

Wet weather, dry taps

WITH 973 billion cubic metres (bcm) of annual rainfall – a volume equivalent to the water in 390 million Olympic size pools – Malaysia is rich in water resources. We have four times more than what we need, even after losing water to evaporation, groundwater recharge and surface runoff discharging into the sea. Yet, annual droughts and dry taps are part of life here, especially for households in water-stressed states.

Recently, Malaysians celebrated World Water Day amidst heatstroke fears and the threat of waterless taps, with temperatures in Kedah, Pahang, Perak, Perlis and Sabah hovering dangerously close to 40°C. Brought on by El-Nino, an irregular weather phenomenon which causes sea temperatures to rise, the heat left irrigation canals dry as fields turned brown in the north of the peninsula, where the current hot spell is at its worst.

The Klang Valley faces two dry spells annually – from February to April and from mid-May to September – but Institution of Engineers Malaysia president Datuk Lim Chow Hock believes adequate provision of quality water is not a question of availability but one of sound management and good governance.

Even by 2020, we will have enough, he assures, as water demand is only estimated to be 17.2bcm four years from now. We have 74bcm of “effective rainfall”, he says (see graphic for details).

“We like to blame climate change for floods and droughts because it’s convenient and more acceptable but that doesn’t mean we should do nothing. We cannot control the weather but we can mitigate, maybe even prevent, its impact.”

The main reason we’re still experiencing water shortages is because of pollution, says Lim, who is also the Malaysian Capacity Development Network for Sustainable Water

Management network manager and Capacity Development in Sustainable Water Management board member.

“Water pollution significantly reduces the sustainability of water resources. Just take the Klang River – rubbish thrown into it amounts to 77,000 tonnes a year. That’s shameful!”

“The main thing that makes water unusable is pollution. And that is perfectly preventable.

“Chemicals from factories, oil from eateries, sillage from wet markets, silt from land clearing, and rubbish thrown by irresponsible people – it all ends up in our waterways. Treating clean surface runoff for water supply is expensive. But if polluted, it costs three to four times more.

“The law is sufficient but enforcement is a problem. Policing is very difficult because of limited resources,” he says.

Dr Yang Farina Abdul Aziz, senior professor of Inorganic Chemistry at Universiti Kebangsaan Malaysia’s Centre of Water Research and Analysis, agrees.

Our rivers, she says, are treated like “one huge dumping site” for solid waste and effluents from irresponsible factory owners. Malaysia has all the necessary laws and regulations but the enforcement needs consolidating, says Dr Yang Farina, who is also an Academy of Sciences Malaysia fellow and Malaysian Chemical Institute assistant honorary secretary.

Last year, Dr Yang Farina was part of a

team that studied the bauxite pollution issue in Kuantan, analysing the water there for heavy metals. She also investigated the occurrence of pesticide residues in Cameron Highlands in 2014.

We must ensure that our rivers are clean and pristine from one end right until it flows into the sea, she stresses, calling on the Government to look into water treatment methods in hot spots like Cameron Highlands.

Detailed, multi-disciplinary research is needed to identify emerging pollutants in the water ways of such farming intensive areas, she says.

“The presence of endocrine disrupting chemicals in tap water – even at very low levels, is of grave concern as the long-term chronic effects of such pollutants are not fully known,” she cautions.

Killing our rivers means threatening our water supply and destroying aquatic life, flora and fauna, points out Prof Dr Chan Ngai Weng, Penang Water Watch president and Universiti Sains Malaysia water resources, hydrology and flood hazard management and climatology expert.

“Ninety-seven per cent of our tap water supply is sourced from rivers. In almost every developed country, rivers are the heart and soul of their cities. But here, rivers are treated like dumpsters. There isn’t a single urban river here that’s a centre of attraction, like Seoul’s Cheongye Cheong River or Tokyo’s Tsurumi River.”

But pollution is only one of the reasons we’re living in fear of droughts, he says. Sure, we have to control river pollution and impose a hefty fine on the polluters – perhaps even jail them – for poisoning a public water source, but deforestation, the destruction of water catchments and the high cost of using groundwater or desalination, must also be tackled.

Association of Water and Energy Research Malaysia president S. Piarapakaran questions whether failure to plan and enforce the law are reasons why we’re facing problems. Parts of Europe have set new standards for international cooperation over the Rhine River that flows through several countries. In Malaysia, we fight over raw water issues between states, he sighs.

He suggests practical ways to increase raw water resources; for instance, the Department of Environment’s wastewater discharge standard must take into account population density and economic activities and the tariff must be based on raw water quality. State governments that keep their raw water quality high will then earn more for their raw water, he offers.

Institution of Engineers’ Lim adds that the water pollution problem is compounded by uneven distribution and variation of rainfall, poor demand management, water wastage, and non-revenue water losses. In smaller states and those that have been more extensively deforested, the problem is more severe.

