

Planning for Future Water and Smart Water Management in Taiwan



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Outline

I、 Challenges

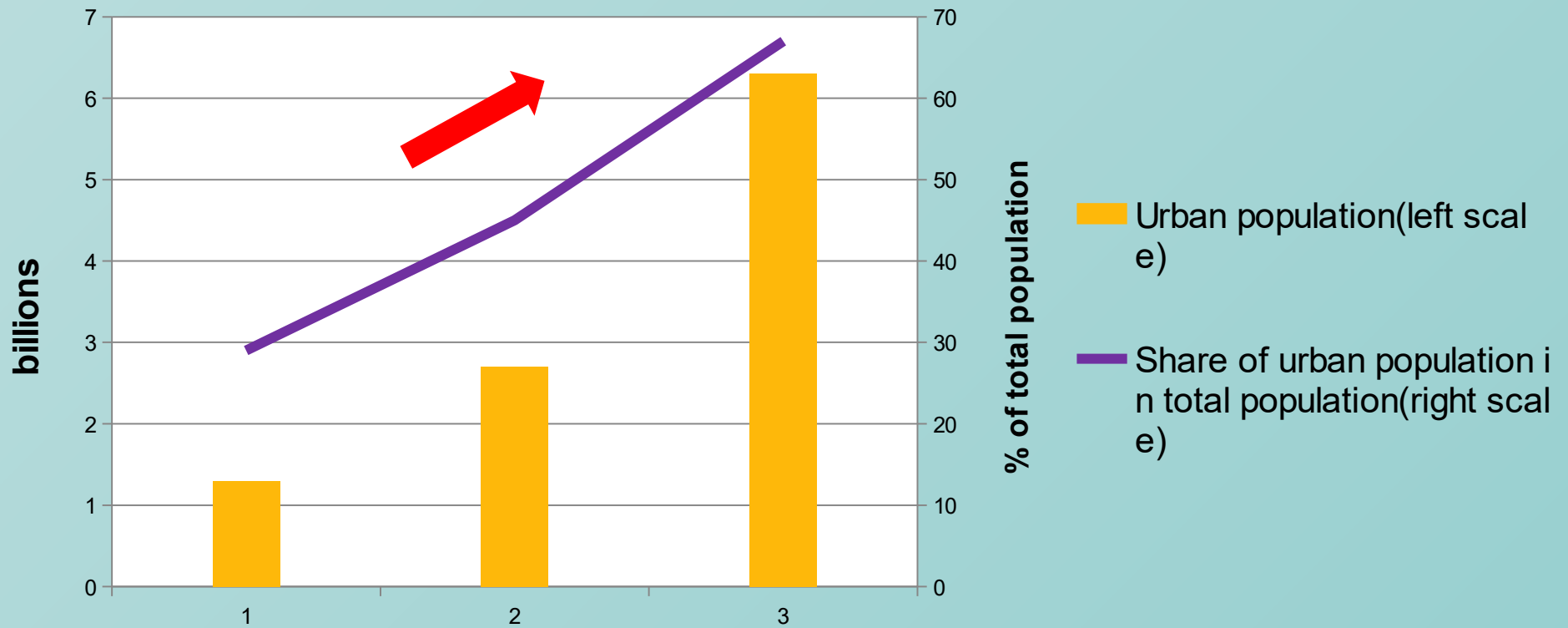
II、 Water Problems in Taiwan

III、 Effective Management

I、Challenges

Urban population growth is a global trend

Global Urban Population Growth(1950 ~ 2050)



Source: World Economic Forum calculation based on World Urbanization Prospects(2014 revision)data.

