



DO HONGKONGERS HAVE A WATER CONSERVATION ETHIC?

WHY NOT?

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2 SESSION I WATER ETHICS AND CHALLENGES TO WATER CONSERVATION

My role here is to set out the challenges to water conservation in Hong Kong.

Two of the world's leading water ethics experts will follow to show why it is necessary to address those challenges.

The following three sessions of this excellent symposium will fill in the details.



3 A TYPICAL START OF THE DAY FOR A HONG KONG RESIDENT (IN MY MIND, AT LEAST)

- Get out of bed, go to the bathroom, wash your face and brush your teeth
- Have a cup of tea or coffee
- Take a shower, get dressed
- Grab a breakfast, perhaps a delicious bowl of congee 粥
- Think about the important matters of the day
 - **Not the water you have just used (or the air you just breathed)**
 - **Why should you ?**

4 HERE'S THE PROBLEM

- Why is it necessary for programs like JC-WISE to raise the awareness of water conservation by Hong Kong residents?
- Because they have no incentive to adopt a water conservation ethic in their daily lives.
- There is water in the tap and shower, and the toilet flushes and refills.
- Built-in incentives to conserve water use are nearly absent at all levels in Hong Kong, including the water supply agency and the government.

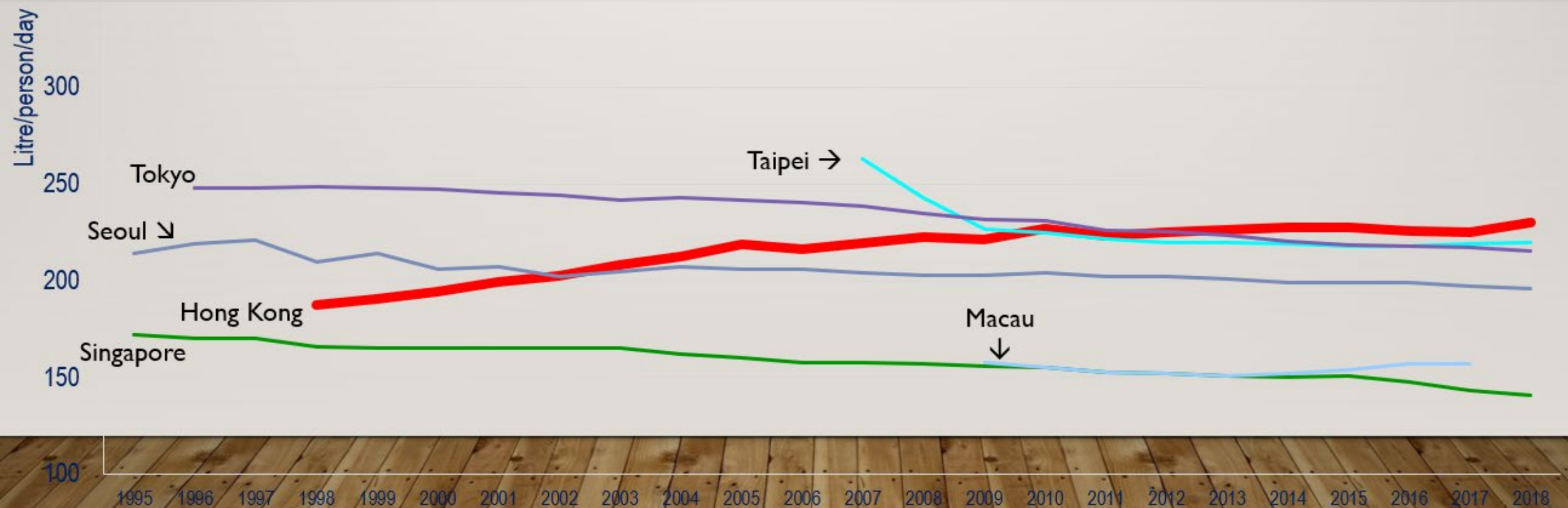
5 TO BE FAIR, THIS IS NOT UNIQUE TO HONG KONG



- In 2012, Cynthia Barrett referred to an “illusion of water abundance” of America’s “cheapest necessity”.

