

# **Development Management and Aid:** **The Case of Water Supply Sector Reform in Cambodia**



**Policy Formulation in Developing Countries**  
GRIPS Development Forum

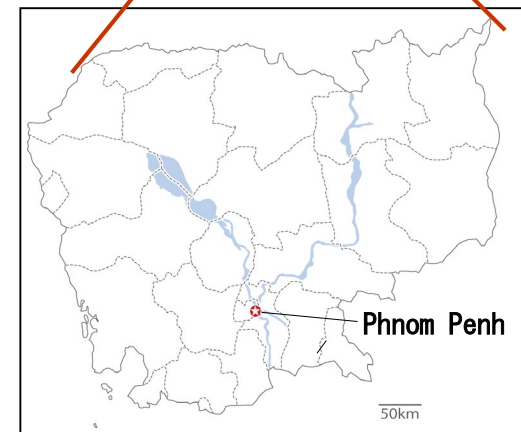
# Outline

---

1. Background and Overview of Cambodia's Water Supply Sector
2. Development Management by the Cambodian Side
  - Owning policies with strong and effective leadership and long-term vision for capacity development
3. Role of Japan's Aid
  - Alignment with Cambodia's priorities and harmonization with other development partners

# 1. Background and Overview of Cambodia's Water Supply Sector

- Cambodia, a Post-Conflict Country
  - Cambodia won independence from France in 1953.
  - The coup in 1970 overthrew the King Sihanouk and a civil war continued for about 20 years.
  - After the Cold War in the international political arena, momentum toward peace increased in Cambodia and the peace agreements were signed in 1991.
  - The Kingdom of Cambodia was restored in 1993.



Source: Prepared from the map posted on the Ministry of Foreign Affairs web site

# Background and Overview of Cambodia's Water Supply Sector

---

- Water supply system in Cambodia has been improved and expanded since 1990s.
  - Water supply system suffered devastating blow during the Pol Pot Regime under the civil war.
  - In 1993, water coverage (water service ratio) in Phnom Penh was about 20% and water supply was available only for about 10 hours a day.
  - The morale of the Phnom Penh Water Supply Authority (PPWSA) officers was low, and the organization became a “source of corruption” where executives themselves sold illegal water and connected water pipes illegally.
  - Despite the situation, water supply system drastically improved in 10 years.

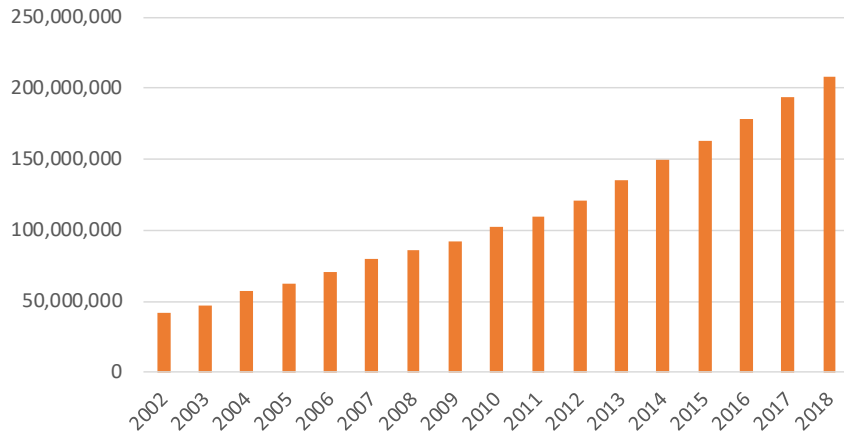
# Performance Indicators of PPWSA

---

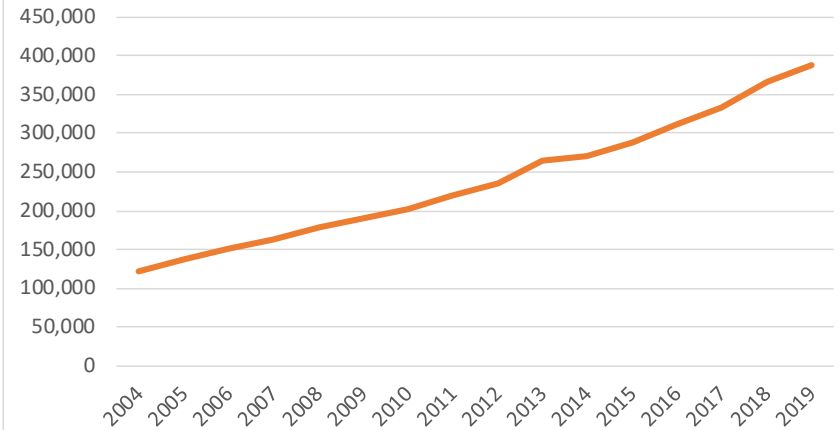
- Water supply services in Phnom Penh have drastically improved.
  - 24-hour water supply has been realized since 1999.
  - Water service ratio exceeded 80% in 2003 and 90% in 2007.
  - Water quality meets the WHO Guidelines and tap water is safe and drinkable as it is.
- PPWSA has continued to run a profit and is increasing its water service coverage to outer Phnom Penh.
- PPWSA's Third Master Plan for the period 2016-2030 stipulates its target to reach 100% safe water coverage by the end of the period.