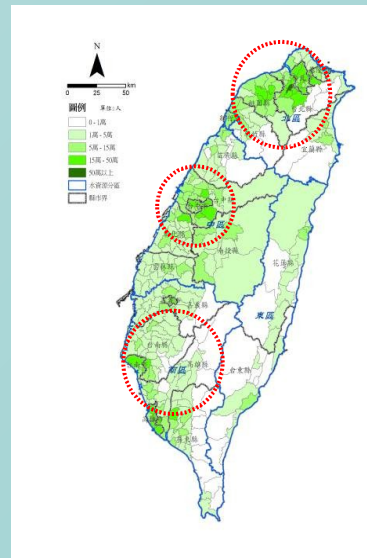
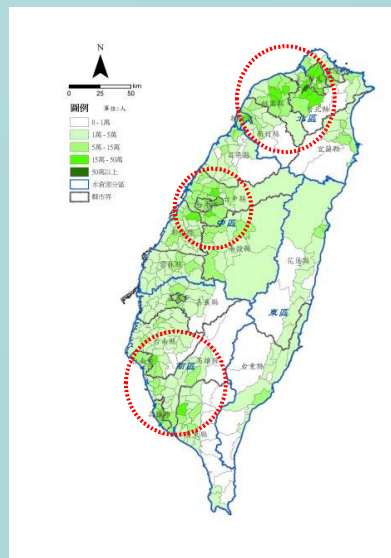
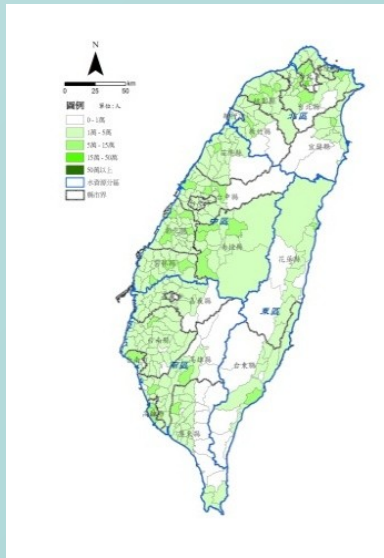
Taiwan has the same trend....

Increase on water demand and discharge could exceed urban capacity

1970

1990

2010



15 million

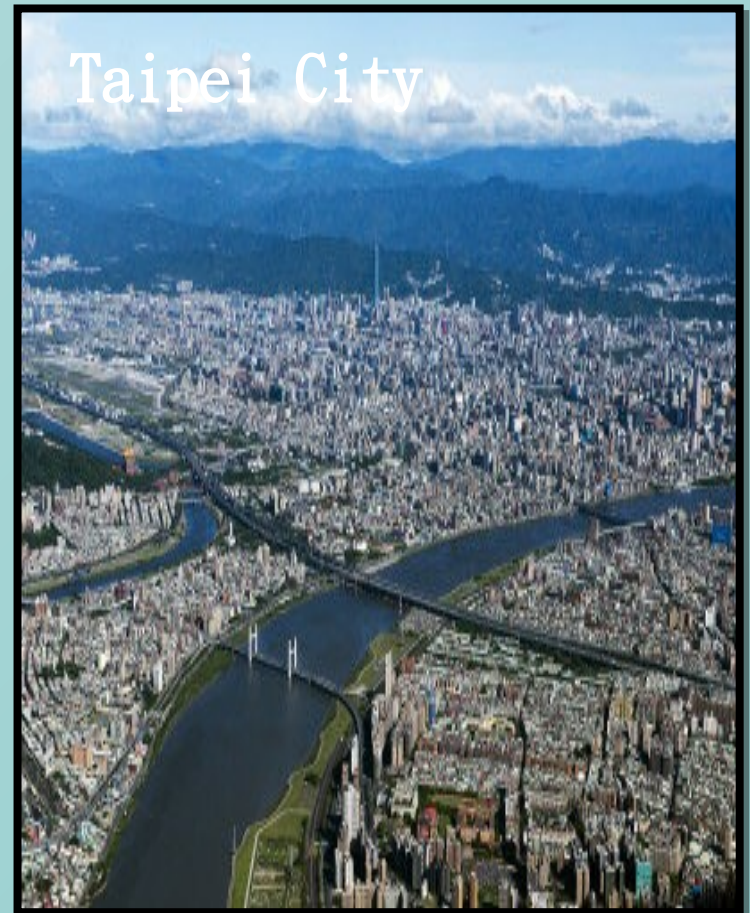
20 million

23million

Taiwan
population
space change



The population is gradually
concentrated in north, central
and south metropolitan areas



II、Water Problems in Taiwan

Due to natural environment and artificial interference,
Water problems in Taiwan...

