

# Toward Sustainable Water Supply System in Seismic TAIWAN

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## OUTLINE

- 1 - Preface
- 2 - Challenge and disasters
- 3 - Strategy and measures
- 4 - Conclusion

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### 1 - Preface

“Formosa” means “Beautiful Island”, but....

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### 2 - Challenge and disasters--Earthquake

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### 2 - Challenge and disasters—Destroyed water supply system

Dam and intake

Water purification plant

Water transmission trunk

Water distribution system

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### 2 - Challenge and disasters—Typhoons

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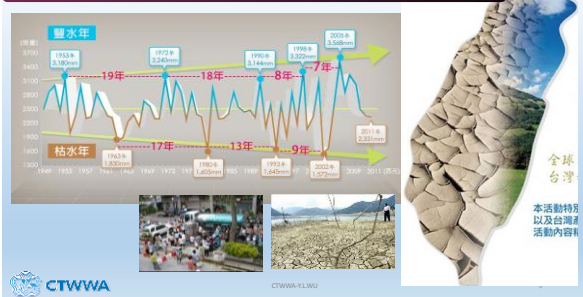
## 2、Challenge and disasters—Flood and Landslide



## 2、Challenge and disasters—High turbidity and water supply shutdown



## 2、Challenge and disasters—Climate change and drought

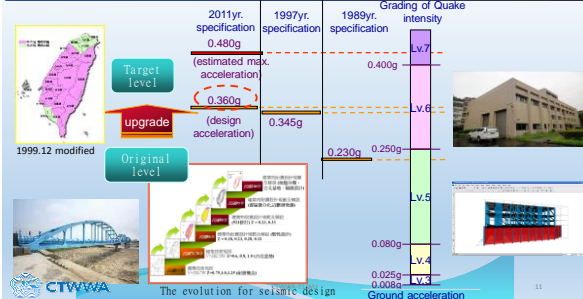


## 3、Strategy and measures—Water source conservation

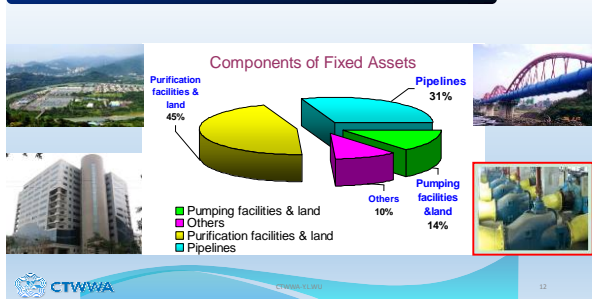
Water source conservation budget: US\$153.4 millions/year  
New reservoir plan: Husan reservoir (2002~2015) US\$680 millions



## 3、Strategy and measures—advance quake-resisting design standard



## 3、Strategy and measures—Stable water supply system



### 3 · Strategy and measures—Increasing water purification capacity

- TWD:
  - Invest US\$131 millions from 2008 to 2019 to against raising raw water turbidity and increasing back up capacity form 13% raise up to 56%
- TWC:
  - Invest US\$525 millions from 2010 to 2019 to build new purification facilities, renewing exist purification facilities, enlarging purification capacity to satisfy water demand and reinforce quake-resisting capability.



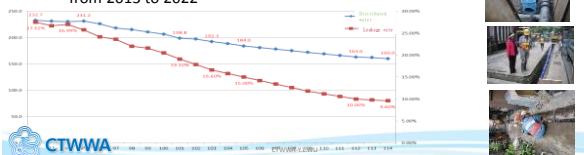
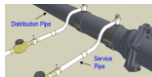
### 3 · Strategy and measures—Building supporting and backup system

- TWD:
  - Budget with US\$ 700 millions from 2006 to 2021 to achieve dual clean water trunk system and build supporting mechanisms among water supply districts.
- TWC:
  - Budget with US\$726 millions from 2007 to 2019 to build water supporting and back-up water supply system.



### 3 · Strategy and measures—Potentiating water distribution system

- TWD:
  - Pipeline network improvement plan with US\$70 millions from 2006 to 2025
- TWC:
  - Decreasing water loss plan with US\$2.1 billions from 2013 to 2022



### 4 · Conclusion

- Location on the seismic area and the world climate change that we can not avoid, But we can do our best to strengthen the water system and do well prepared to face the coming hazards.
- In response to the challenges, TWD and TWC set the goal of building a sustainable and stable water supply system for people, that need much money and times and hard works. The goal will be accomplished after endeavoring to reinforce the old facilities, establishing supporting and backup system and improving the water distribution system.
- Different environments face different disasters, we suggest focusing on the most critical threats and engaging in the proper solutions under schemes.