6 BUT HONG KONG SEEMS TO BE IN ITS OWN CLASS OF “ILLUSION”

- This shows in per capita domestic water use trends (1995-2018)

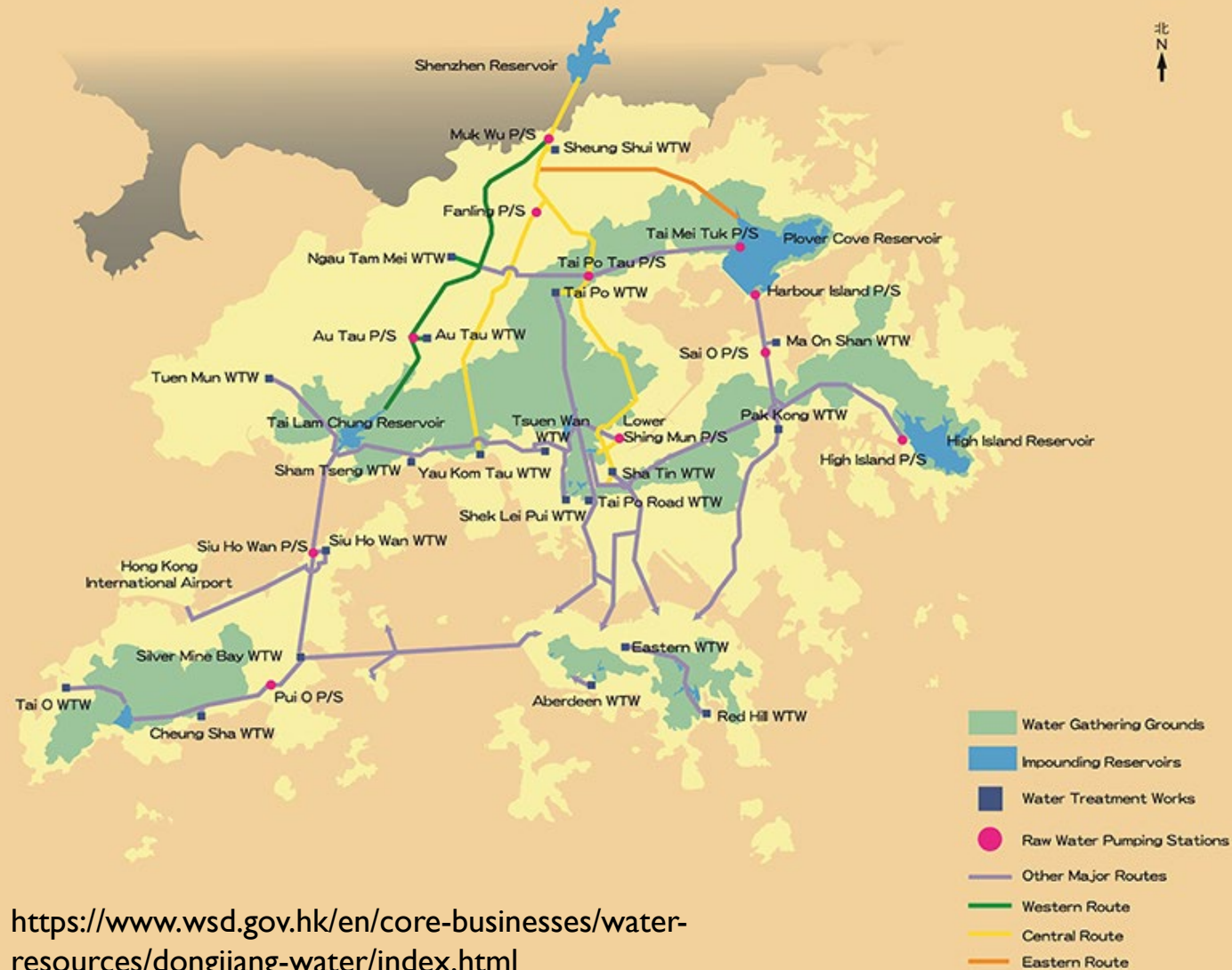


7 SCARCITY IS THE BEST AWARENESS BUILDER FOR WATER USE

- Drought, intermittent supply – the 1963 drought was traumatic, but there has been no interruption of water supply in Hong Kong since 1982.
- Because of projects, especially the use of seawater for toilet flushing, (1957-58), the Dongjiang (East River) diversion (1965) and deindustrialization (from early 1980s), Hong Kong has rights to more water than it can use in almost every year.

