

Meiji-yousui Irrigation Canal

[Aichi Prefecture /
Anjo City etc.]

Meiji-yousui Irrigation Canal

A canal evoking the times and
using only the finest local
materials



■ The area is a plateau with a land elevation above river level and farmers often vied for limited water sources. This spurred a local civilian to plan the project about 200 years ago and construct the canal in 1880.

■ The latest technology of the time called "artificial stone" was used to construct weir embankments and tunnels, which proved extremely robust, even in an era without cement.

■ The area of paddy fields soared and alongside the development of diversified agriculture utilizing the location conditions of well-drained plateaus, a series of excellent agricultural guidance institutions were established, refining agricultural technology and further educate farmers.



Meiji head work and water intake



Meiji mainstream at the time of construction



Current Meiji mainstream



Weir made of artificial stones



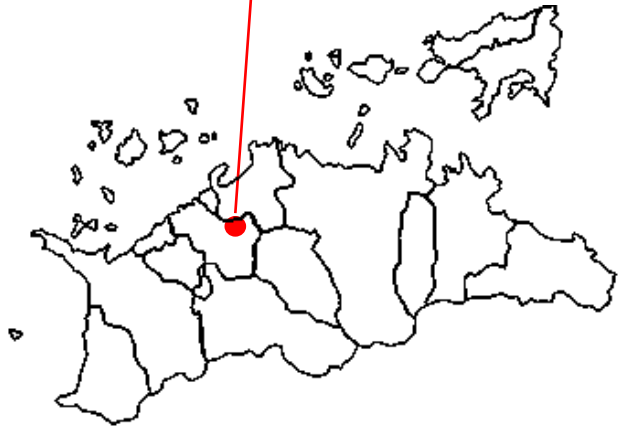
Gutter gate and irrigation managers

Mannou-ike Reservoir

[Kagawa prefecture /
Mannou-cho,]

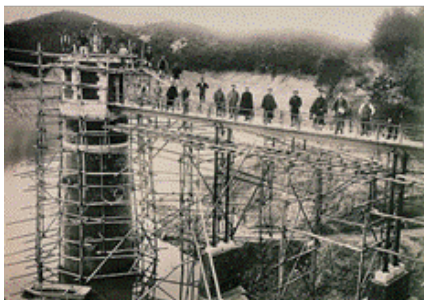
Mannou-ike Reservoir

The largest reservoir in Japan and
protected by the wisdom and
technology of its predecessors



- The former Mannou-ike reservoir was constructed 1300 years ago. Following its collapse, in 821, High Priest Kukai, reconstructed it in just over two months using a total labor force of 380,000.
- During the reconstruction, new methods including the arched embankment, spillway, and revetment fence, were adopted.
- Subsequently, it repeatedly collapsed and was reconstructed and after being rebuilt three times since 1900, it became the largest agricultural reservoir in Japan.
- Local water use practices established by predecessors are strictly adhered to, still now.

Gomadan-iwa, at which Kukai is said to
have prayed for the safety of the
construction



Full view of Mannou-ike reservoir

Above: Construction of the intake tower in 1914.

Bellow: Current Mannou-ike reservoir (from the front, showing the intake tower)

Kounomizo – Hyakutaroumizo Irrigation System

[Kumamoto Prefecture /
Yunomae-machi, Taragi-machi, etc.]

Kounomizo – Hyakutaroumizo Irrigation System

Robust stone tunnels and
waterways which inherit advanced
environmental ideas



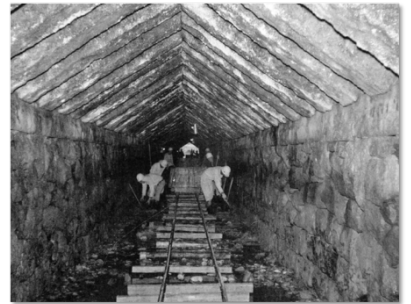
■ It was a field area where only upland rice and sweet potatoes could be harvested, but to develop paddy fields, the construction of Kounomizo was completed in 1705 by blocking the Kuma River, one of three major rapids in Japan. Hyakutaroumizo followed in 1710.

■ The Kounomizo tunnel is reinforced using an architectural style called Gassho-zukuri, which comprises stone pillars. Kounomizo is the oldest such facility in Japan to adopt this method. Hyakutaroumizo was constructed by all local farmers, including those of all ages, without support from the feudal clan at that time.

■ As well as properly maintaining waterway structures for 300 years, the Kounomizo Land Improvement District has also owned a 125 ha watershed protection forest since the Edo era, and inherited the idea of "creating and protecting water".



Kounomizo dam construction drawing prepared
in Genroku 9th year (1696)



Gassho-zukuri by stone at
Kounomizo



Current Kounomizo



Current Hyakutaroumizo dam



Hyakutaroumizo / Former intake sluice

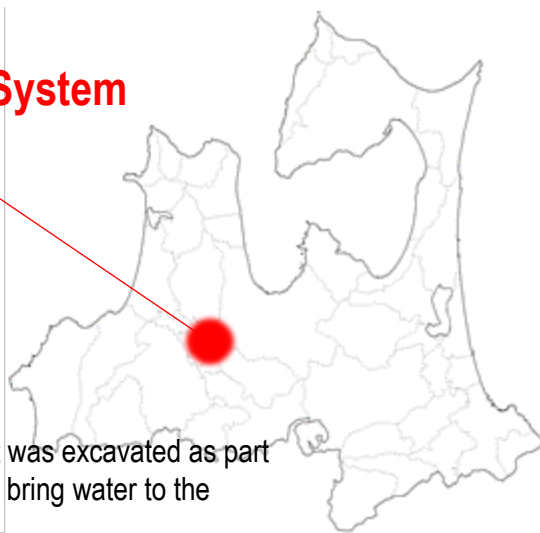


Hyakutaroumizo groove and dam concept picture

Doen Irrigation System

[Aomori Prefecture / Tsugaru City etc.]

Doen Irrigation System



A large irrigation canal that was excavated as part of regional development to bring water to the Tsugaru Plain

- An open channel of about 16km that supplies water to about 8,300ha of paddy fields. Alongside the stable supply of irrigation water, efforts have been made to eliminate poor drainage via what is known as a waist-cutting field.
- The Tsugaru domain set up a position called "Doen Weir Commissioner" to oversee maintenance, which was handled by farmers, administrative organizations and now the land improvement district.
- Mawarizeki Otameike is a large-scale reservoir – at 4,100m it has the longest bank in Japan and a beautiful view of Mt. Iwaki.



Doen weir repair work pre-1958 (heaping up bales)



Nishitsugaru district viewed from upstream



Mawarizeki Otameike and Mt. Iwaki



Waist cutting field