

THAI WATER RESOURCES

Thailand revises plan for water resources management amid climate change pressure

Thailand is taking stock of its water resources in preparation for coming dry seasons and increased demand. GWI discussed the key challenges and solutions with the country's top water agency.

As climate change is increasingly straining water resources in Thailand, a multipronged water management strategy could present new opportunities in water transmission, non-revenue water (NRW) reduction and alternative water supply solutions.

After an arid first half of 2020, Thailand's central water agency, the Office of the National Water Resources (ONWR) is now using the respite of the rainy season to have a water management rethink which it hopes will achieve improved water allocation and distribution, increased efficiency and reduced reliance on surface water.

Dr Somkiat Prajamwong, secretary-general of the ONWR told GWI that due to drought for a couple of years, the agency is having to revise all the procedures of water management during the current monsoon season. "We have to prepare the plan until the next dry season, so I think the water management all year around has changed. [It is] not like only six months, we have to plan for all year round," Dr Somkiat told GWI.

ONWR, formed in 2017, is a key part of the country's water strategy alongside a new water law and a water masterplan covering the period 2018 to 2037. The agency's expected budget has been reduced due to the need to redirect money towards COVID-19, but the government may try to propose a loan for water activities in the long term as the sector is still a priority.

First of all, the demand side as well as the supply side requires work. "We have to decrease the demand and also increase the efficient use of water," Dr Somkiat said. With distribution systems currently experiencing up to 30% losses in the Eastern Economic Corridor and varying levels of losses elsewhere in the country, there is room for work on the NRW reduction side.

Reaching out to the public about storing water as much as possible during the rainy season will also be a key part of the strategy, but has been made harder by COVID-19 as face-to-face consultations have had to be suspended.

On the supply side, meanwhile, the challenge is to balance requirements from

PLANNING FOR ALL SEASONS

Dr Somkiat Prajamwong, head of Thailand's Office of the National Water Resources (ONWR) is overseeing a new year-round water management strategy in the face of increasing demand and unevenly distributed resources.



Source: ONWR

municipalities, industry, tourism, and agriculture, with resources not always evenly distributed. "We have [had] some insufficient rainfall, around 10% less than usual, but when we think about the distribution of the rainfall some areas have probably seen 40% less compared to the average rainfall," Dr Somkiat told GWI. To address this, ONWR wants to pump water from downstream into upstream reservoirs which have seen less rain, as despite the high associated energy costs there may no longer be a cheaper option. Planned projects under the country's water masterplan also include several water transmission projects and distribution systems.

Another recent development facilitating allocation is managing water by the river basin, with Thailand introducing new river basin committees this year. "This is the first year we are trying to encourage all the basin committees to formulate a seasonal water allocation plan, so they know how much [water they need] and where they can get the water," Dr Somkiat said, explaining that if the demand is more than this, they

have to request water through a mechanism of the basin committees.

In Thailand's industrial flagship area, the Eastern Economic Corridor, demand is likely to outstrip supply in 20 years' time. "We believe that demand will be increased up to almost 3 billion m³ per year," Dr Somkiat explained, an increase of around 600 million m³ from current levels. Additionally, 200 million m³ in water reserves will be required for the area.

While new storage dams are planned, some may not be possible to construct due to economic and social impacts. This will require a shift towards wastewater reuse and desalination to replace some of the surface water, with major efforts towards encouraging reuse already underway and studies ongoing for a potential desalination plant (see *GWI June 2020*, p34). Dr Somkiat said that on the reuse side, there has to be a discussion on the municipal side too, with cities like Pattaya generating large amounts of wastewater. The possibility of using groundwater resources for drinking water in the region is also being explored. ■