

Bigger dam won't solve water supply issues: Penang Water Corp

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Low water reserves at the Air Itam dam are not due to inadequate dam capacity but due to lack of rainfall in the dam's catchment area, while dealing with high demand for water in Air Itam and its surrounding areas, says PBAPP. – PBAPP Facebook pic, April 12, 2022

GEORGE TOWN – Even though the water levels in Air Itam dam are running dangerously low, expanding the dam is not a solution to the problem as the water catchment area (WCA) is still the same size, said Penang Water Supply Corporation (PBAPP) in a statement today.

Its chief executive officer Datuk Jaseni Maidinsa explained that expanding the Air Itam dam to cater for increasing water demand might sound like a good idea, but it does not “hold water” from a professional water supply engineering standpoint.

The low water reserves are not due to the inadequate dam capacity but due to the lack of rainfall in the dam's catchment area, while at the same time the reservoir is dealing with high demand for water in Air Itam and its surrounding areas, he said.

“Building a bigger Air Itam dam does not make sense.

“Water supply engineers will propose to increase the size of a dam only if rainfall data shows that its WCA (or raw water resource, such as a river) can deliver more water than the existing maximum capacity of the dam.

“Expanding the Air Itam dam without increasing the size of its WCA is akin to pouring the same amount of soup from a smaller bowl into a bigger bowl,” the statement read.

Another reason why a bigger dam is not needed is due to the original engineering of the dam, whereby it was designed to be filled and refilled by rainfall in the surrounding Air Itam WCA that can safely withstand pressure of up to 2.16 billion litres of effective water capacity.



Even if the dam enlargement would take place, it would involve extensive re-engineering and re-building works, which will require shutting down the dam, which is not feasible as it could deprive some people living in Air Itam and its surrounding areas of water supply for several years.

There are also dangers involved with this proposed expansion due to the topography.

The dam is located in a hillside valley, surrounded by higher hills, with its crest at 243.8m above sea level, and its top water level is 235m above sea level.

Below it is the iconic Kek Lok Si temple and the Air Itam township.

Any expansion will threaten the safety of the public.

Jaseni ensures the public that Air Itam and the state of Penang have enough water supply until 2030.

The corporation's Raw Water Contingency Plan 2030 (RWCP 2030) encompasses the following projects:

- i. Phase 2, Sungai Dua Water Treatment Plant (WTP) Sedimentation Tanks Upgrades Package 12A, Sungai Dua WTP
- ii. Phase 1 Mengkuang Dam WTP
- iii. Phase 1 Sungai Muda WTP and Sungai Perai Water Supply Scheme with a total projected yield of 569 million litres per day

"PBAPP would like to reassure the public that the RWCP 2030 has been thoughtfully engineered to help in addressing water supply issues in all areas throughout the state, including high ground or end-of-line areas Air Itam, Bukit Gedung and Seberang Perai Selatan," said the statement.

It added that the plan will significantly reduce the risks of a water supply crisis in Penang until 2030, especially during extended dry seasons related to climate change.

After 2030, the company's Penang Water Supply Initiative 2050 (PWSI 2050) has recommended the deployment of desalination plants in strategic areas to ensure water supply sufficiency until 2050.

However, this depends on the final outcome of the Sg Perak Raw Water Transfer Scheme proposal which is subject to implementation by the federal government.

"If we think rationally, we know that Penang does not need a bigger Air Itam dam.

"It needs the timely and precise implementation of the RWCP 2030 and PWSI 2050 projects to ensure continuous good water supply services until 2050," he said.