

Inaoigawa Irrigation Canal

[Aomori Prefecture / Towada City, etc.]

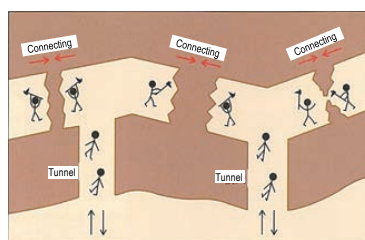
Inaoigawa Irrigation Canal

A canal that has transformed barren wilderness into one of the leading agricultural areas in the region



- In Sanbongigahara, which was barren, rice production increased nearly 18 times after the Inaoigawa irrigation canal system was constructed in 1859.
- In Japan, which was in a state of national isolation at the time, the difficult points of construction were overcome with the high technology peculiar to Japan of the "Senketsu fushin (tunnel construction)" groups such as "Nanbu dokatashu (Southern construction workers)".
- As well as the land improvement district organized by farmers, non-farmers and private companies also help maintain the facility and the area is regionally managed in an integrated manner.

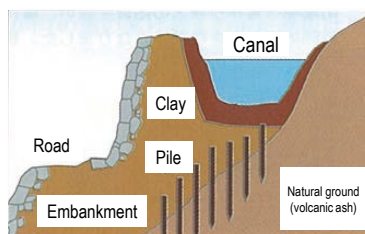
Surveying instrument for reclamation,
level instrument



Digging hole weirs



Current Inaoigawa
(uppermost intake point)



Canal construction method at
Mikozuka (according to imagination)



Inaoigawa before the implementation of the national project

Ogawazeki Irrigation Canal

[Gunma Prefecture / Kanra-machi]

Ogawazeki Irrigation Canal

The multi-functionality of agricultural water considerably boosts the development of local life and industry.



- This is an irrigation canal system constructed about 400 years ago, which not only helped agriculture develop, but was also used for multiple purposes such as domestic water and emergency water for residents.
- A water wheel is installed in the canal, which also powered silk industry-related facilities in the early 20th century.
- Although constructed four centuries ago, this canal system uses what was then ground-breaking technical ingenuity, such as leak-free masonry canals and elaborate stone structures.

Fukiage stone gutter



Ogawazeki (dam)



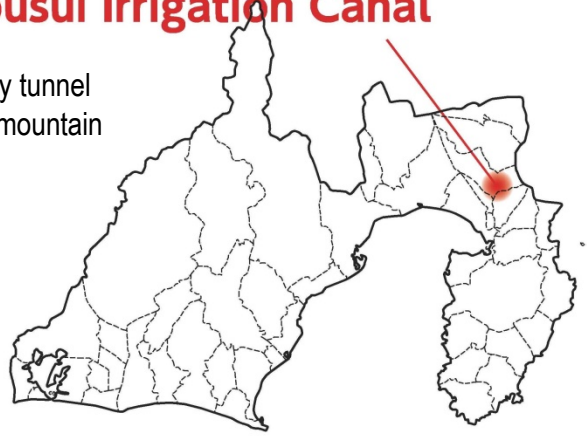
People who used to wash at Ogawazeki in the past

Fukarayousui Irrigation Canal

[Shizuoka Prefecture / Susono City etc.]

Fukarayousui Irrigation Canal

A large waterway tunnel
penetrating the mountain



- Before Fukarayousui was constructed, the villagers lacked domestic water and were living in poverty depending on production of cereals, due to the volcanic soil of Mt. Fuji.
- Work in 1666 to construct the irrigation canal drawing water from Lake Ashi was unaided by construction machinery and the canal was excavated from upstream and downstream using chisels alone.
- The construction work was exceptionally precise and the error at the confluence of excavations was only 1 m, making it a benchmark for the subsequent Japanese hydrographic tunnel project. To this day, water users still thank Hakone Shrine, which manages the lake.



The horseshoe-shaped section where flow is gentle



Fukarayousui Watergate (the intake at Lake Ashi)



Tools which was used for excavation
(chisel, light)

Shichikayousui Irrigation System

[Ishikawa Prefecture /
Hakusan City, etc.]



Shichikayousui Irrigation System

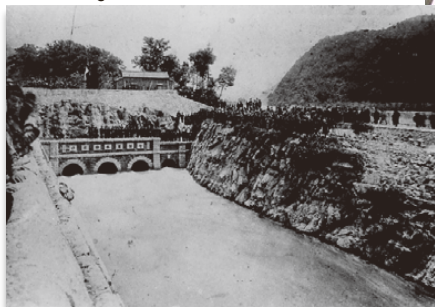
A rarely seen intake unification
project that enabled stable and
efficient water use

Great Water Gate in around 1901



Current Great Water Gate

Water-flowing tunnel in 1903



Current water inlet

- Before 1903, the Tetsu River had seven irrigation systems, each of which took water from the Tetsu River. Flooding damage occurred, due to overflow, as well as water shortages and conflict due to inefficient use of water.
- Under the modernization policy of the time, an "intake unification project" was completed in 1903, bringing together intakes of the seven water systems.
- A total of 100,000 man-days were spent constructing the Shichikayousui, which has an efficient and rational structure, such as repeatedly using the irrigation water taken in and constructing waterways on solid ground.