

Gorobe Irrigation System

[Nagano Prefecture /
Saku City, etc.]

Gorobe Irrigation System

The war-torn Emperor's ranch was transformed into a rich hometown with beautiful paddy fields



- Mochizuki no Maki (ranch), which had been devastated by natural disasters and war, was transformed into beautiful paddy fields thanks to an irrigation canal constructed by the group represented by Gorobei Ichikawa.
- It was completed leveraging various insights into mine development and the expertise of local people. This irrigation water saw grain yields soar.
- Subsequently, about 40 new paddy field villages were established in the Sakudaira area and the history of Gorobei irrigation was inherited with documentary records at that time.



Picture of the canal at the time of excavation (in around 1712)



"Official letter" sent from Tokugawa Ieyasu to the Ichikawa family in 1593



Former Horinuki (tunnel)
Utilized mine development
insights



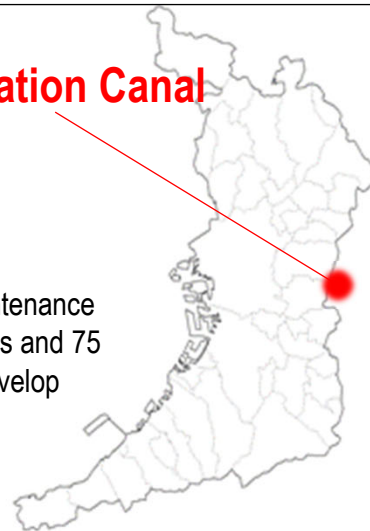
Current Gorobei irrigation head work

Tsukidome Irrigation Canal

[Osaka Prefecture /
Kashiwara City, etc.]

Tsukidome Irrigation Canal

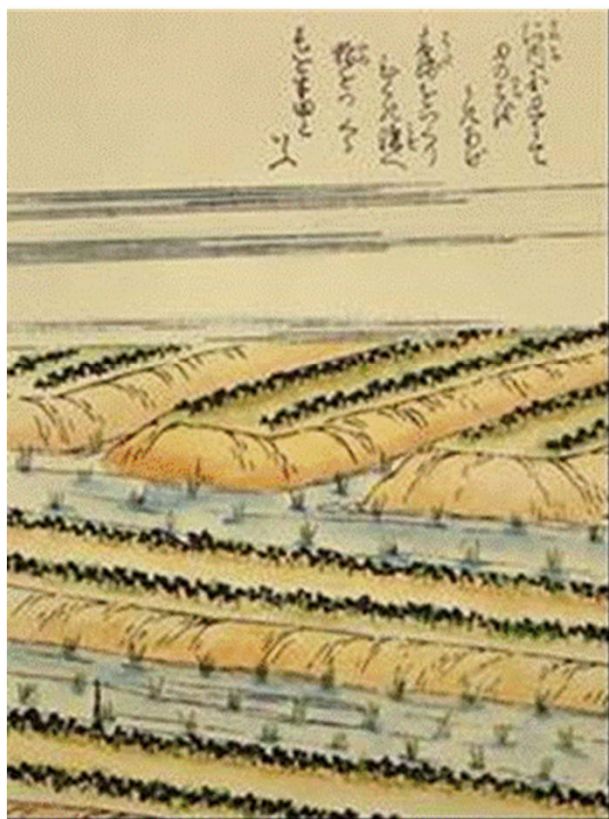
"Tsukidome Toi Gumi", a maintenance organization comprising canals and 75 villages that helped Osaka develop



- Refers to the Nagasegawa and Tamakushigawa rivers that were constructed along with the replacement of the Yamatogawa river. The area emerged as a major cotton production hub and also contributed to the commercial development of the "Kawachi cotton" processed product.
- Large-scale and detailed maintenance was carried out by the "Tsukidome Toi Gumi", which comprised all 75 beneficiary villages.
- In recent years, with the progress of urbanization, not only as an irrigation facility but also as a valuable water space, non-farmers and children also cooperate to maintain and manage it.