Flood



The rainfall in typhoon Morakot reached **2327mm** in two days (Alishan station)

Drought



Zengwen reservoir had no rainfall for more than **250 days**

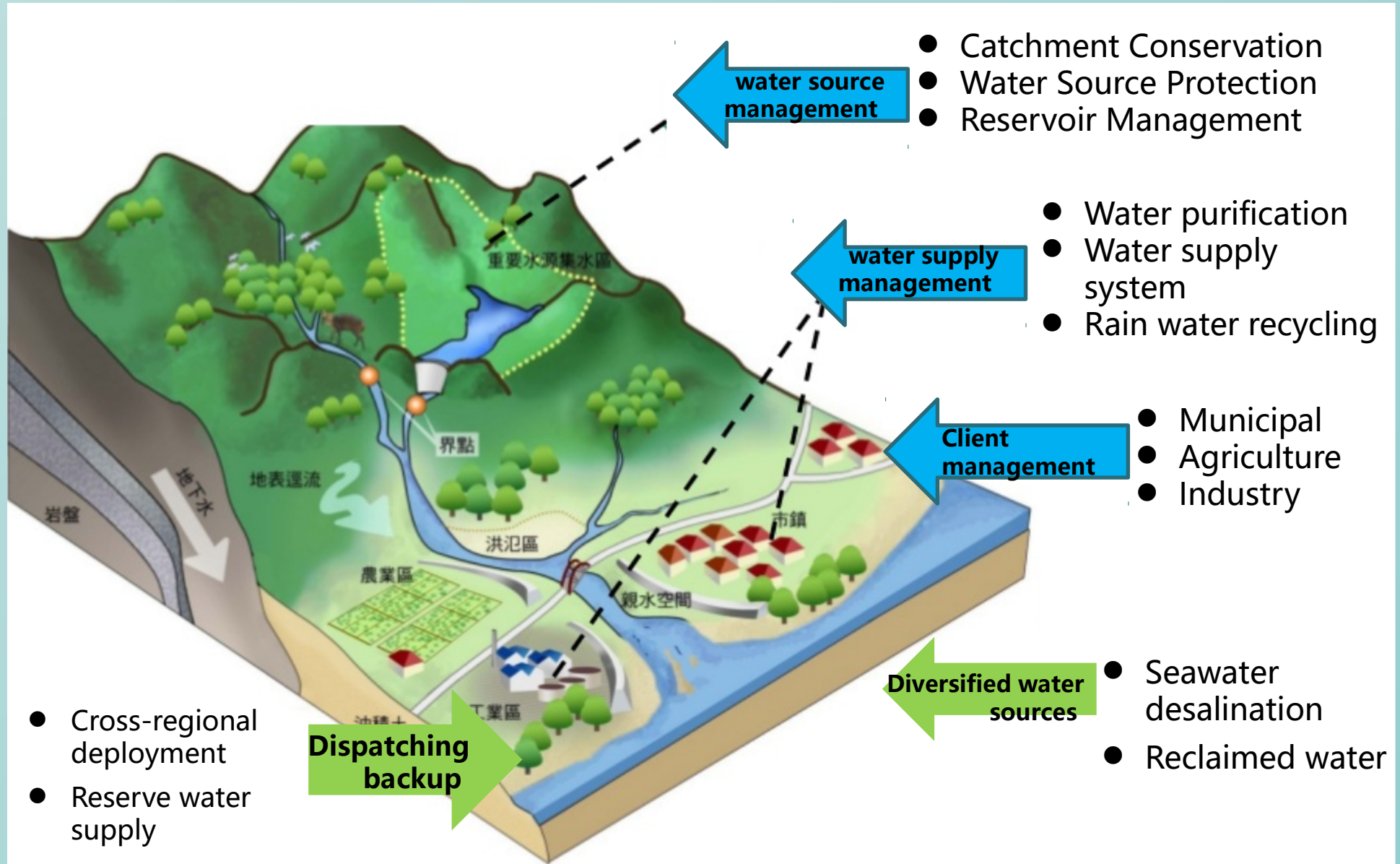
Poor quality



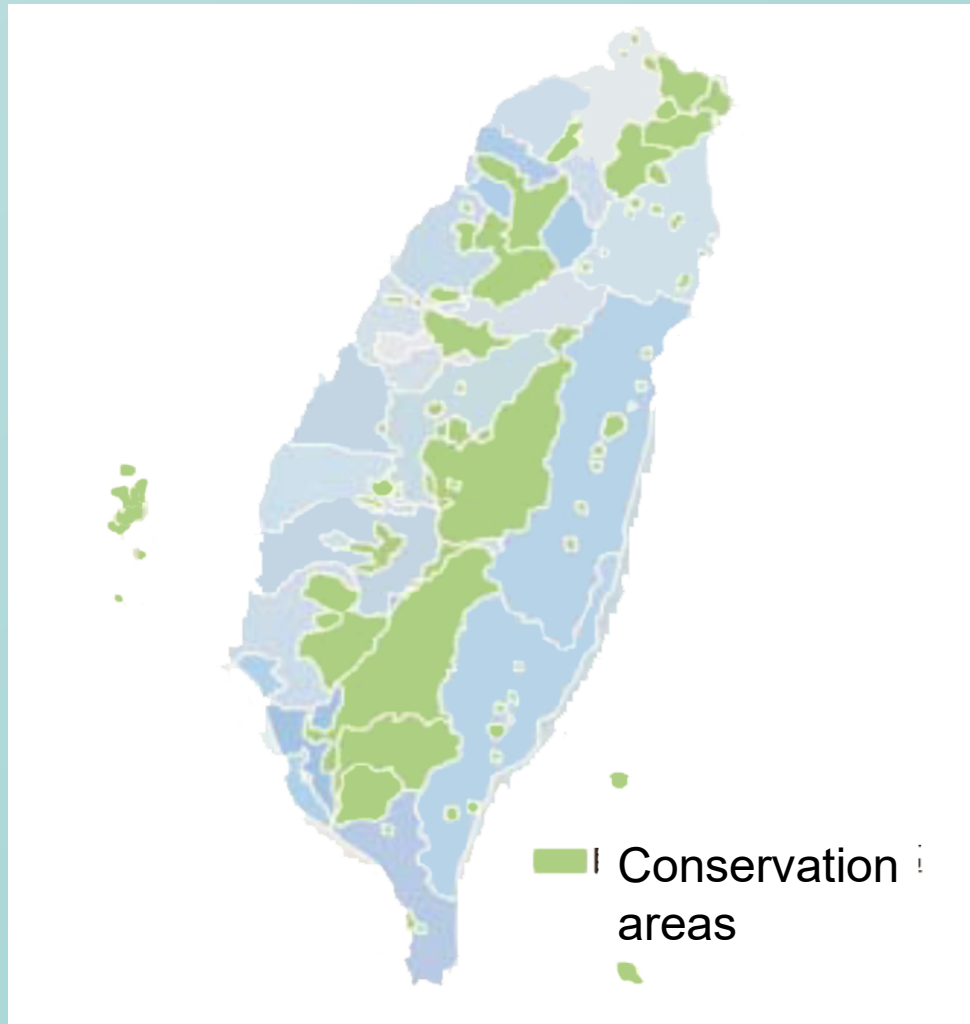
Heavy pollution in rivers **633.4KM(21.6%)**

Source : ETtoday 、 Liberty times 、 United Daily News 、 EPA

III、Effective Management



1. Land use control in the reservoir catchment



- Taiwan has set up 114 water quality and quantity conservation areas.
- Strictly control **land use and development**.
- **Compensation mechanism** for restricted areas.

2. Maintain reservoir capacity

Strengthening dredging and sediment-slucing facilities in 13 major reservoirs

Hydrosuction



Excavation



Hydraulic desilting



Shihmen Reservoir

1. Amping sluicing tunnel

(Construction is expected to be completed in 2020)

2. Dawanping sluicing tunnel

(In the review, it is expected to be completed in 2029)

