

Headline	`climate change and attitudes`		
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Sungai Selangor Dam in Kuala Kubu Bharu is the largest dam in the state, with a capacity of 230 million cubic metres. — Bernama photos

By Puti Ilyia Maisarah

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 is 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, carried out 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.

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 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 that we know today.

Sharing this history, DID officer Larifah Mohd Sidek said 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

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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 (MoH), 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 Sofiyani 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 last year, 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.

According to her, 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' (small boat) 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 'berembang' (mangrove trees) lining 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 was dimming, indicating a decline in their population.

This aligned with findings from the Forest Research Institute Malaysia (FRIM), which reported that the firefly

population in the area had 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.

'Mudballs' for treating polluted water

On the final day of the expedition, we visited the

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JPS Irrigation Gallery in Kuala Selangor to explore water resource management, particularly irrigation for padi fields in Tanjung Karang, part of Selangor’s rice bowl area.

Here, we observed natural water filtration techniques using materials like charcoal, sand, and stones, demonstrated by Mohd Sofiyan from UMT.

This process provided participants and the writer with a basic understanding of simple, fast, and effective methods for producing clean water.

Additionally, we learned how to create ‘mudballs,’ which contain beneficial microorganisms (BIM) that naturally treat polluted water. This was demonstrated by Prof Nabsiah Abdul Wahid from Universiti Sains Malaysia.

“These mudballs can be used in ponds, lakes, rivers, and drains.

“The more mudballs produced, the more effective they are in improving water quality. They can also be applied in agriculture, aquaculture, and livestock farming,” she said.

She described using mudballs as a cost-effective and efficient approach, as it would not only boost the BIM population, but would also distribute them in the water, enhancing pollution treatment.

Following a hands-on session of tossing mudballs into the JPS Selangor gallery pond, we embarked on a scenic cruise along the Selangor River. The journey offered views of lush green padi fields and a glimpse into the local community’s lifestyle, which depends on farming and harvesting resources from the river and sea.

Lesson learned
At the end of the programme, the JPS deputy director-general (specialist sector) Datuk Rozaman Mohamad stressed the importance of conserving water resources.

He quoted the lyrics of the song ‘Bengawan Solo’ (Solo River), written and performed by Indonesia’s Gesang Martohartono in 1940:

“Musim kemarau, tak seberapa airmu,
“Di musim hujan, air meluap sampai jauh,
“Mata airmu, terkurung gunung seribu,
“Air Meluap sampai jauh,
“Dan akhirnya ke laut.”
(‘In the dry season, your water is barely there;
‘In the rainy season, it overflows far and wide;
‘Your spring, surrounded by a thousand mountains:

‘The water flows far, eventually reaching the sea’).
These lyrics offer a reflection on the role of rivers in human life, and the consequences when they are threatened, whether by drought or floods.

Therefore, it is crucial for us to take heed and intensify efforts to safeguard our river basins, including practising prudent water usage. — Bernama



Dr Mohd Sofiyan says tap water provided to consumers is, in principle, safe to drink but the risk of contamination remains, especially when it travels through residential piping systems.



A technician seen at the Sungai Selangor Phase II water treatment plant in Bestari Jaya.

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Photo shows Alor Lempah in Ampang Pecah, popularly known among locals as the 'Mini Niagara Waterfall'.



The 'mudballs' contain beneficial microorganisms that naturally treat polluted water.