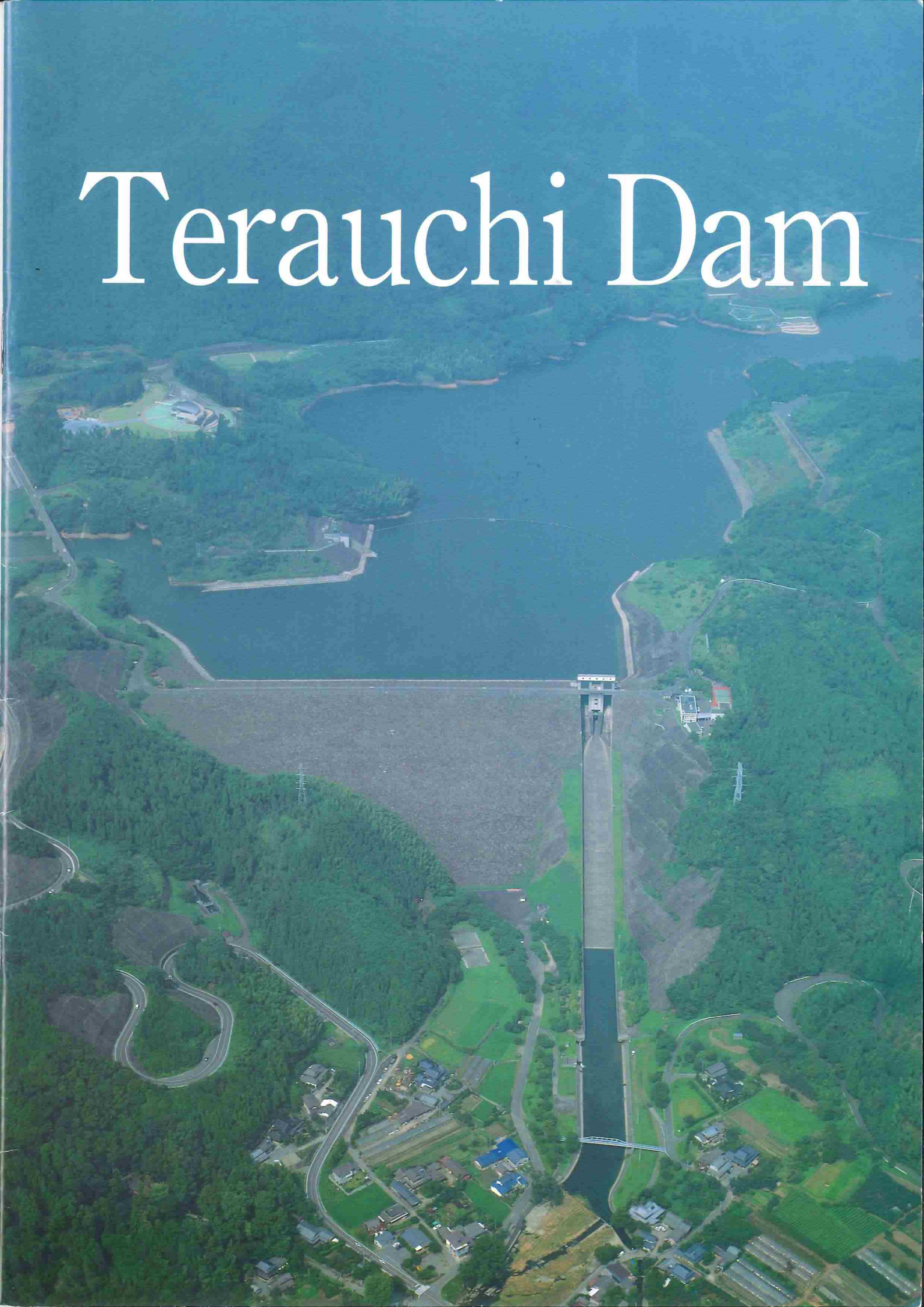


# Terauchi Dam



# The Chikugo River Basin and the JWA Projects

Within the Chikugo River system, the Japan Water Agency (JWA), formerly the Water Resources Development Public Corporation (WRDPC), supplies agricultural water to the Ryochiku Plain and the lower reaches of the Chikugo River, and city water and industrial water to the neighboring area. The JWA has been promoting flood control and the stable supply of necessary water in this region through the following six projects in the Chikugo River system.