Baihe Reservoir sluicing Tunnel

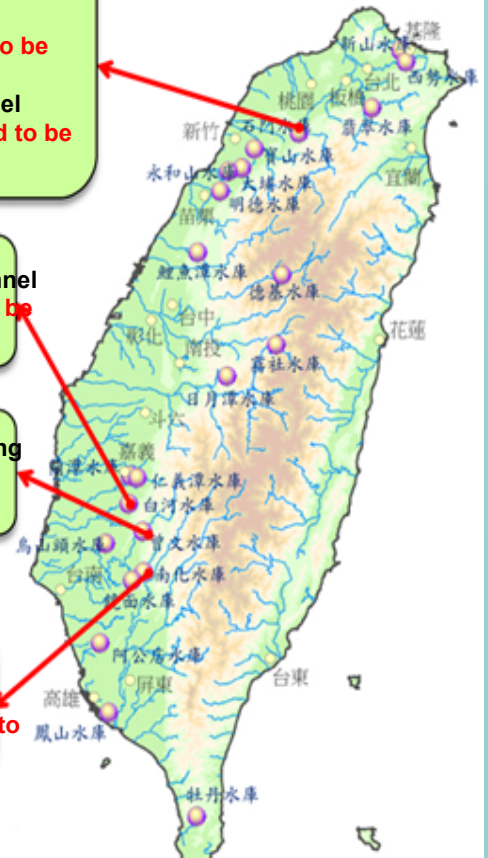
(Construction is expected to be completed in 2019)

Zengwen Reservoir sluicing Tunnel

(in operation)