Hong Kong has an excellent water supply system

Principal Water Supply System in Hong Kong

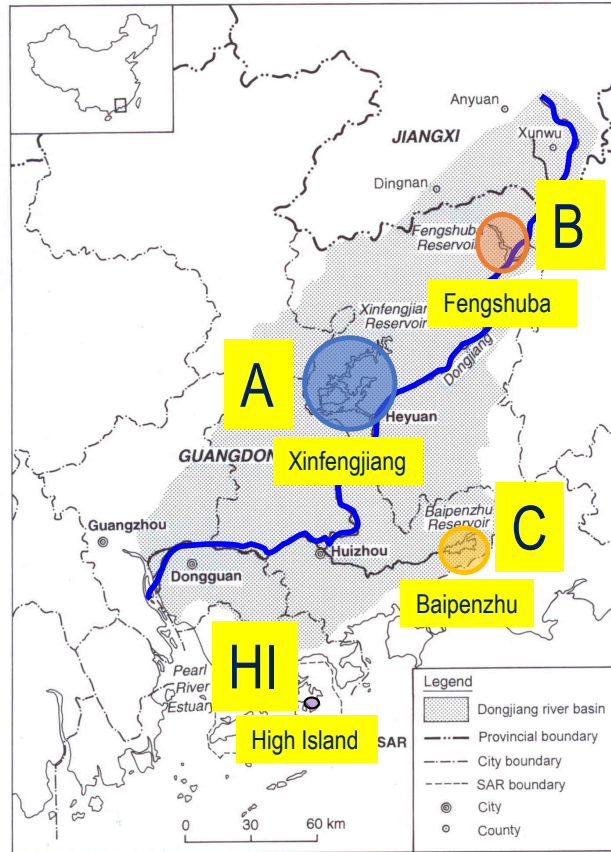


<https://www.wsd.gov.hk/en/core-businesses/water-resources/dongjiang-water/index.html>

