



## Overview of the State Government-Managed Project for Farming Irrigation along the Naka River



## Overview of the area

The project area spreads across Ibaraki Prefecture, including Mito City and other three cities, three towns and a village (eight municipalities), featuring one of the largest farming zone of 8,617 ha in Ibaraki Prefecture. This farming zone is mainly composed of paddy fields developed in the low flat land along the Naka River and on the surrounding plateau.

The Naka River flowing in the center of the project area is known as the clearest stream in Kanto region. A rich ecosystem is preserved in this river, providing the largest catch of *ayu* (Japanese sweetfish) in Japan, and run of salmon which used to be known as a tribute to the Imperial court and the feudal government in the Edo era. The upstream area, where stands Mt. Gozenyama dubbed Hitachi Arashi-yama for its beauty, is designated as the Gozenyama prefectural natural park. The zone along the Naka River offers a rich natural environment including clear water and lush greenery.

The project area, with Mito City in its center, is conveniently located within around 100 km of Tokyo, from which the Joban Expressway runs across. On top of it, the area is one of the largest agricultural zones in the prefecture to supply various agricultural products such as “dried sweet potatoes” (accounting for 80% of the production nationwide) and “*koshihikari* rice” nourished with the clear stream of the Naka River. Recently, vegetables such as leeks and Chinese cabbages as well as greenhouse strawberries and tomatoes are also cultivated extensively.

## Purposes of the Project for Farming Irrigation along the Naka River

Farming irrigation has been developed along the Naka River since the Edo era. However, unstable water sources such as small rivers and reservoirs are still used in some areas. In places where the farming water is supplied from the Naka River, irrigation facilities have been increasingly aging every year. So, in the future, it will possibly become difficult to take water from the Naka River.

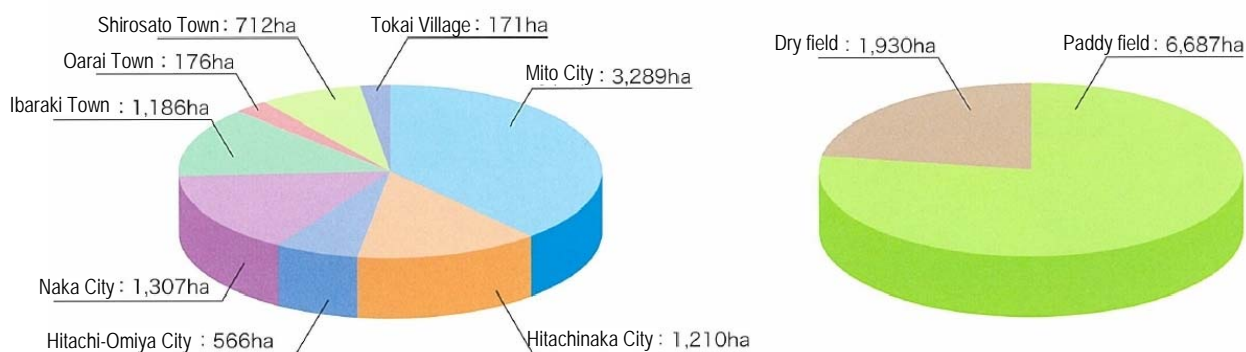
The agricultural sector is faced with increasingly severe issues such as aging of farmers and stagnant rice prices. To activate the agriculture in the area, it is essential to ensure stable supply of farming water from the Naka River, and it is vital to develop infrastructure for agriculture to improve the efficiency of agricultural management.

In these circumstances, this farming irrigation project will construct a new dam (Gozenyama dam) and a new pumping station to supply the surrounding area with water from the Naka River, and improve the aging facilities for farming irrigation. By comprehensive management of farming water in the basin of Naka River aiming at stable water supply, this project will make farm operation more stable and efficient, thereby improving food supply capability in the project area.

## Overview of the project

**1. Relevant municipalities:** Mito City, Hitachinaka City, Hitachi-Omiya City, Naka City, Ibaraki, Oarai and Shirosato Towns in Higashi-Ibaraki-gun, Tokai Village in Naka-gun. All belong to Ibaraki Prefecture.

