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Climate change and attitudes

# Key water management challenges

BY PUTI IYLIA MAISARAH

**KUALA SELANGOR:** Without any sense of guilt, tap water flows freely into drains, turning into waste. This may be attributed to the persistently low water tariffs, despite recent hikes.

This scenario is not imaginary; it's a reality often observed in many premises and homes across the country, prompting the question of how long Malaysians will continue to take the prudent use of water lightly.

More worryingly, a joint study by the National Hydraulic Research Institute of Malaysia (NAHRIM) and the Malaysian Administrative Modernisation and Management Planning Unit (MAMPU) projects that the country may face a prolonged drought from this year until 2035.

Adding to the concern, the same study also predicts a temperature increase of 0.6 to 0.9 degrees Celsius during that period, resulting in an extreme drought

season.

The outcome is clear: raw water resources will decline, affecting water supply for the public and economic sectors, as experienced during the droughts of 1997-1998 and 2015-2016.

Participating in the Water Resources Expedition 2024, tracing the Bernam and Selangor River basins organised by the Department of Irrigation and Drainage (DID) Malaysia over two days and one night in late October, opened my eyes to the critical importance of water conservation.



SG Selangor Dam in Kuala Kubu Bharu.

## Key to water supply

Our first destination, along with about 70 participants from various government agencies, non-governmental organisations (NGOs),

researchers, media practitioners, and influencers, was the Sungai Selangor Dam in Kuala Kubu Bharu, one of seven dams in Selangor.

According to a briefing by officials from Air Selangor Sdn Bhd, this dam is the largest in the state, with a capacity of 230 million cubic

metres, supplying over 60 per cent of household needs in the Klang Valley, including Kuala Lumpur, Putrajaya, and most of Selangor.

Despite its robustness in water storage, the dam is not exempt from the threat of drought. In 2014, it recorded its lowest water storage level of 31.12 per cent in April, nearing the critical level of 30 per cent.

(The country's drought season usually occurs during the Southwest Monsoon, characterised by minimal rainfall, from May to September.)

At the time, authorities implemented a month-and-a-half-long water rationing. The dam's water storage only increased to 40 per cent about five months later, following weather changes that brought rain.

## The myth of Ampang Pecah

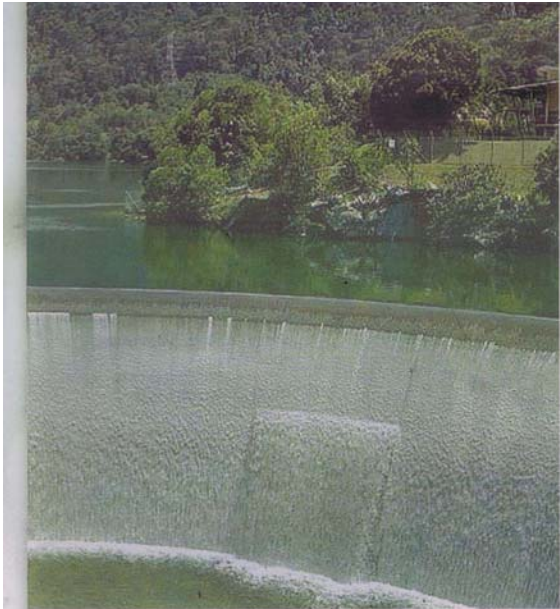
Participants were then taken to Alor Lempah, Ampang Pecah, in the area, the site of an old dam.

Popularly known among locals as the 'Mini Niagara Waterfall', the area





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is a weekend attraction for picnics and recreation. Its wide, clear waters also draw photography enthusiasts.

We learned of a myth behind the name Ampang Pecah, involving a white crocodile that rampaged after its keeper was killed, causing the dam to break and flood the entire Kuala Kubu town and surrounding areas.

Historically, the tragedy occurred in 1883, claiming 33 lives, leading to the birth of the Kuala Kubu Bharu town we know today.

Sharing this history, DID officer Larifah Mohd Sidek explained that the dam was built by locals in 1780 to support tin mining activities and served as a water reservoir and fish farming site.

However, following British colonisation in Selangor, the area's economic potential caught their attention. Cecil Ranking, then revenue collector and magistrate of Hulu Selangor, proposed establishing a new town named Kuala Kubu.

Ranking's vision was cut short when the over-100-year-old dam

broke, resulting in floods that claimed his life.

Water treatment process

To enhance participants' understanding of clean water supply, we visited the Sungai Selangor Phase II Water Treatment Plant in Bestari Jaya (formerly known as Batang Berjuntai). This facility provides treated water to 20 per cent of the Klang Valley population.

Here, we were briefed on the process of producing treated water, starting with pre-treatment to remove unpleasant odours and tastes, followed by further steps.

In the next stage, raw water undergoes coagulation and sedimentation processes, where small particles in the water combine into larger clumps and settle at the tank's bottom as sludge.

The water is then filtered through sand to remove residual dirt and solids, resulting in clean and clear water. This treated water is further processed with chemicals and

disinfectants to eliminate parasites, bacteria, and viruses. At this stage, fluoride is also added.