## < Projects for the Chikugo River System >

- Projects under management ..... Terauchi Dam, Ryochiku Plain Irrigation Water (Egawa Dam), Chikugo Weir, and Chikugo River Lower Reaches Irrigation Water
- Project under construction ..... Oyama Dam
- Project under survey ..... Koishiwara Dam

(as of October 1, 2003)



## Background of the Terauchi Dam Construction

In June 1953 the seasonal rain front brought about overwhelming rainfall in northern Kyushu. It caused a record flood of the Chikugo River, overflowing and collapsing the embankments at many points throughout the length of the river. The damage included 147 deaths, and 1305 houses damaged or destroyed and 75,190 hectares of plow land washed away.

Since then, great efforts have been devoted to flood prevention of the Chikugo River including promotion of the river improvement and construction of the Matsubara and Shimouke Dams. In the medium and lower reaches of the Chikugo River, area maintenance ensuring higher safety has become necessary in view that assets of great value are increasing in the area as inland industrial districts and the bedroom communities of the Fukuoka metropolitan area. Thus, there was a review of the flood control programs.

For this purpose, a plan to construct the Terauchi Dam to control flooding in combination with the upstream dams of the Chikugo River was proposed, with 9,000 m<sup>3</sup>/s for the design flood discharge at the Senoshita point downstream.

## Chronology Up To the Completion of the Terauchi Dam

Dec. 22, 1970	The Terauchi Dam Construction Project indicated in the partial amendment of the Master Plan of Chikugo River System Water Resources Development.	Dec. 10, 1973	A fishery compensation agreement with the Chikugo River Fishermen's Cooperative Association signed.
Feb. 1, 1971	The Terauchi Dam Survey Office set up.	Mar. 29, 1974	A construction order for the Terauchi Dam placed.
Mar. 30, 1971	A memorandum concerning technical and engineering surveys executed with the Terauchi Dam-Site Land Owners Association.	Apr. 15, 1974	Stream flow diverted to diversion channel.
Jul. 11, 1971	A letter of confirmation on the implementation of individual parcel of land survey and compensation survey executed.	Apr. 30, 1974	Excavation of dam body foundation began.
Dec. 26, 1971	Compensation standards announced.	Dec. 14, 1974	Service of diversion roads commenced.
Mar. 25, 1972	An implementation policy concerning the Terauchi Dam Construction Project presented by the competent minister.	Mar. 21, 1975	Dam body rock filling began.
Apr. 1, 1972	The Terauchi Dam Construction Office established.	May 27, 1975	Dam body core (I-B) filling began.
Aug. 9, 1972	The Terauchi Dam Compensation Standards signed.	Jun. 13, 1975	Dam body filter filling began.
Dec. 22, 1972	A public property compensation agreement with Amagi City signed.	Aug. 23, 1975	Dam body core (I-A) filling began.
Dec. 25, 1972	An implementation plan of the Terauchi Dam Construction Project approved.	Nov. 12, 1975	Cornerstone laying ceremony
Dec. 27, 1972	An order for diversion channel construction placed.	Dec. 21, 1976	Dam body core filling completed.
Feb. 24, 1973	An order for diversion road construction placed.	Feb. 17, 1977	Dam body filter and rock filling completed.
Sept. 6, 1973	A public property compensation agreement (measures for affected upstream and downstream areas) signed with Amagi City.	Feb. 18, 1977	The competent minister gave instructions for the amendment of the implementation policy of the Terauchi Dam Construction.
Nov. 12, 1973	Fishery compensation agreement with the Amagi Fishermen's Cooperative Association signed.	Mar. 10, 1977	Intake facility construction work completed.
		Mar. 12, 1977	Amendment of the implementation plan of the Terauchi Dam Construction Project approved.
		Mar. 12, 1977	Outlet facility construction work completed.
		Mar. 22, 1977	Inspection of the Terauchi Dam by the Minister of Construction for partial service
		Apr. 13, 1977	Test impoundment commenced.

