

History

About
1200 years ago

The origins of the land

The Shonai Plain used to be a large lagoon, and it is said to have been formed by the accumulation of sediment carried by rivers.



712

Cultivation

Nara period.
National land development and legal system improvements have progressed.

Dewa Province was established in the Shonai Plain, and many pioneers settled there.

However, at that time, farming relied on unstable water sources such as streams and swamps, and there were always fears that even a short drought would lead to poor harvests.

1612

Edo period.
Roads and sea routes were developed and trade flourished.

Start of irrigation projects

Toshinaga Kitadate, the lord of Karikawa Castle, planned to help farmers who had suffered from a water shortage.

His plan was to construct an irrigation canal using the Tachiyazawa River as its source. The canal was later named "Kitadate Ozeki" after Toshinaga Kitadate.

With the completion of the Kitadate Ozeki, wasteland was gradually transformed into fertile farmland, and about 5,000 hectares of land was newly cultivated.



Today's Shonai Plain

Today, the Shonai Plain is famous as one of the major rice-producing regions in Japan.

The irrigation and drainage facilities have still been in use today, having been repeatedly improved and restored.



Access map

15, Kamibontenduka, Amarume-aza,
Shonai-machi, Higashitagawa-gun,
Yamagata



▲Our Website

National Drainage Project

“Mogamigawa Karyusagan”*

*It means the left bank area of the downstream Mogami River.

Overview

Due to the increase in rainfall in recent years and the increase in residential areas, water volumes exceeding drainage capacity are flowing into drainage facilities, and additionally, the facilities themselves are also deteriorating.

For this reason, we are reorganizing the drainage system, renovating old pumping stations and drainage canals, and developing drainage facilities through projects related with the national project. This will strengthen drainage functions to reduce flooding damage and reduce maintenance and management labor, thereby contributing to the maintenance and improvement of agricultural productivity and the stability of agricultural management.

Challenges

The irrigation and drainage facilities in the Mogamigawa Karyusagan area have been constructed through prefectural irrigation and drainage projects.

However, these facilities have been less effective due to climate change, such as increased rainfall, and an increase in residential areas.

Furthermore, due to the aging of the facilities, the drainage pumps are leaking oil and the walls of the drainage canals are damaged. These damages are reducing the drainage function and making maintenance of drainage facilities more difficult.

Flooding damage



Pumping station



Cracks due to aging

Drainage canal



Loss of masonry blocks due to aging

Pump



It's an old machine so replacement parts are not available.

Conceptional drawing of pumping station (CG)



Solution

Our project aims to improve the drainage capacity of the Mogamigawa Karyusagan area by reorganizing the drainage system, renovating old pumping stations and drainage canals, and building new pumping stations.

It will also establish a central water management system to manage the irrigation and drainage network for the entire region in an integrated and efficient manner.

The entire map of the Mogamigawa Karyusagan national drainage project

Chuo Pumping Station
(Renovation)



Renovation completed



Dokuja Pumping Station
(Renovation)



Renovation completed



Nishino Pumping Station
Under renovation as of 2025



Ikuta Pumping Station
Under Construction as of 2025

Central Water Management System
(Use the existing water management center)



Yamato Pumping Station
(Renovation)

Renovation completed



Nidanwari Pumping Station
(Renovation)

Construction scheduled in 2025



Legend	
	Rice field (Drainage Improvement)
	Pumping Stations (developed by a national project)
	Drainage Facilities (developed by related projects)
	Drainage Canals (developed by a national project)
	Drainage Canals (developed by related projects)
	Spillway (developed by a national project)
	Water Management System
	Existing drainage canals
	Existing irrigation canals
	Catchment area

Discharge volume of the pumping station		m ³ /s	
	before	after	comparison
Dokuja	9.33	12.9	+3.57
Yamato	6.65	12.2	+5.55
Nidanwari	2.84	2.9	+0.06
Chuo	5.31	11.2	+5.89
Nishino	4.45	8.8	+4.35
Ikuta	-	6.4	+6.40
Total	28.58	54.4	+25.82