The entire process highlights the complexity faced by authorities in supplying clean treated water to users, who still largely take water conservation lightly.

Water quality

Generally, the water supplied to consumers in the country is safe, with more than 90 per cent of the supply meeting the standards set by the Ministry of Health Malaysia, except in some rural areas and districts that still face pollution issues and inconsistent water quality.

Although tap water provided to consumers is, in principle, safe to drink, the risk of contamination remains, especially when it travels through residential piping systems, according to researcher and lecturer Dr Mohd Sofiyah Sulaiman from Universiti Malaysia Terengganu (UMT), who also participated in the expedition.

"Typically, water processed at the treatment plant is safe for consumption. However, as it is channelled to residential areas, issues can arise if some pipes are old and require replacement.

"To maintain the safety of drinking water, comprehensive measures are necessary, including the large-scale replacement of old pipes—a process that will undoubtedly involve significant expenditure," he told Bernama.

Pollution threats

Beyond climate-related threats, Malaysia's water supply system often faces contamination risks, prompting authorities to shut down water treatment plants and directly impacting consumers.

Despite stringent legal penalties, such incidents persist, often involving factories discharging

pollutants into drainage systems that eventually contaminate rivers.

To strengthen enforcement, the Selangor Water Management Authority (LUAS), a state agency, operates under the provisions of the LUAS Enactment 1999.

According to LUAS Environmental Control Officer, Bidasari Bahashim, water pollution enforcement falls under Section 79 of the enactment.

"LUAS has a well-trained team operating 24/7 in major river basins like the Langat River to monitor odours and inspect for contamination. Reports from residents, agencies, or Air Selangor help LUAS identify potential issues, and they usually respond within four hours," she said.

In August 2024, LUAS introduced a return water regulation under its 'Zero Discharge Policy' to manage wastewater and pollutant discharges. This policy encourages factories to recycle the water they use.

"When factories treat their wastewater before discharging it into rivers, the volume of discharged water and pollutants determines the fees they must pay. The more they discharge, the higher the cost.

"This fee system has prompted many factories to optimise water usage and recycle more efficiently, reducing discharges into rivers," she added.

She noted that odour pollution is a common issue but can be quickly addressed with cooperation and proactive roles from all related parties.

Role of water resources in firefly survival

Our next destination was the Firefly Sanctuary in Kampung Kuantan, Kuala Selangor, to witness the mesmerising glow of fireflies, a major attraction for local and international tourists.

The sanctuary received the international Placemaker Awards

ASEAN 2021 for its exceptional ecosystem conservation efforts. This enchanting phenomenon of 'lights' can only be witnessed in two locations — Kampung Bukit Belimbing and Kampung Kuantan.

At the jetty, we boarded a sampan to cruise along the Selangor River, enjoying a serene and peaceful night, accompanied by the sound of flowing water and nocturnal insects. A cloudless sky unveiled a blanket of stars, amplifying the beauty of the night.

The Kampung Kuantan journey offered more than the enchanting sight of fireflies; it provided valuable insights into the delicate balance of ecosystems and habitats vital to their survival. These insects rely heavily on water conservation, as they thrive among the mangrove trees (berembang) that line the area.

The water level of the Selangor River plays a crucial role in maintaining the balance for the firefly colonies. Higher water levels boost humidity and food availability, encouraging greater reproductive activity among the fireflies.

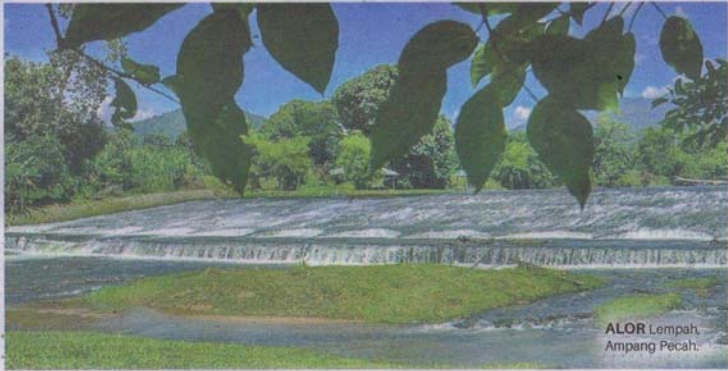
However, the chairman of the Kampung Kuantan Firefly Rowing Association, Shahril Adlan Ahmad, noted that the glow of fireflies in the area is dimming, indicating a decline in their population. This aligns with findings from the Forest Research Institute Malaysia (FRIM), which reported that the firefly population in the area has dropped to about 60 per cent of its previous numbers.

Shahril, who has 26 years of experience as a sampan rower, emphasised the fireflies' sensitivity to threats.

"Fireflies are still here, but their numbers are significantly lower compared to 20 years ago. The difference is evident.

"Open burning and deforestation have disrupted their breeding habitats," he said, adding that motorised boats are prohibited at night to avoid disturbances from odours and smoke. — BERNAMA

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ALOR Lempah, Ampang Pecah.