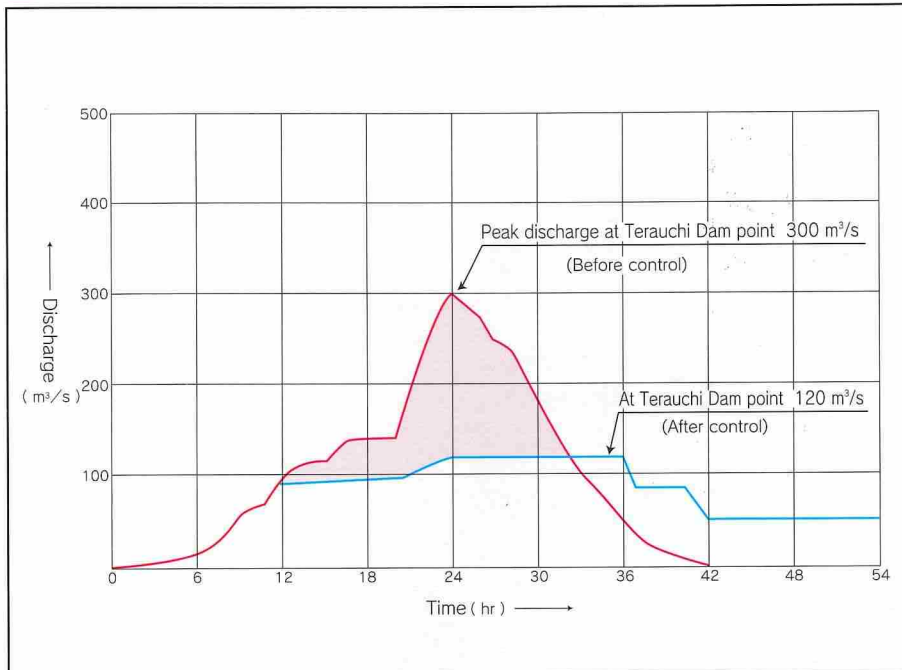
# Objectives of the Terauchi Dam

The Terauchi Dam is the first rock fill dam constructed by the Japan Water Agency (formerly the Water Resources Development Public Corporation). Its operation and management started on June 1, 1978 for the following objectives:

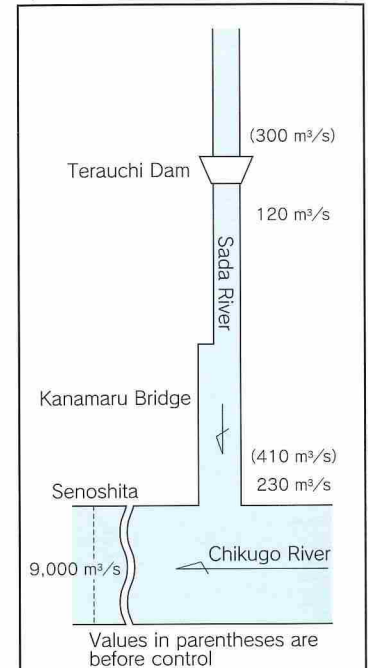
## 1 [Flood Control]

In combination with flood control operations at the Shimouke Dam, Matsubara Dam and other upstream dams, flood discharge downstream of the Chikugo River is reduced by 180 m<sup>3</sup>/s from the design flood discharge, 300 m<sup>3</sup>/s, at the Terauchi Dam point.

