



Water woes: Air Selangor workers using excavators to block the flow of water from the contaminated Sungai Buah into Sungai Semenyih last October. It took authorities a while to identify the contaminant in this incident, underlining the need for more advanced treatment technology that can deal with emerging pollutants. — Photos: Filepics

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LAST year was not a particularly good one for the environment. Contaminated water, dry taps, wildlife seizures, and endangered species made the headlines in 2016.

Much to the ire of Malaysians, many households experienced water cuts multiple times, hence the continued concern over the country's water security and management well into 2017.

"Water disruptions in 2016 were the most reported in the media. It seems like it is happening more and more frequently," says water quality and modelling specialist Dr Zaki Zainudin.

"It is ironic because we actually made good strides in catchment management. However, we did recede on the water safety and security side," he concedes.

The authorities are currently looking into using the total maximum daily load (TMDL) system, the calculation of the maximum amount of a pollutant allowed to enter a body of water, but Dr Zaki expects that this initiative will take time to implement.

"In the long run, TMDL is the way to go. This is essentially the most effective way to manage pollution worldwide, so we are moving in the right direction," he says.

However, the big problem is illegal dumping and discharge. This is something Dr Zaki says the authorities must tackle "immediately".

"It causes disruptions because there is too much contamination. In the immediate future, we have to think about the safety and security of water for public consumption. That takes priority," he adds.

The issue is having water intake points in areas that are susceptible to pollution from various sources located upstream, says Dr Zaki.

There are several options to address the problem, the first of

Hoping for a better year for the environment

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Better legislation, improved water resource management, and increased engagement with stakeholders ahead.

which is to have offsite river storage.

"By having offsite river storage, there is no need for direct intake from the river to the treatment plant.

"Instead, they will pump water out of the river when it's clean and store it at an offsite pond near the treatment plant," he says.

This is so that if the river is contaminated, we will still have a water supply.

"Selangor is currently implementing this through its hybrid off-river augmentation system (Horas)," says Dr Zaki.

"Horas is a step forward, but we have yet to see how sustainable it is," he adds.

Upgrading treatment technology

Furthermore, Malaysia needs to consider upgrading its treatment plants to use more advanced technology to deal with contaminants. This advanced technology addresses a wider spectrum of contaminants, not just the conventional ones like ammonia.

"We need to be prepared for the emerging pollutants that are not part of our standards yet, the unknowns," says Dr Zaki, citing the contamination of Sungai Buah that caused the Sungai Semenyih water

treatment plant in Selangor to be shut down in October last year.

"The worrying incident was what happened in Sungai Buah because it took them a while to detect what the contaminant was," he says.

"With advanced treatment technology, you stand a good chance of dealing with these emerging pollutants without having to shut down the plant," he explains.

As catchment areas are increasingly becoming developed, this is especially important.

"The Langat catchment, which includes Semenyih, is a rapidly developing one. Pollution goes into the river and, as time progresses, the contamination level will continue to rise," says Dr Zaki.

He also says that it is imperative that water supply and treatment technology are "in synergy" with one another.

"You can have the cleanest river, but if someone was to dump pollution in it or sabotage it, the contamination and disruption will still happen," he warns.

Preserving water quality

Finally, it is important to set targets to improve or maintain the water quality in stretches of river that are affected by development.

"The first step is to set water quality targets for specific river stretches based on beneficial uses," says Dr Zaki.

It makes sense to preserve specific stretches like areas further upstream where there are recreational activities, he argues.

"The long-term strategy is to reduce the amount of pollution, so that's having better quality pollution or lower quantity," he adds.

Industries may also need to adopt more advanced treatment technology to bring down their pollution levels.

Industries which cannot afford to treat their waste to very stringent levels can construct a pipe to discharge the waste further downstream where the river is "less sensitive", or even explore other management methods, such as effluent recovery, according to Dr Zaki.

Integrated water resource management

The Government has also approved a RM50mil allocation under the 11th Malaysia Plan to complete the study of 25 integrated river basin management plans. The plans aim to improve water quality, reduce the risk of floods, protect the environment, and ensure there is enough water in any particular basin.

"With the completion of the study, any development in a particular basin will follow the recommendations of the study," says Natural Resources and Environment Minister Datuk Seri Dr Wan Junaidi Tuanku Jaafar.

The ministry is also in the midst of finalising the new Water Resources Act, which is expected to strengthen water resource management in Malaysia, says Dr Wan Junaidi.

He emphasises the need for cooperation between all stakeholders in managing the country's water, especially state governments, and stresses the importance of public awareness.

After all, the public also plays a role in the Government's plan to have better and cleaner rivers.

Dr Zaki agrees that the mindset of the public has to change.

"Polluters have to realise that we need their cooperation and understanding. They are, after all, contaminating their own water supply," he points out.

On the brink of extinction

On another front, the illegal wildlife trade has been recognised as a global problem.

"More species are threatened by illegal, unsustainable wildlife trade now than ever before," says Dr