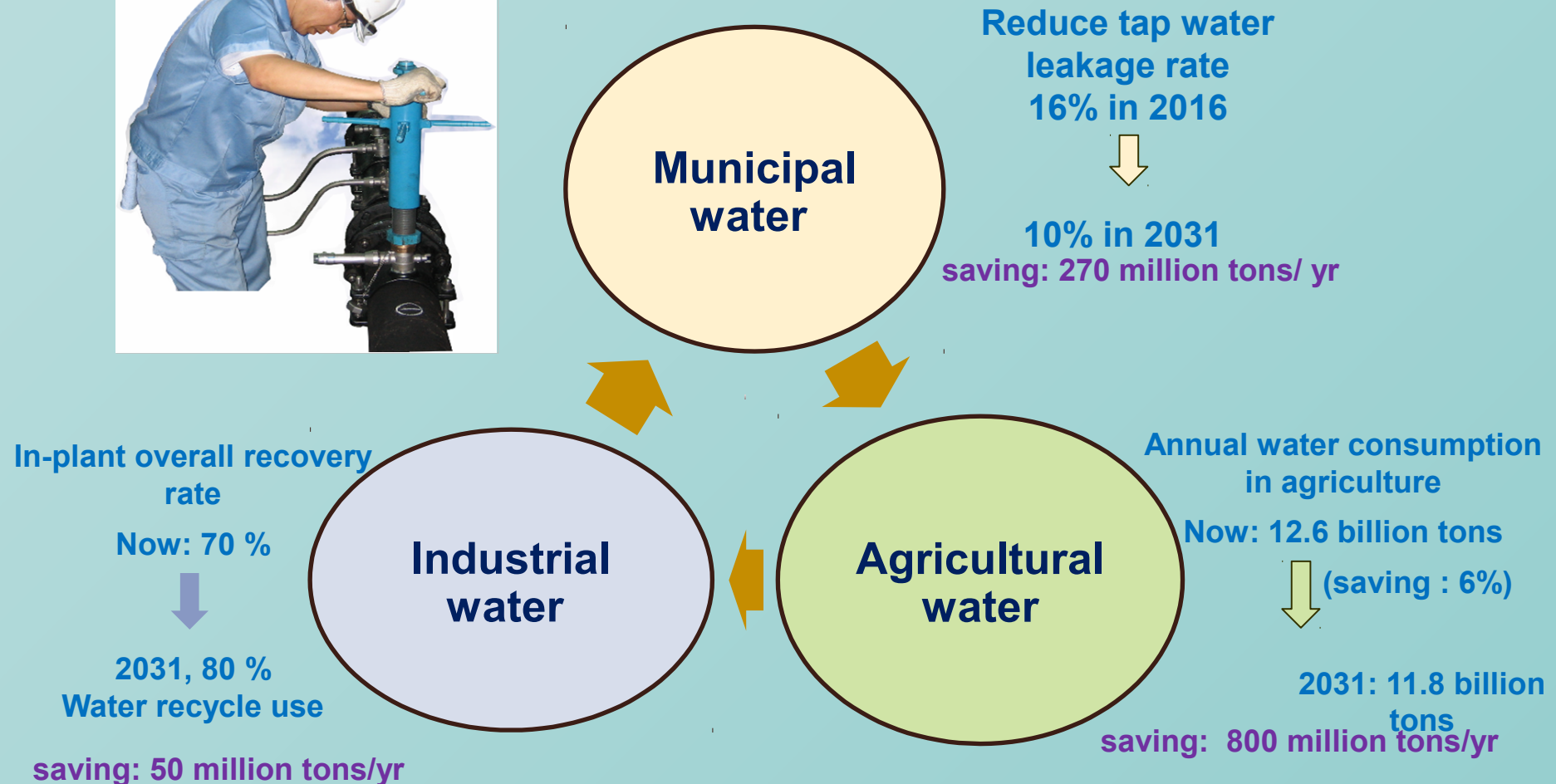
Nanhua Reservoir sluicing Tunnel

(In construction, it is expected to be completed in 2018)