Tsukidome Toi Gumi Canal Measurement Drawing (in 1880)
As agreed by representatives of related villages



Kawachi cotton cultivation
Using embankment for fields (cotton) and lowlands for paddy fields



Current Nagasegawa river maintenance with non-farmers



Current Tamakushigawa River

Kitadate Irrigation System

[Yamagata Prefecture / Shonai-machi]

Kitadate Irrigation System

The eternal flow that paved the way to found Shonai, famous for its rice production



- In the area on the left bank of the Mogamigawa River, previously arid, new rice fields covering about 5,000 ha were cultivated as the Kitadate Weir were excavated and 46 villages opened over the following 57 years.
- The 10 km or so of excavation work, which began in 1612, was completed in just four months, by mobilizing approximately 7,400 workers a day.
- The Shonai Plain is formed by taking water from the Tachiyazawagawa River, which was selected as one of the 100 famous waters of Heisei, and producing branded rice such as "Tsuyahime" and "Yukiwakamaru".



Shonai Plain, famous for its rice production



Picture of Karikawa Oseki (Kitadate Weir) in 1655



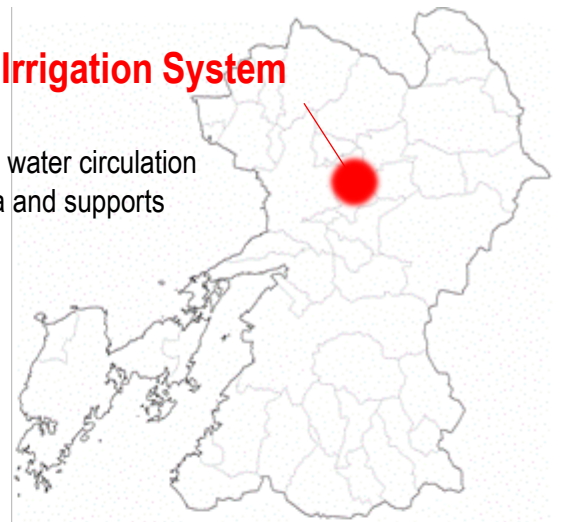
Kitadate Weir in the early Showa era (above) and present day (below)

Shirakawa Basin Irrigation System

[Kumamoto Prefecture / Kumamoto City /
Kikuyo-machi / Ozu-machi]

Shirakawa Basin Irrigation System

Agricultural water that water circulation
in the Kumamoto area and supports
city



■ About 400 years ago, "Uwaide canal", "Shitaide canal", "Baba Kusunoide canal", and "Toroku canal" were constructed by Kiyomasa Kato and successive generations of the Hosokawa family and about 1,800 ha of new paddy fields came into being.

■ In the Shirakawa basin, with unstable flow conditions, a "diagonal weir" was installed (existing in the Toroku canal), both to utilize water optimally (take in water efficiently during normal times) and flood control (drainage of flood flow).

■ The construction of the irrigation group and the development of a new paddy field formed a regional water cycle with a large-scale groundwater flow. Groundwater resources recharged in paddy fields in the central reaches of the Shirakawa River support the lives of about 1 million people in the Kumamoto area.

■ These facilities, which used the latest technology at the time, are still in use today without losing their functions, despite repeated disasters, due to the voluntary maintenance by the community.



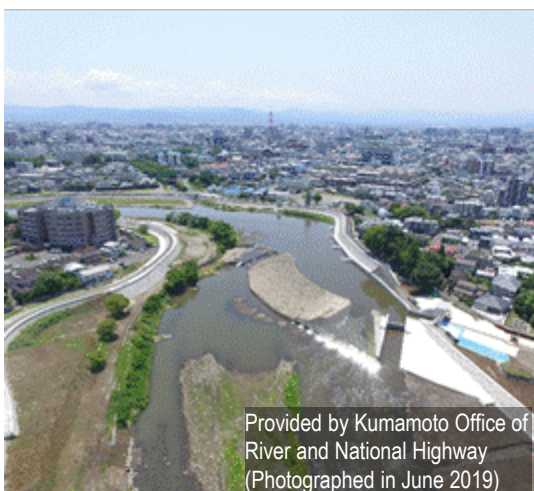
"Hanaguri Ide" (Baba Kusunoide canal) that functions to suppress sediment accumulation



Uwaide weir



Shitaide canal



"Diagonal weir" Toroku weir



Damaged canal by the Kumamoto earthquake 2016 (Uwaide Canal)