

Flood Control in Thailand

International Affairs Department

1. Stormwater Drainage (Flood Control)

In Japan, sewerage is responsible for wastewater disposal and stormwater drainage in urban areas. However, different departments often handle overseas wastewater disposal and stormwater drainage (flood control). In Thailand, the river management department is responsible for and concentrates on flood control.

This article reports the current situation of the organizations in charge of stormwater drainage in Thailand.

2. Thailand's topography and history of flooding

(1) Overview of the topography



North: A mountain range area with Mt. Doi Inthanon (2565m: highest peak) and the Nan and Ping Rivers, tributaries of the Chao Phraya River, flow through it.

Central region: A vast plain through which the Chao Phraya River flows, this is the center of various industries, including agriculture, and is home to the capital city of Bangkok and the ancient city of Ayutthaya.

Northeastern region: A plateau separated from the central area by a mountain range, where rainfall flows into the Mekong River. This region has a dry climate and is not very suitable for agriculture.

South: This region, part of the Malay Peninsula, has beautiful beaches and islands facing the Andaman Sea and the Gulf of Thailand.

(2) History of flooding

Because the rain that falls in the north and west of the country is concentrated in the Chao Phraya River, the central region is prone to flooding, and in 1942, 1978, 1983, 1995, 2017, 2018, 2019, 2020, 2021, and 2022, causing extensive damage.

*As of September 2024, the Ping River in Chiang Mai is currently flooding.

The 2011 floods lasted for five months, from July to December, affecting 58 provinces from the northern to central regions of the Chao Phraya River basin, including Bangkok. They resulted in more than 800 deaths and approximately 2.3 million people affected. At the time, Thailand's GDP growth rate decreased by 3.7%, and the economic loss amounted to approximately 3.6 trillion yen.

As the flooding at this time was widely reported in Japan, many people will remember images of Japanese car manufacturers whose finished cars were submerged and the rise in PC prices due to damage to electrical manufacturers that manufacture hard disk drives.

3. Water Management (Flood control) in Thailand

The Department of Water Resources (DWR) of the Ministry of Natural Resources and Environment oversees water resource management on a river basin scale, the Royal Irrigation Department (RID) of the Ministry of Agriculture and Cooperatives manages irrigation facilities, and the Electricity Generating Authority of Thailand (EGAT) manages dams for power generation.

In 2002, the Department of Disaster Prevention and Mitigation (DDPM) was established within the Ministry of Interior by integrating disaster prevention and mitigation organizations.

However, the municipalities and the Royal Irrigation Department, which are responsible for administrative divisions, respectively, install and operate drainage pumping stations, and consistency of river management is not being ensured.



To Chao Phraya River

Drainage pump station on the Chao Phraya tributary (6m³/sec x 20 units)

*A maximum of 10 units can be operated simultaneously (spare units & power supply situation)

4. Focus on flood control as a high-priority infrastructure investment

Flooding directly impacts human life and the economy, so there is a high public demand for improvements. It is said that flood control is one factor that influences the election of the heads of local governments.

In Thailand, it seems that the approaches taken by the Japanese sewerage sector would be more effective if they were not limited to wastewater treatment but also included activities in the flood control sector, such as stormwater and flood control, and in the water resource development sector.