

## Water Management: Regulate for efficient use of resource

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WATER consumption is basically divided into domestic, industry (including commercial) and agricultural use which consumes 17 per cent, 21 per cent and 62 per cent, respectively.

There are also a few industries and almost all agricultural activity that use water direct from nature and not rely on treated water.

According to the Malaysia Water Industry Guide (MWIG) 2010, 2.02 billion cubic metres of treated water (one cubic metre is equivalent to 1,000 litres) was consumed by domestic consumers in 2009.

Therefore, the Association of Water and Energy Research Malaysia (AWER) estimates that the industrial sector uses around 2.5 billion cubic metres of water and the agriculture sector about 7.3 billion cubic metres.

Wastage of water happens when an individual or entity uses water more than the required capacity.

The World Health Organisation recommends only 165 litres/capita/day for domestic consumption. This means domestic consumers can use up to five cubic metres a month per person.

For example, if there are five in a family, the sustainable water consumption should be within 25 cubic metres. However, the MWIG 2010 report stated that the average consumption for the domestic sector in 2009 was 202 litres/capita/day.

The highest rate was 286 litres/capita/day for domestic consumers in Penang which is close to two folds of the recommended water consumption by WHO. On the other hand, Singapore's domestic consumers were only using about 155 litres/capita/day.

The value of water wastage for industrial and agricultural sectors is difficult to estimate. This is because of differences in operational technologies and the unavailability of water consumption statistics in these sectors.

However, comparison between similar types of products and services can be implemented to ensure water efficiency.

The source of water wastage is focused on our habit and technology. For example, water-efficient taps (water with air bubbles) helps to wash away soap faster.

There are individuals who are not accustomed to such equipment and they would change to non-efficient taps.

Therefore, a more practical technology might not be used because of people's habits.

Reuse of waste water is also not practised widely. This is not something new, but it is either forgotten or inconvenient.

Domestic waste water is divided into grey water and dark water. Grey water comes from activities such as washing clothes, kitchen waste water, bathing, etc.

This waste water can be used for non-potable use (non-drinking and non-edible).

The dark water is waste water from toilets (sewerage) and it is not suitable to be reused or recycled at home.

On average, 80 per cent of domestic waste water is grey water.

Reuse and recycling this waste water helps in promoting water efficiency as well as reducing the extra 37 litres/capita/day water usage comparatively with WHO's recommendation.

The reuse can be done by using this waste water to wash drains, toilet flushing, watering plants and other non-potable uses.

For industrial and agricultural sectors, water efficiency means reduction or optimisation of water consumption for a particular process. This is seen as water consumption rate or better known as water footprint.

Water footprint helps us to determine water consumption for many sectors. This entails better demand management and cross-cutting to all sectors.

For example, we use 140 litres of water to produce one cup of coffee, 184 litres of water for 1kg of tomato, 1,000 litres of water for a litre of cow's milk and 20,000 litres of water to produce one laptop.

Through these water footprint values, both industrial and agricultural sectors can be more water efficient and reduce high dependency on water strategically.

AWER urges the Energy, Green Technology and Water Ministry to develop a national water efficiency framework to ensure water consumption in all sectors can be properly regulated.

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