MOST OF THE SUPPLY IS FROM THE DONGJIANG

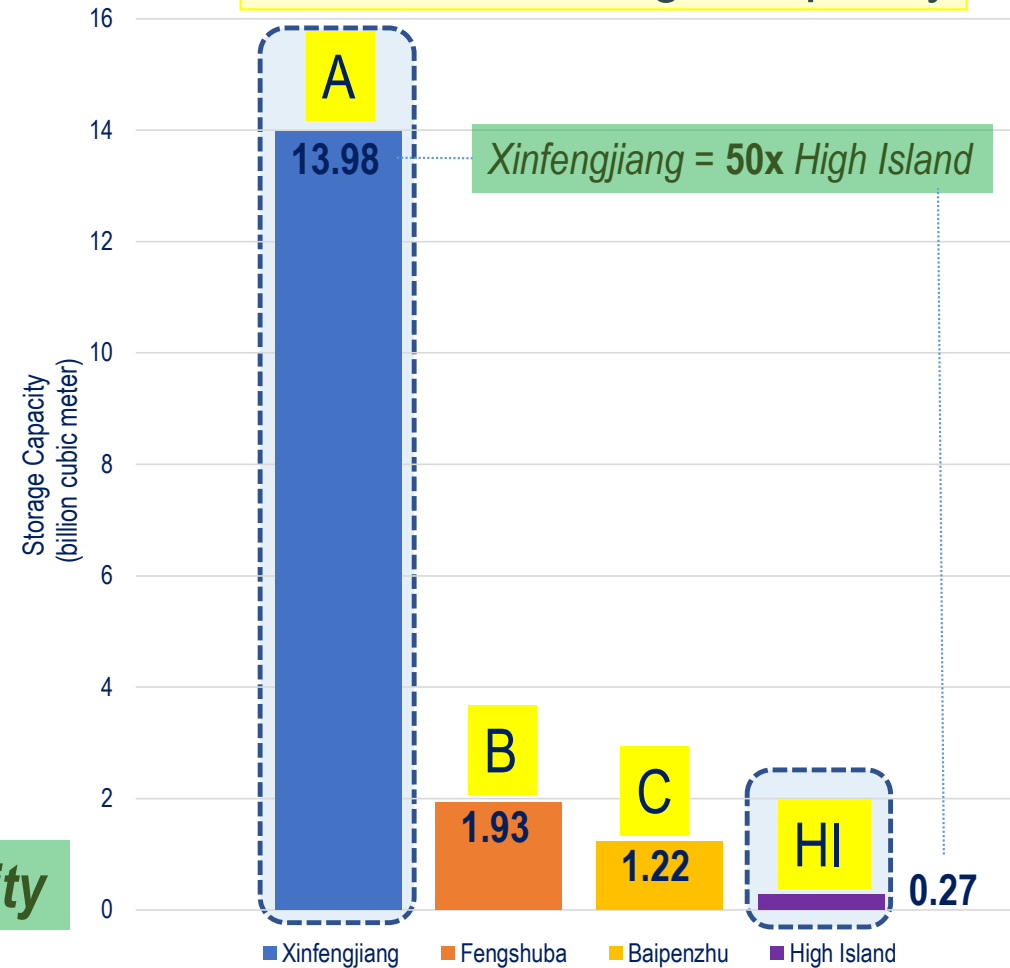
饮水思源

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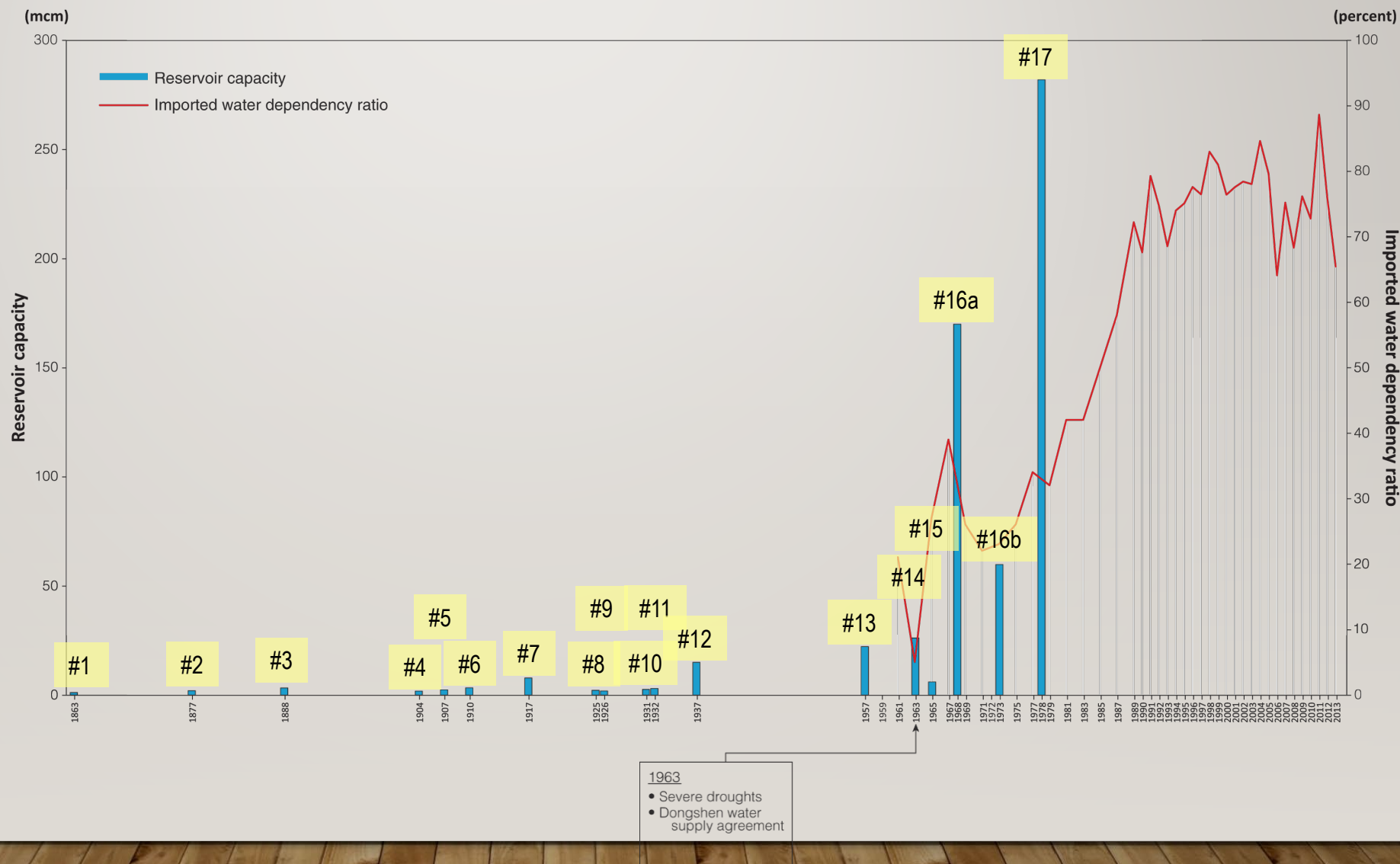
Reservoirs in ERB ⇒ HK's water security

