

# Water does not come cheap

The government always urges us to conserve water, even though we do not seem to be running out. We have many reservoirs and the summer months bring torrential rain, but this leads to a widespread misconception. Behind the scenes, ensuring adequate water supply for the territory has never been easy

THERE are 17 reservoirs in Hong Kong – some tiny, some very big.

The smallest one is Tai Tam Byewash (大潭副水塘), which can hold only 80,000 cubic metres of water. The largest two are Plover Cove (船灣淡水湖) and High Island (萬宜水庫), with a capacity of 229 million and 281 million cubic metres respectively.

The total storage capacity of these reservoirs amounts to 586 million cubic metres. But it is far from enough to meet our water demand – accounting for only 19 percent of Hong Kong's water consumption.

## Dongjiang water

WATER from Dongjiang, Guangdong is in fact the biggest water source for Hong Kong. We started getting our water from Dongjiang in 1965.

Since the late 1990s, 70-80 percent of our **annual** demand is supplied by Dongjiang water. In 2013-14, 598 million cubic metres of Dongjiang water was imported, slightly more than the total storage capacity of our reservoirs.

But we can import more if needed – up to 1.1 billion cubic metres per annum.

## Water is expensive

BUT we do not get Dongjiang water for free. Under an agreement with Guangdong, Hong Kong pays HK\$13.5 billion per year for the water. This works out at about HK\$5.5 per cubic metre.

The Dongjiang water supply agreement had been controversial, as previous arrangements were not **flexible**. But this has been changed under the present “package deal lump sum” approach, which is more flexible in order to take into account our actual need.

This enables Hong Kong to have better control of the storage level in reservoirs, making it easier to reduce overflow and save pumping costs.

## How safe is our water?

DONGJIANG water and water from reservoirs does not go straight to our taps. It has to go through a treatment process. The Water Supplies Department **ensures** that the water we drink is among the safest in the world, and its quality fully conforms to World Health Organization standards.

Experts **monitor** the water throughout the system, and over 100,000 samples are taken for testing every year. There were, however, concerns that Dongjing water might be **contaminated** by pollution from Guangdong.

Our supply agreement with Guangdong specifies that the water must reach a certain standard, and the mainland authorities have taken measures to meet them.

These include preventing waste water from entering the water source, constructing sewage treatment plants as well as controlling land-use planning and polluting activities.

## Sea water

HONG Kong uses sea water, not for drinking but for flushing toilets. A total of 274 million cubic metres of sea water is used for this purpose every year.

But sea water can be used for drinking too – by taking out the salt. This process is called desalination. Hong Kong used to have a desalination plant at Lok On Pai. But it only operated for a few years and was closed due to the high cost of water production.

However, the government is again planning a new desalination plant, this time at Tseung Kwan O. It is expected to open in 2020, and will meet about 5 percent of the total demand. This is made **feasible** by a new kind of desalination technology called “reverse osmosis”, which reduces the cost of producing water from HK\$35 to HK\$12 per cubic metre.

## Conclusion

As the government has pointed out, providing an adequate water supply in Hong Kong has always been difficult, as we have no natural lakes, rivers or substantial underground water sources. So we have to spend a lot of money to import water. Water treatment, to ensure the supply meets acceptable quality for consumption, is also costly. So, next time you turn on the tap, think about water conservation!