaches of the river. After construction was complete, and when water was drawn into a 1.2km area in the channel, an area of approximately 95 hectares in nine villages benefitted, being able to irrigate their farms. As a result, the yield was boosted as much as 3 times. (According to the "Water Control Record in the Provinces", written by Ryohei Kanakogi)

Comparison of the size of paddy fields in Nanbu-mura (now Kaminabe) which had channels, in the cadastral register

| Age | Name of Cadastral Register | Area of Paddy Fields | Area of fields | In these areas, for 32 years, many fields were changed into paddies, and the area of rice growing paddies was expanded by a factor of 25. And the Cadastral Record of 1635 shows the word "Ide-shita", which may indicate the Babagusu-ide. It is therefore reasonable to conclude that the ide had already been completed in 1635, and the area had started to be irrigated by the ide. |
|------|---|------------------------|------------------------|--|
| 1603 | November 1603 Paddies and Fields in Nanbu-mura, Kosako-mura in Cadastral Register | Approximately 7,369㎡ | Approximately 431,970㎡ | |
| 1635 | July, 1635 Paddies and Fields in Nanbu-mura in the Cadastral Register | Approximately 183,441㎡ | Approximately 239,276㎡ | |

Documentary record

The oldest record recognized so far is Oboegaki-cho, a note of memorandum written in 1693. (It is deposited in Eisei Bunko, Kumamoto University Library) It mentions Babagusu-ide, the number of ibi-sluiques, and the area of newly developed paddies. And the books written by Ryohei Kanakogi (1753-1841) popularized a common view regarding the age of Hanaguri and its structure. In 2005, an excavation was conducted to survey a former inlet of Babagusu-ide by the Culture Division of Kumamoto Prefectural Government, and the report was compiled.

※Ibi means sluice or water gate to draw water from ide to the paddies.



Inlet of Babagusu-ide



Whirling water in Hanaguri



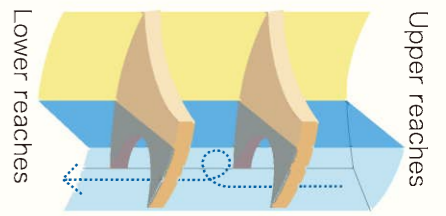
A picture of Hanaguri-ide (The copy is taken from Shokoku chisui, a record from the Meiji Period.)

What is Hanaguri in Babagusu-ide?

It is a unique structure, created by the hollowing out of a craggy mountain, leaving a bridge-like upper part. Babagusu-ide extends as far as 390m, and there were 80 walls with semicircular hole when it was first constructed, but now only 24 of them remain. It is the system to discharge dirt and sand from the water by using hydro power. The place was said to have been named 'Hanaguri' because the structure looks like the nasal cavity of a cow (or a ring that pierces a cow's nose).

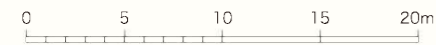
- ① Hanaguri (the section between Magate and Karakawa) is located on a hill with thick bedrock, and a lot of time and manpower were necessary for excavation.
- ② As a 20m-deep excavation was necessary here, manual removal of debris must have been difficult.

There were two such problems, as they had to make a channel by cutting their way through the area. So their solution to these problems was Hanaguri. They created 2m-high walls with tunnel-like hole by hollowing out the center, leaving bedrock as a wall. By this, the amount of rock excavated was reduced, and man hours were saved. The water pumped into the hole was designed to whirl with dirt and sand, and move to the next hole, expelling the dirt, so that the dirt and sand were never deposited on the river bottom.



※ Water of the Shira River running from Mt. Aso contains large amounts of volcanic ash, which inundated and clogged channels.

Hanaguri in Babagusu-ide Auto CAD ground plan



What is the flood-control channel in Babagusu-ide?

In the north of Hanaguri, beyond Nakasuyama, there is another channel, running parallel to Hanaguri, and the streams are joined at the lower reaches of the river. They are to control the volume of water.

When the water supply was inadequate for paddies and fields, the flood control channel was used to increase the amount of water to irrigate paddies and fields.

On the other hand, when water rose, water was drained from an overflow called 'haki' to the Shira River, so that the paddies and fields in the lower stream area would be protected from flooding.

As shown, the area was designed to maintain a constant amount of water, while the ide and the areas that received benefit from them were securely protected by the system.