### Flood Control at the Terauchi Dam



### Discharge for River

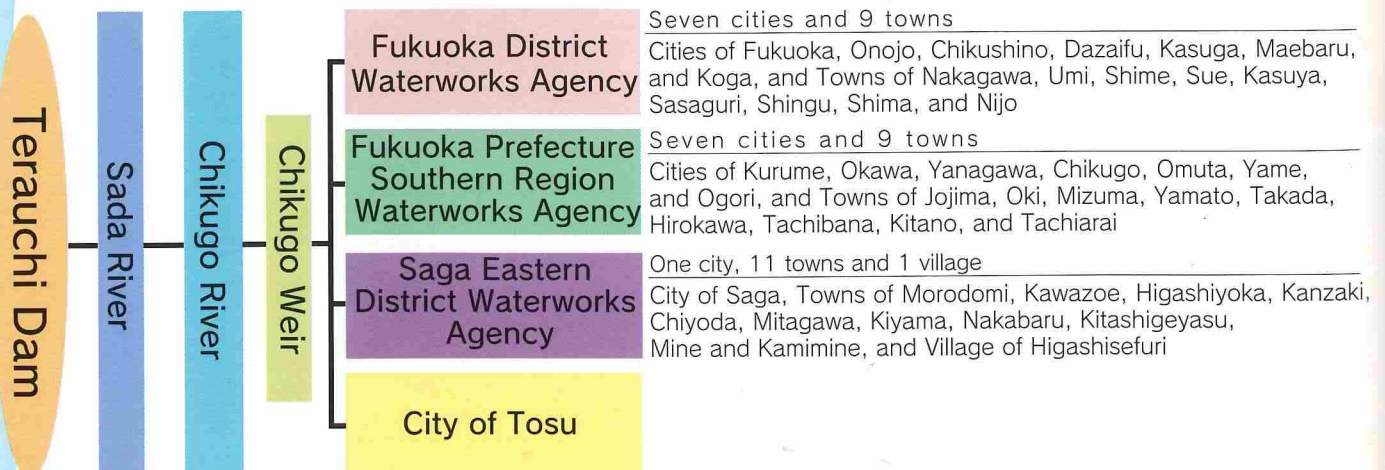


## 2 [Stable water supply for conventional use & conservation of the river environment]

Flow rate necessary for stable water supply to the lower reaches of the Chikugo River for conventional use and conservation of the river environment is ensured.