Reservoir Storage Capacity

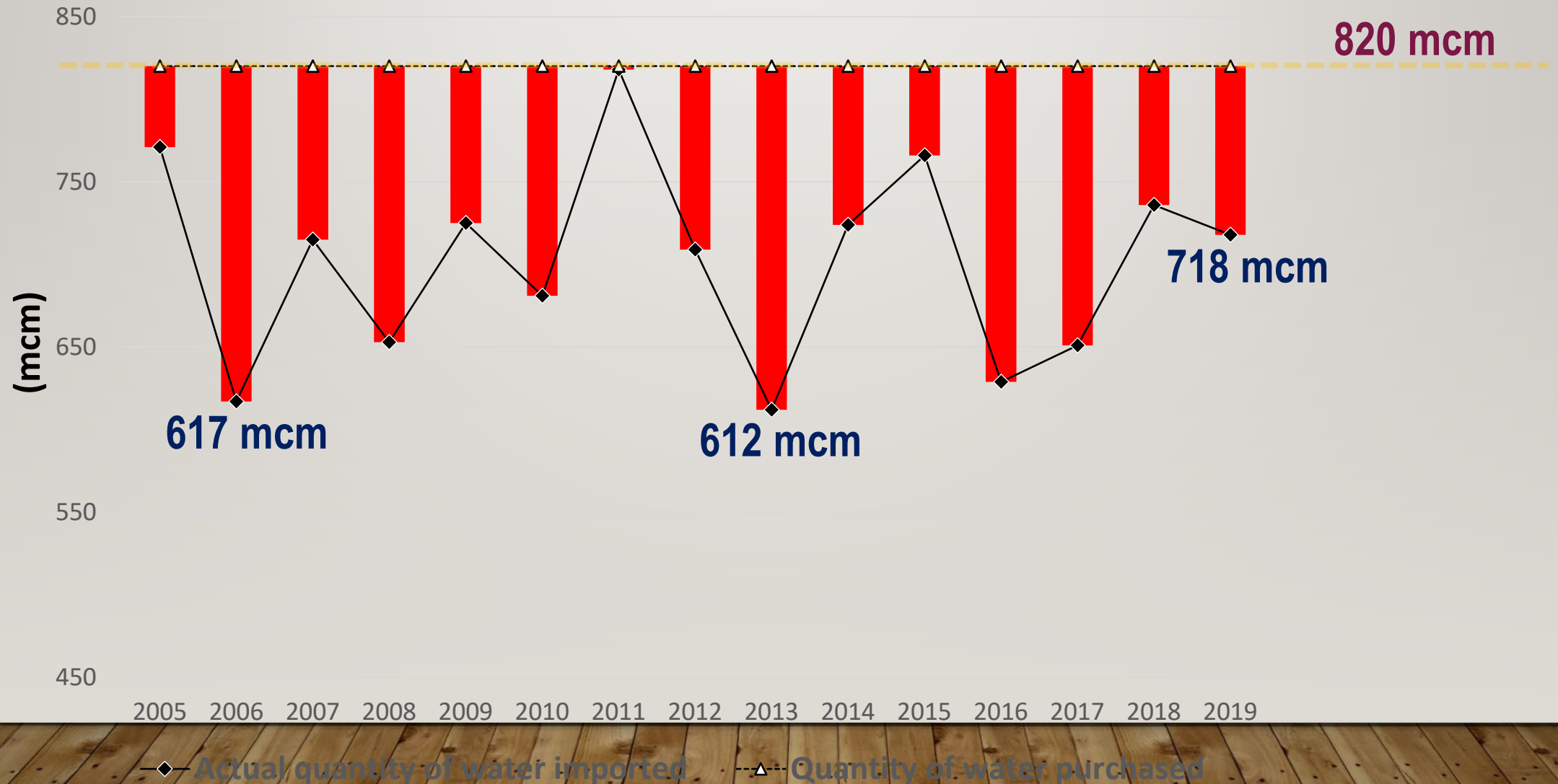


HKG Turned from self-reliance

- #1 Pokfulam
- #2 Pokfulam
- #3 Tai Tam
- #4 Tai Tam Byewash
- #5 Tai Tam Intermediate
- #6 Kowloon
- #7 Tai Tam Tuk
- #8 Shek Lei Pui
- #9 Kowloon Reception
- #10 Aberdeen
- #11 Kowloon Byewash
- #12 Shing Mun
- #13 Tai Lam Chung
- #14 Shek Pik
- #15 Lower Shing Mun
- #16 Plover Cove
- #17 High Island



THERE IS A “SURPLUS” OF IMPORTABLE WATER



12 WHY DOES HONG KONG CONTRACT FOR MORE WATER THAN IT USES?

- Hedge against extreme drought – this is guaranteed; the other 40 million users of Dongjiang water would have to cut back. 2011 was a drought year, only a little better than 1963.
- More importantly: Hong Kong has no choice. Guangdong insists on this amount at every contract renegotiation (every 3 years), since Hong Kong pays for it.

WHAT ABOUT COMPETITION OVER A LIMITED WATER RESOURCE IN THE DONGJIANG?