**2. Beneficiary area:** 8,617 ha (paddy field 6,687 ha, dry field 1,930 ha)



**3. Main items of the project:** a new dam, renovation of a head works, a new pumping station and renovation of 4 pumping stations, water channels (new channel 61 km long, renovation 62 km long)

**4. State government-managed project cost:** 78.2 billion yen **5. Work period:** From FY1992 to FY2024

## Overview of the related projects

Project name	Operating body	Beneficiary area	Project items
Prefectural government-managed irrigation and drainage project	Ibaraki Pref.	4,660 ha	A pumping station, water channel 84.5 km
Infrastructure development project for fostering management bodies	Ibaraki Pref.	1,464 ha	Water channel improvement 1,397 ha, dry field irrigation 67 ha, and others
Prefectural government-managed comprehensive development project of dry fields	Ibaraki Pref.	1,817 ha	Water channel improvement 171 ha, dry field irrigation 1,609 ha, and others
Revitalization of agricultural, and forestry and fishing villages Subsidy for project support	TheNakagawa-engan Land improvement district, etc.	1,611 ha	5 pumping stations, water channel 50.1 km Improvement of water channel 96 ha, dry field irrigation 163 ha, and others

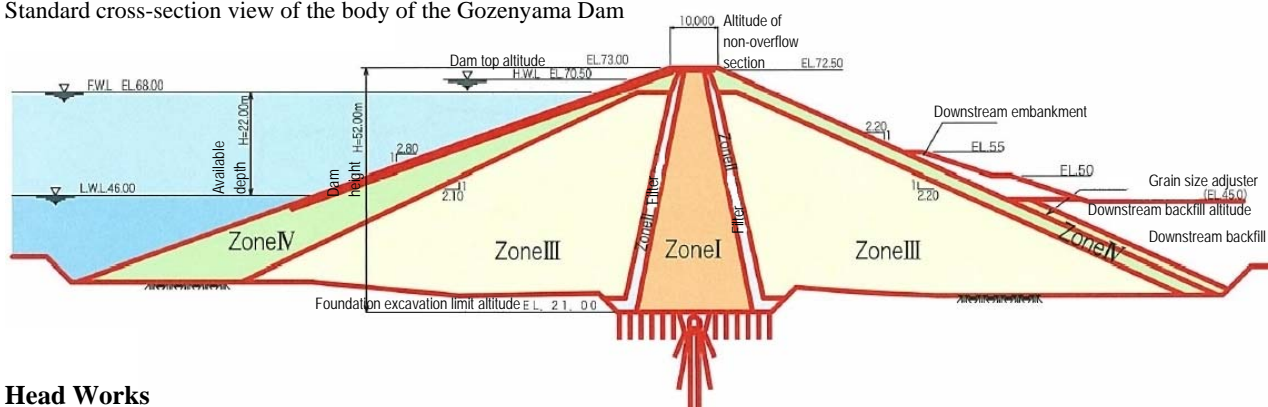
## Principal Works



### Specifications of the Gozenyama Dam

Type	A rockfill dam with central impervious zone		
Basin Area	23.3 k m <sup>2</sup>	Dam Height	52 m
Dam Top Length	298 m	Dam Volume	935,000 m <sup>3</sup>
Reservoir Capacity	7,200,000 m <sup>3</sup>	Active Storage Capacity	6,500,000 m <sup>3</sup>
Spillway Type	Free overflow side channel type	Energy Dissipater Type	Roller bucket type
Intakes Type	Inclined flume (porous)		

Standard cross-section view of the body of the Gozenyama Dam



### Head Works

Facility name	Classification	Type	Intake Amount (m <sup>3</sup> /s)	Height (m)	Length (m)
Obae head works	Renovation	Floating-type semi-movable weir	5.13	2.6	308.1

### Pumping station

Facility name	Classification	Type	Pumping rate (m <sup>3</sup> /s)	Total head (m)	Diameter (mm)
Nakagawa pumping station	New construction	Horizontal shaft volute type	1.95	112.5	φ 700 x 2, φ 350 x 1
Akazawa pumping station	Renovation	Vertical shaft volute type	0.72	30.0	φ 400 x 2, φ 150 x 2
Shimoedo pumping station	Renovation	Horizontal shaft volute type	2.3	52.0	φ 700 x 2, φ 150 x 2
Watari pumping station	Renovation	Horizontal shaft volute type	3.71	45.0	φ 800 x 2, φ 700 x 1
Osugiyama pumping station	Renovation	Horizontal shaft volute type	2.53	11.3	φ 800 x 2

### Water channel

Configuration	Classification	Length (km)	Principal Structures
Pipe lines	Newly constructed sections	61	Water pumps at three locations, outlet ponds at three locations and surge tanks at two locations

Concrete structures (linear walls, inclined walls, culvert tunnels) and pipe lines	Renovated sections	62	Water pumps at one location, outlet ponds at one location and a regulating reservoir at one location
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### Management Facilities

Facility Name	Classification	Scale	Configuration	Remarks
Water management facilities	New construction	Central Management Station (master station), slave station and sub-slave station	Remote monitoring	Auxiliary facilities to the water channels, the storage reservoir, the head works and the pumping station