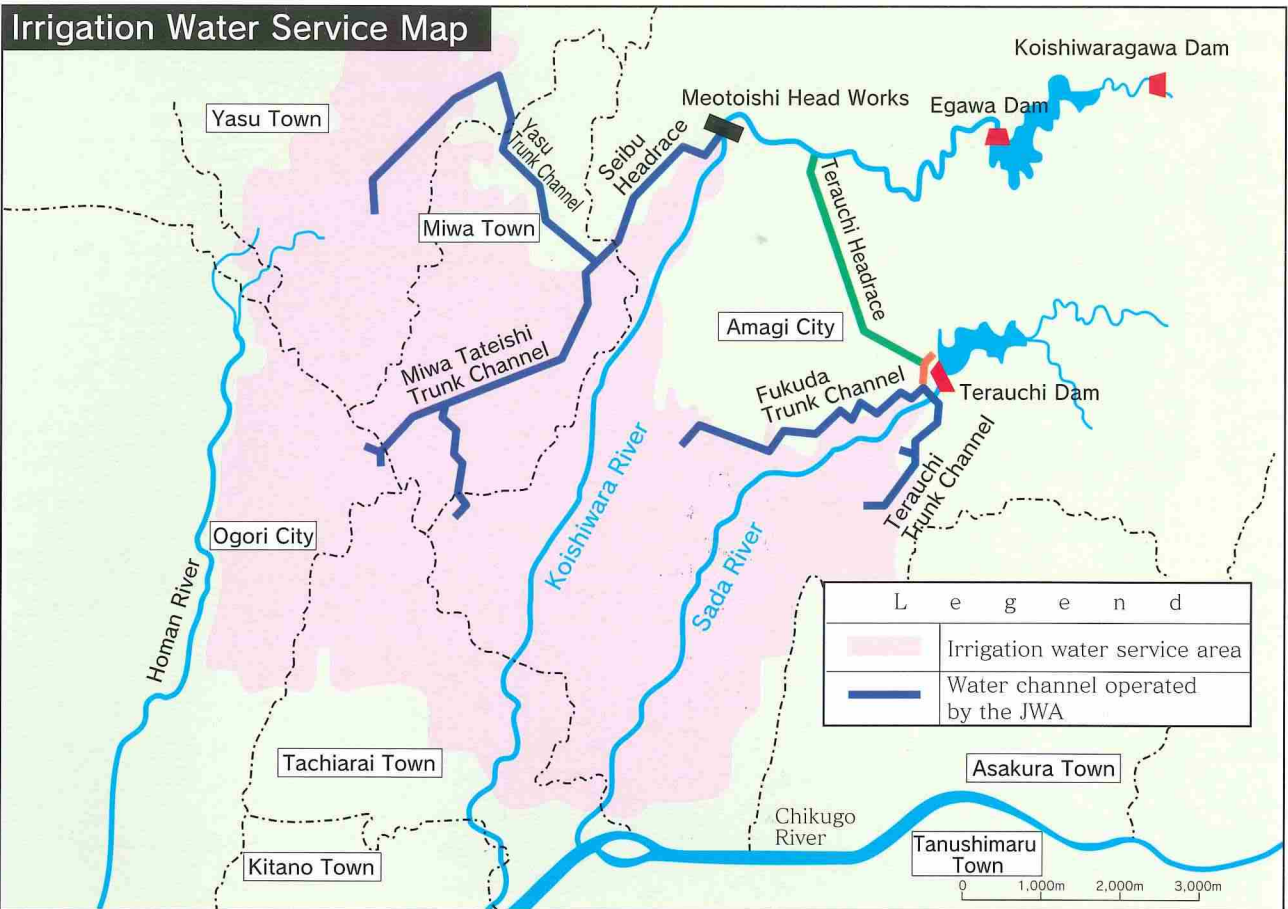
## 3 [City water supply]

At Senoshita point, the Terauchi Dam supplies 3.650 m<sup>3</sup>/s max. in total, with 1.669 m<sup>3</sup>/s max. to Fukuoka District Waterworks Agency, 0.777 m<sup>3</sup>/s max. to Fukuoka Prefecture Southern District Waterworks Agency, 1.065 m<sup>3</sup>/s max. to Saga Eastern District Waterworks Agency, and 0.139 m<sup>3</sup>/s max. to Tosu City, through coordinated utilization with the Egawa Dam (Ryochiku Plain Irrigation Water Control Office).