WHAT ABOUT CLIMATE CHANGE?

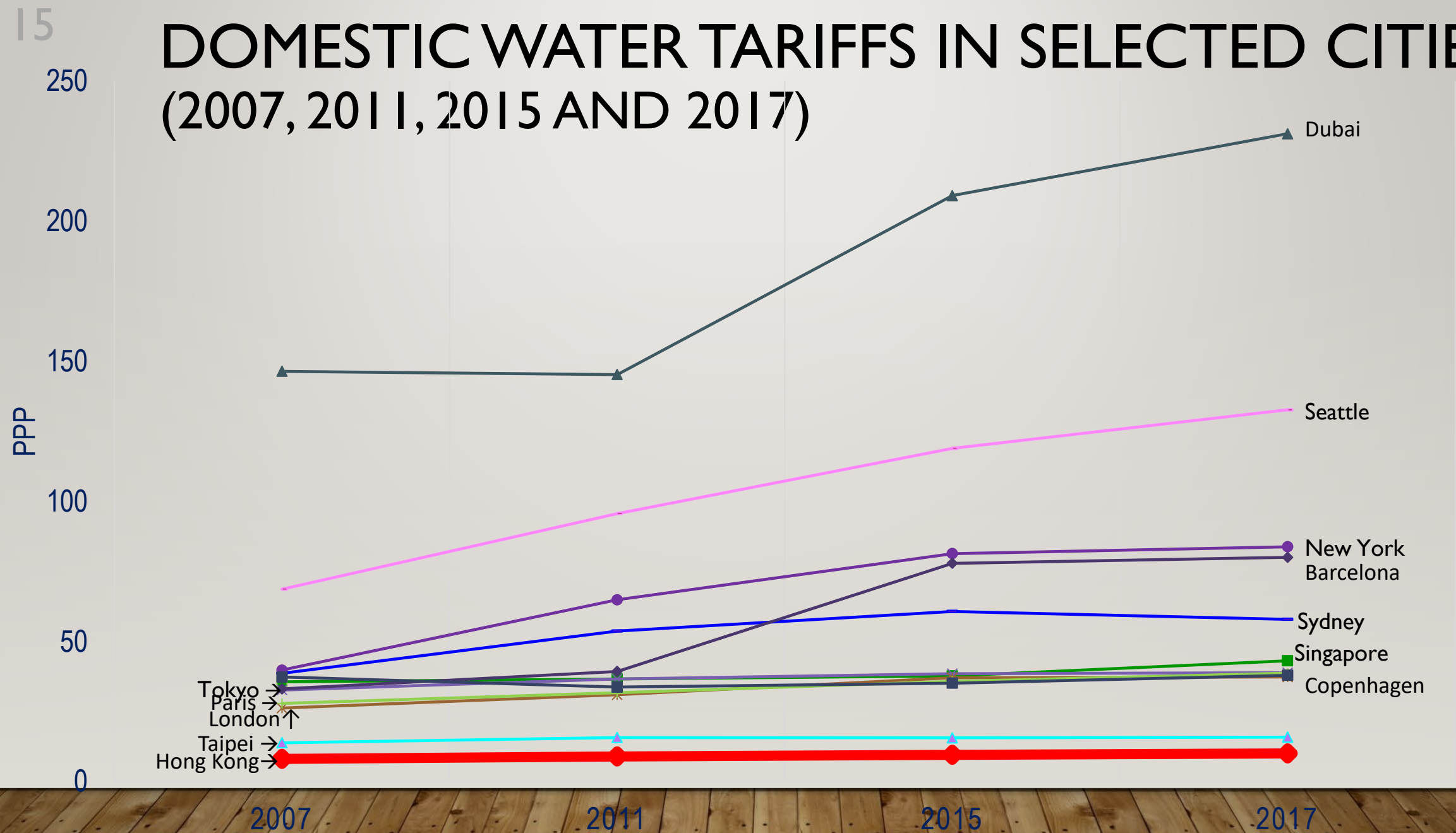
- Competition with other users (Huizhou, Dongguan, Heyuan, Shenzhen, Guangzhou, irrigation), less likely, as total water use in the region is falling (cities replacing farms). And a water diversion is being built from the Xijiang to add supply.
- Hong Kong uses less than 10% of the total allotment, even now.
- Climate change models indicate an increase in precipitation in Dongjiang, so more water.