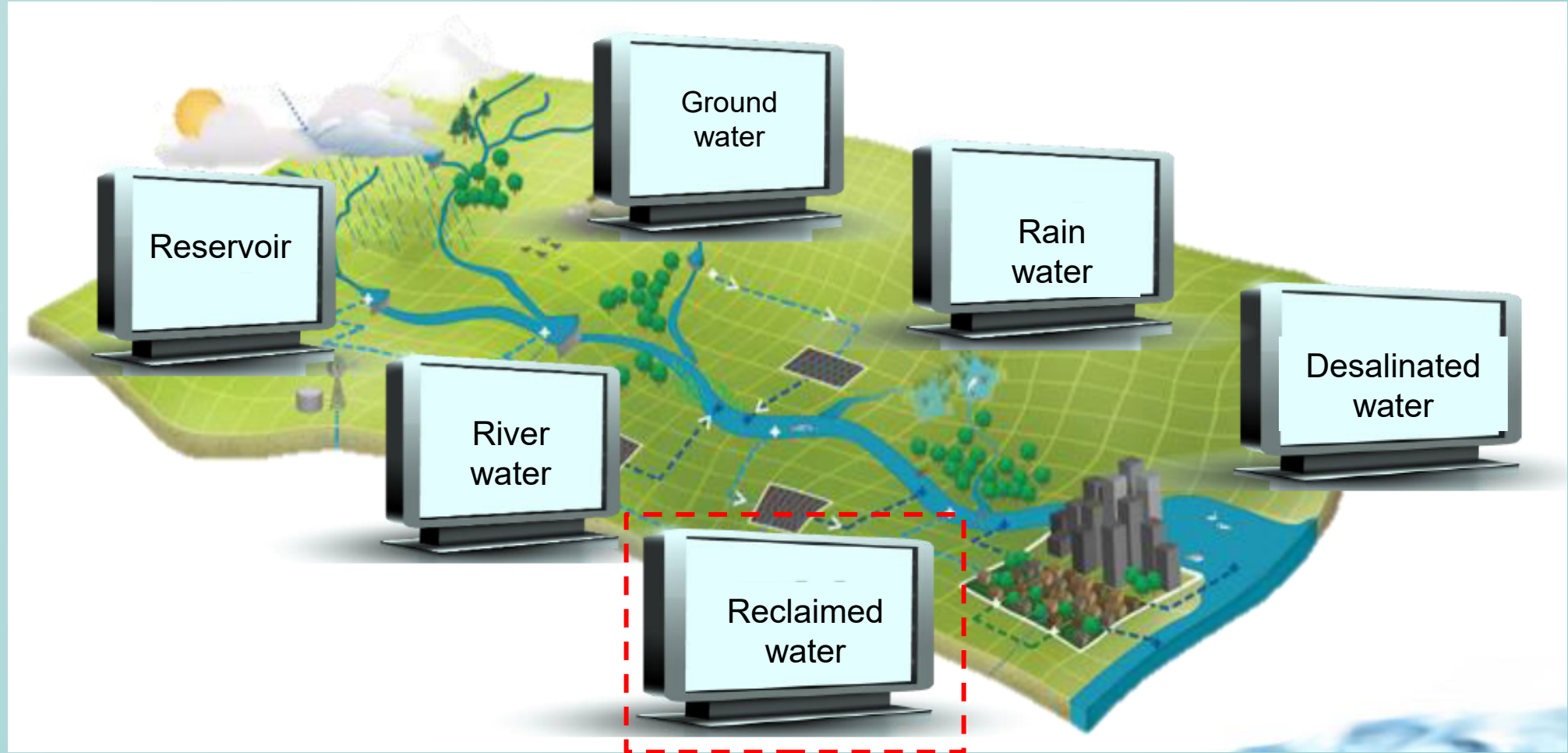


Hydraulic Desilting tunnels

3. Water saving- Enhancing conservation for each target

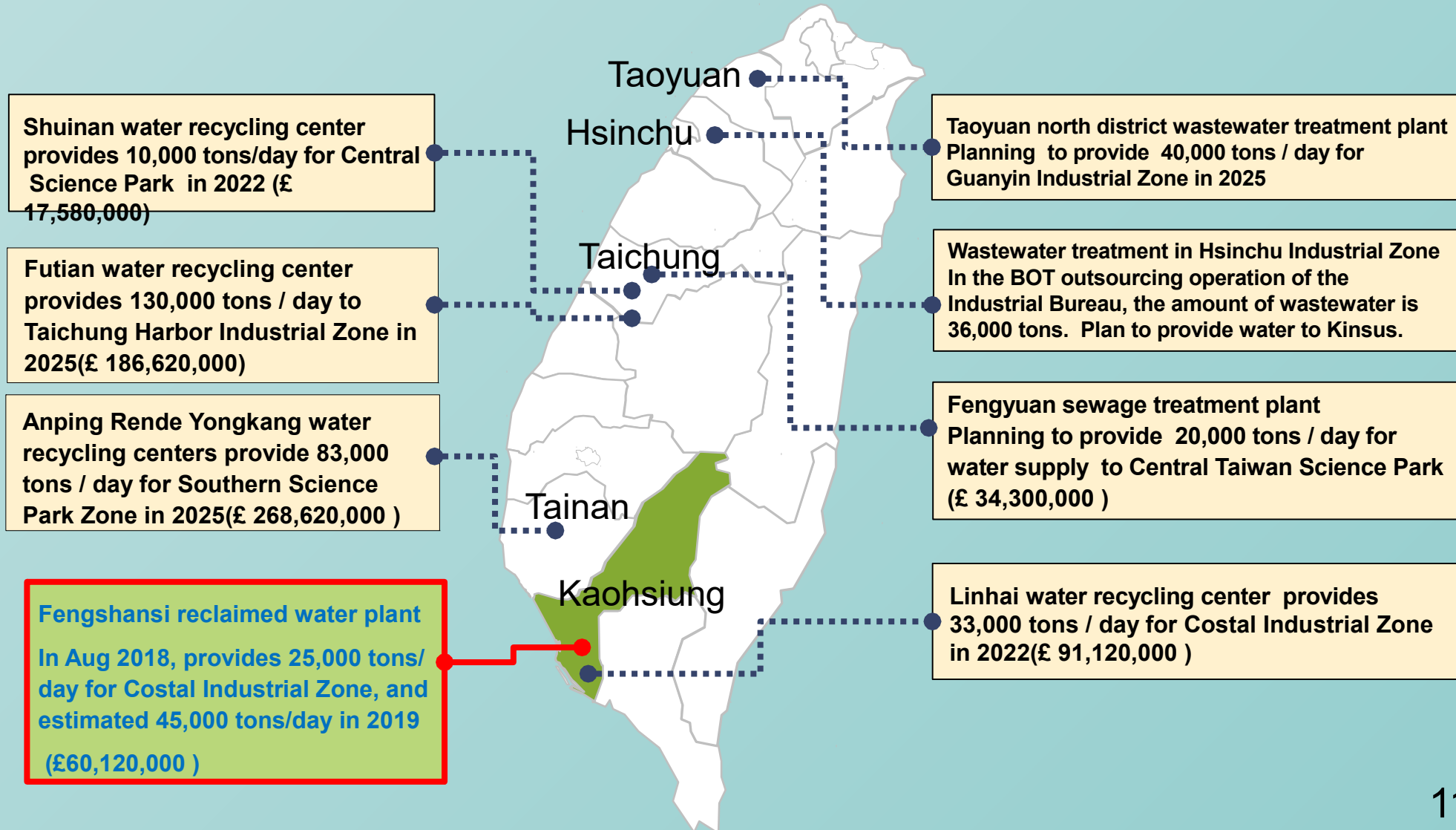


4. Multiple water sources and dispatching backups



Reclaimed water-- use each drop twice

- Promote reclaimed water plants all around Taiwan
- Prioritize reclaimed water for industrial usage