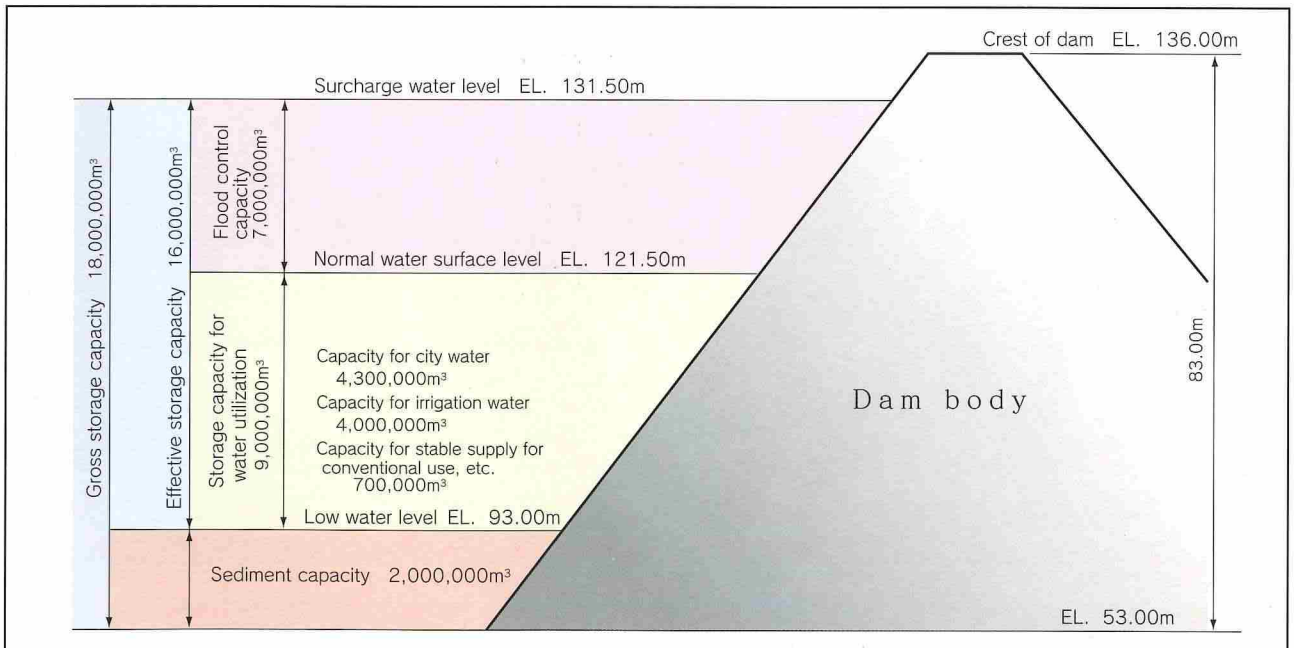


## 4 [Irrigation Water]

2.51 m<sup>3</sup>/s of irrigation water is supplied on average, 8.05 m<sup>3</sup>/s at max., to roughly 5,900 hectares of farmland in two cities and three towns on Ryochiku Plain in coordinated operation with Ryochiku Plain Irrigation Water Control Office.



## Reservoir Capacity Allocation



## Coordinated utilization with the Egawa Dam

The Koishiwara and Sada Rivers are linked with Terauchi Headrace. While the uncontrolled flow of the Sada River flow exceeds the required discharge at the Terauchi point, the water is directed to the Koishiwara River at 1.0 m<sup>3</sup>/s at the max. to utilize it for irrigation and city water supply, etc. In contrast while the Terauchi Dam suffers a shortage of the supply of irrigation water, irrigation water from the Egawa Dam is directed to the Sada River at 1.702 m<sup>3</sup>/s at the max. for irrigation of the Sada River system.

# Terauchi Dam Statistics and Construction

## Terauchi Dam Statistics

D a m		& R e s e r v o i r	
River system	Chikugo River	Reservoir surface area	0.9 km <sup>2</sup>
River name	Sada River	Reservoir length	4.5 km
Location (left bank)	Aza Ebira, Oaza Inaibaru, Amagi City, Fukuoka Prefecture	Surcharge water level	E L. 131.5 m
Location (right bank)	Aza Ikebe, Oaza Inaibaru, Amagi City, Fukuoka Prefecture	Normal water level	E L. 121.5 m
Catchment area	51.0 km <sup>2</sup>	Low water level	E L. 93.0 m
Geology	Black schist	Total storage capacity	18,000,000 m <sup>3</sup>
Type	Rock fill dam	Effective storage capacity	16,000,000 m <sup>3</sup>
Dam height	83.0 m	Sediment capacity	2,000,000 m <sup>3</sup>
Crest length	420 m	Design flood discharge	300 m <sup>3</sup> /s
Crest width	10.0 m	Design discharge	120 m <sup>3</sup> /s
Dam body volume	Roughly 3,000,000 m <sup>3</sup>	Control by dam	180 m <sup>3</sup> /s
Non-overflow crest elevation	E L. 136.0 m		

Compensation for Dam Construction	Resettlement	L a n d		R o a d		Fishery
	58 households	Rice paddies	19 hectares	Diversion	4.6km	2
		Dry field	10 hectares	prefectural	6.9km	
		Forest land	82 hectares	roads		
		Housing land	3.5 hectares	Diversion		
		Others	0.5 hectares	municipal and forest roads		

## Top View