14 WHO PAYS FOR THIS?

- Not the end user
- Not the water agency (WSD)
- Water price is an indicator of scarcity (and the costs of treatment and delivery) and a major source of revenue to most water agencies.
- Water price has not increased in Hong Kong since 1995-1996

DOMESTIC WATER TARIFFS IN SELECTED CITIES (2007, 2011, 2015 AND 2017)



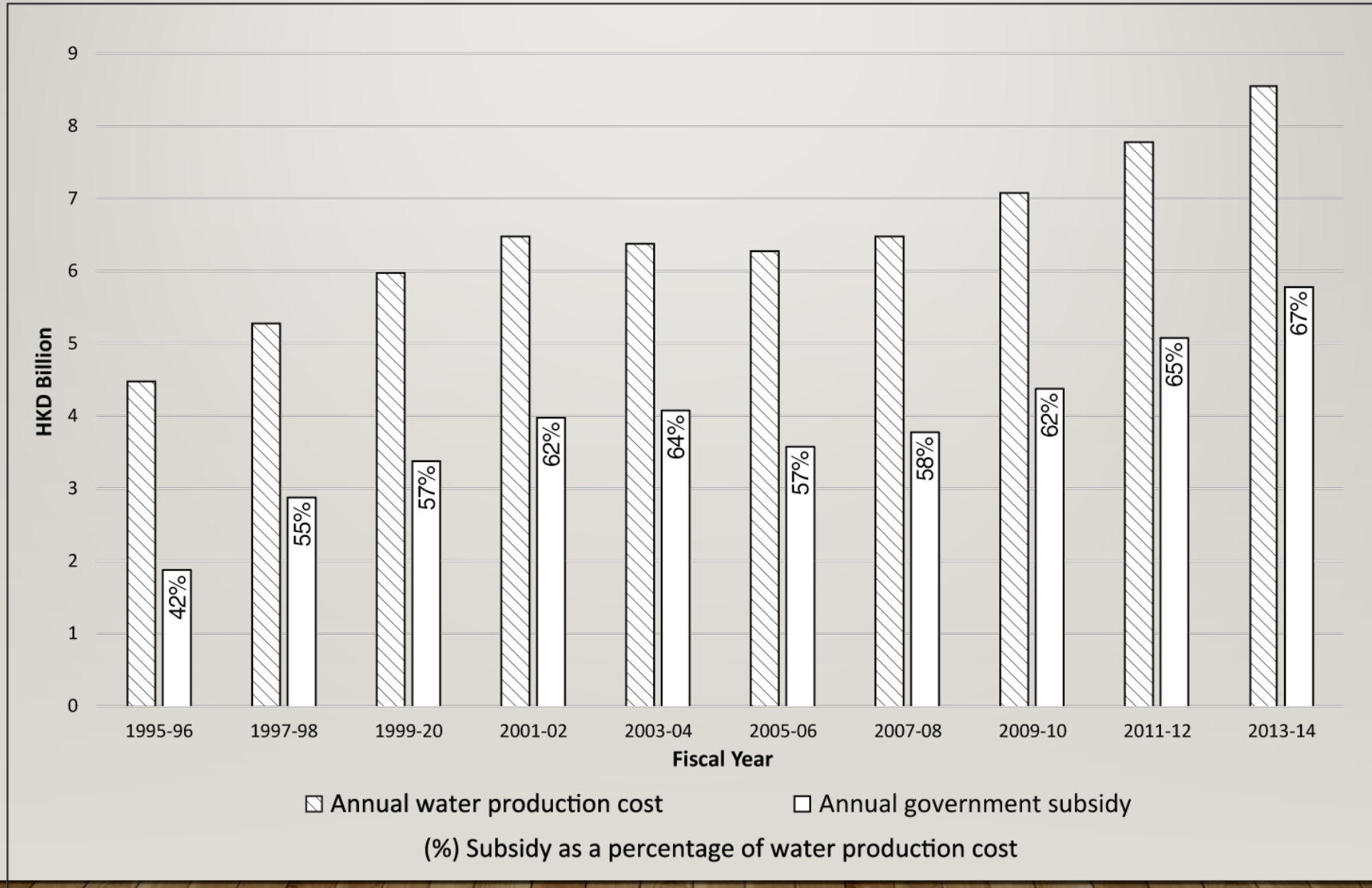
WATER TARIFF AND FULL UNIT PRODUCTION COST OF WATER PROVISION (1995-2020)