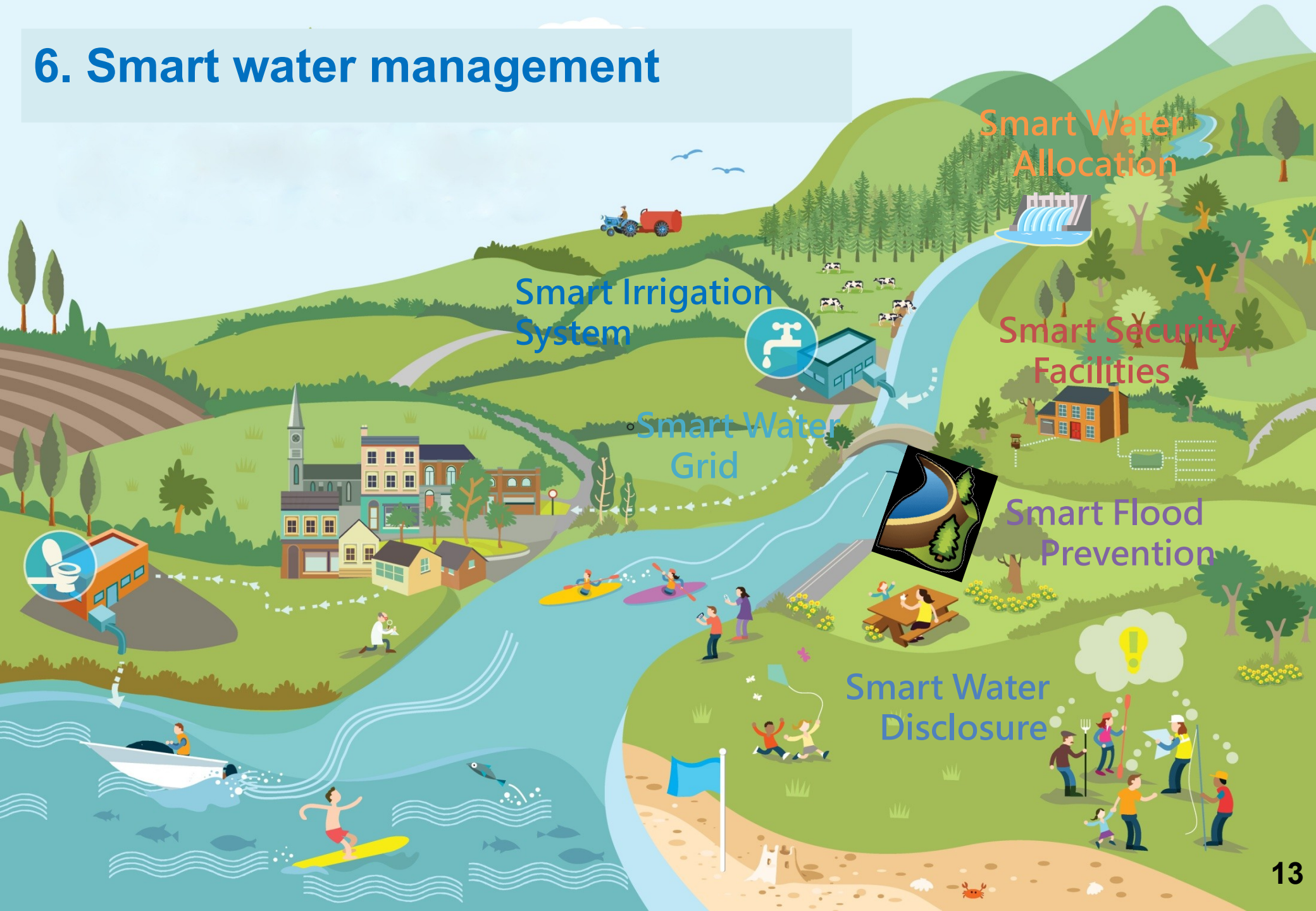


5. Runoff distribution, outflow regulation

Bills signed on May 29, 2018



6. Smart water management





Thank you for listening!



Photoed in Taichung city, Taiwan