Overview of the Project

The Oku-Susobana Dam is a multi-purpose dam built mainly for flood control, as well as for hydropower generation and water supply as part of the Upper Susobana River Integrated Development Project.

The construction of the dam was completed with a subsidy from the government spending eight years from the fiscal 1972 to 1979, at a cost of 7.5 billion yen.

FLOOD CONTROL----------We Secure Safety and Assurance for the Lower River Region

The dam protects the lower river region from floods using 2,550,000m^3 of water from the altitudes between 871.00m (normal water level) and 861.00m (normal water level in flood season), decreasing the outflow discharge to 190m^3/s by storing 220m^3/s of water out of 410m^3/s of designed flood discharge (100 year probability) in the dam.

WATER SUPPLY--We Supply Water to Households in Nagano City and the Kinasa Area

As a new water resource, the dam supplies homes in Nagano City with water of 32,250m^3/day and homes in the Kinasa area with water of 538m^3/day, using 600,000m^3 of water between the altitudes of 860.00m (water level for secure water supply) and 856.50m (lowest water level).

HYDROPOWER GENERATION-----We Supply Stable Electricity to Local Communities

At Oku-Susobana Power Plant directly under the dam, electricity is generated using 150,000m^3 of water between the altitudes of 861.00m and 860.00m during the flood season, and using 2,700,000m^3 of water between the altitudes of 871.00m and 860.00m during the non-flood season, resulting in the maximum output of 1,700KW of electricity (maximum water-intake: 4.0m^3/s).

OVERVIEW OF DAM

Type		Concrete gravity dam
Height		59m
Crest Length		170m
Crest Width		4m
Volume		152,000m³
Catchment Area		65.0m²
Surface Area		0.3m²
Crest Altitude		873.00m
Estimated High-Water Discharge		410m³/s
Adjusted Discharge		220m³/s
Design Effluent Flow		190m³/s
Estimated Sedimentation Amount		2,100,000m³ (100 years)
Outlet Facilities		Crest gate 8.0m x 5.5m 2 units Qmax=500m³/s Conduit gate 3.6m x 3.6m 1 unit Qmax=250m³/s Water utilization outlet valve ⌀38cm (Howell-Bunger valve) Qmax=3.0m³/s
Electric Facilities		Power receiving transformer 100KVA x 1 20KVA x 1
Radio Facilities		Standby generator 100KVA, 75KVA Disaster control radio system 70.41MHz 71.82MHz 72.00MHz
Monitoring System	Precipitation Station	Telemeter 2 locations
	Water Level Station	Telemeter 3 locations
	Meteorological Observation	Thermometer, Rain gauge, Hygrometer, Snow gauge, Barometer, Atmometer, Anemovane,
	Dam Body Observation	Leakage gauge 23 locations, Uplift gauge 6 locations Deflectometer 1 location
Alarm System	Monitoring Control Station	1 location
	Alarm Station	22 location (including dam site)
	Relay Station	1 location
	Electric Display	1 unit
	Alarm Sign	26 units
Miscellaneous	Patrol Ship	1 unit
	Warning Vehicle	1 unit
Ground breaking		April, 1972
Completion		March, 1980
Project Cost		¥7,575,000,000

OVERVIEW OF HYDROPOWER GENERATION

Type	By dam
Discharge for Maximum Power	4.0m³/s
Effective Head	53.68m
Maximum Output	1,700KW
Annual Power Production	8,995,000KWh

OVERVIEW OF WATER SUPPLY

Name of Waterworks	Nagano City waterworks (Oku-Susobana Dam only)	Kinasa Small Water System
Location of Water Intake	Iriyama, Nagano City	Kosade, Kinasa, Nagano City
Water Supply	30,000m³/day	500m³/day
Water Intake	32,250m³/day (0.374m³/s)	538m³/day (0,006m³/s)

COST ALLOCATION

Expenditure	Percentage
Flood Control	90.8%
Water Supply	8.1%
Hydropower	1.1%