17 THE WSD OPERATES UNDER A SOFT BUDGET CONSTRAINT

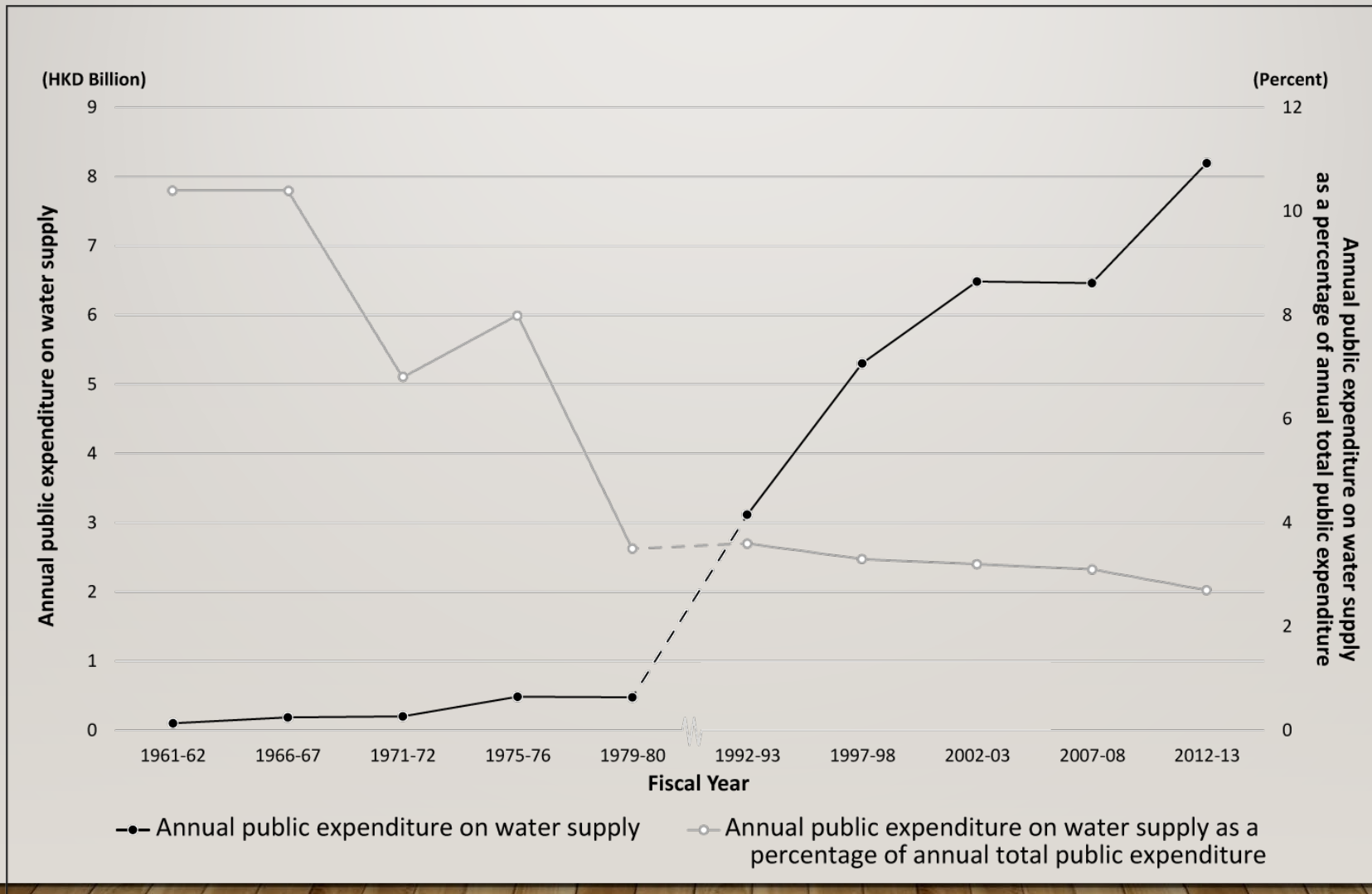
- Costs go up (Dongjiang water, electricity, leakage control program etc.) but revenue from users does not
- The difference is paid by the general budget

18 A GROWING SUBSIDY FROM THE GENERAL BUDGET



GOVERNMENT HAS LITTLE FISCAL PRESSURE TO CUT THE SUBSIDY, AS IT IS A DECLINING SHARE OF TOTAL EXPENDITURE

19



20 SO WHAT CAN BE DONE?

- Option one: **Do nothing, as there is enough water.**
 - Sadly, this is most likely.
- Option two: **Provide economic incentives** (water fees, hard budget constraint etc.)
 - Politically unpopular so unlikely
 - Probably would not reduce water use, and in case of WSD, might have a perverse effect.
- Option three: **Recognize values of water for purposes other than human consumption**, even if you have a contractual “right” to use it
 - Undervalued ecosystem services, realization of belonging to the wider world, recreation
 - **This is what this symposium is all about.**