Malaysia is water-rich but that's no reason to waste

MALAYSIA is widely perceived as being blessed with abundant water resources. Our mean annual rainfall of 2,500mm far exceeds that of many nations, and with 580 trillion litres of renewable water resources annually, Malaysia appears to possess sufficient water to meet current demands many times over. So why worry?

Agriculture is incredibly thirsty. Globally, it consumes 72% of fresh water withdrawals, equivalent to 94 million litres extracted every second. Tragically, an estimated 60% of this water is wasted through inefficient practices. In Malaysia, agriculture alone consumes approximately 200,000 litres per second, which is akin to filling an Olympic-sized swimming pool every 12.5 seconds.

Plants are more adversely affected by water stress than nutrient stress because plants can only uptake nutrients when they are dissolved in water. Therefore, ensuring an adequate water supply is fundamental to crop nutrition. This principle is particularly critical for Malaysia's two major crops: oil palm and padi.

Oil palm trees appear deceptively resilient. However, for every 100mm water deficit, oil palm yields can fall by 10%. More alarmingly, the effects of water stress can persist in oil palm for months after drought conditions end, creating long-term productivity impacts.

Padi is equally vulnerable to hot and dry periods, particularly during seedling, vegetative, and reproductive stages. Just one to two weeks of water stress during these critical phases can trigger complete crop failure, threatening food security.

Addressing Malaysia's water challenges requires both traditional and modern innovation.

Covering soil with mulch prevents precious water from evaporating, while drip irrigation delivers water directly to root zones, minimising losses. And we should avoid watering during the hottest part of the day, not because it will "shock" the plants but because it minimises water loss through evaporation.

Modern agriculture increasingly embraces precision farming technologies. Real-time monitoring of weather and soil conditions enables farmers to supply water only when needed and in optimal quantity.

Farming is embracing water-smart approaches, such as the System of Rice Intensification method, which reduces water usage by 25% to 50 % by replacing continuous flooding with alternate wetting and drying irrigation. More drought-tolerant padi varieties have also been successfully introduced by Universiti Putra Malaysia and Mardi (Malaysian Agricultural Research and Development Institute) to our farmers.

As climate patterns shift and extreme weather becomes more frequent, our relationship with water must evolve from thoughtless consumption to conscious conservation. Recent dry spells serve as powerful reminders that even water-rich nations are vulnerable.

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