# Other Performance Indicators of PPWSA

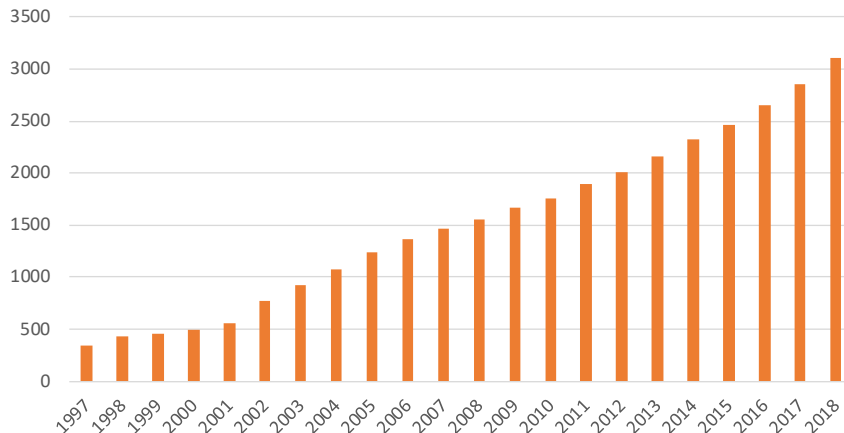
Water Supply Volume of PPWSA (m<sup>3</sup>)



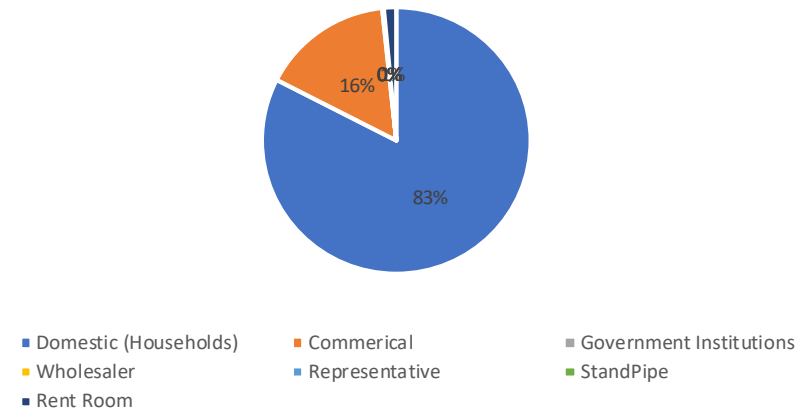
Number of Water Connections of PPWSA



Length of Transmission Main of PPWSA (km)



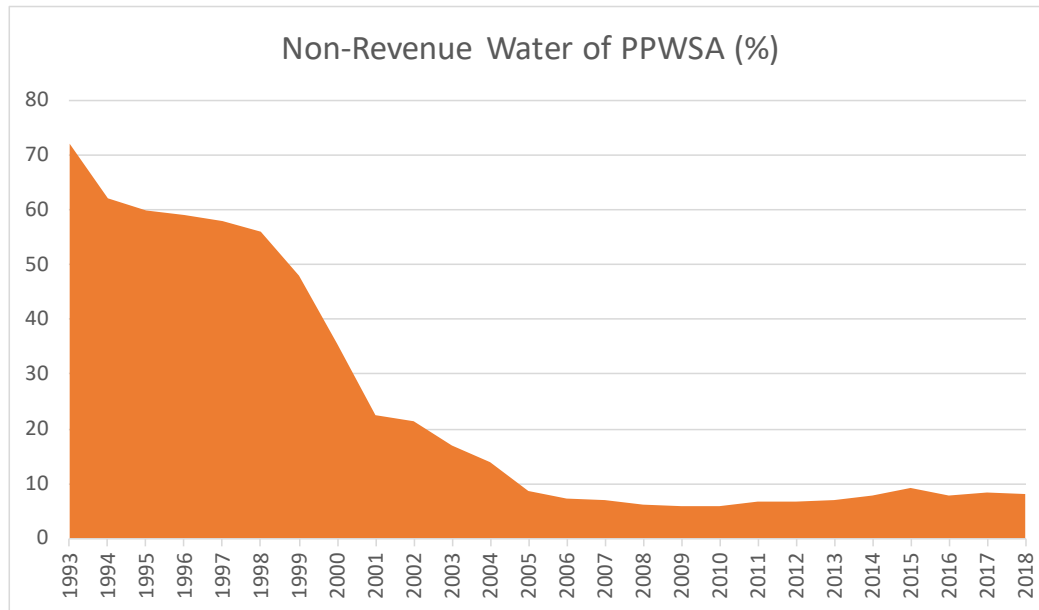
Type of Customer



Source: Prepared based on the data provided in the PPWSA web site

# Non-Revenue Water (NRW) of PPWSA

- PPWSA's rate of NRW was 72% in 1993 and the rate decreased to about 8.18% in 2018.
- Currently, the percentage of bills collected both in terms of the number of bills and the value of the bills exceeds 99.5%.



Source: Prepared based on the data provided in the PPWSA web site

- NRW = Unbilled authorized consumption + Water loss. (Definition by the International Water Association)
- NRW can be through leaks, theft, metering inaccuracies etc.
- Reference: NRW rate in Japan is 9.97% on average in 2015. (Source: Japan Water Research Center)

# Further Development of PPWSA

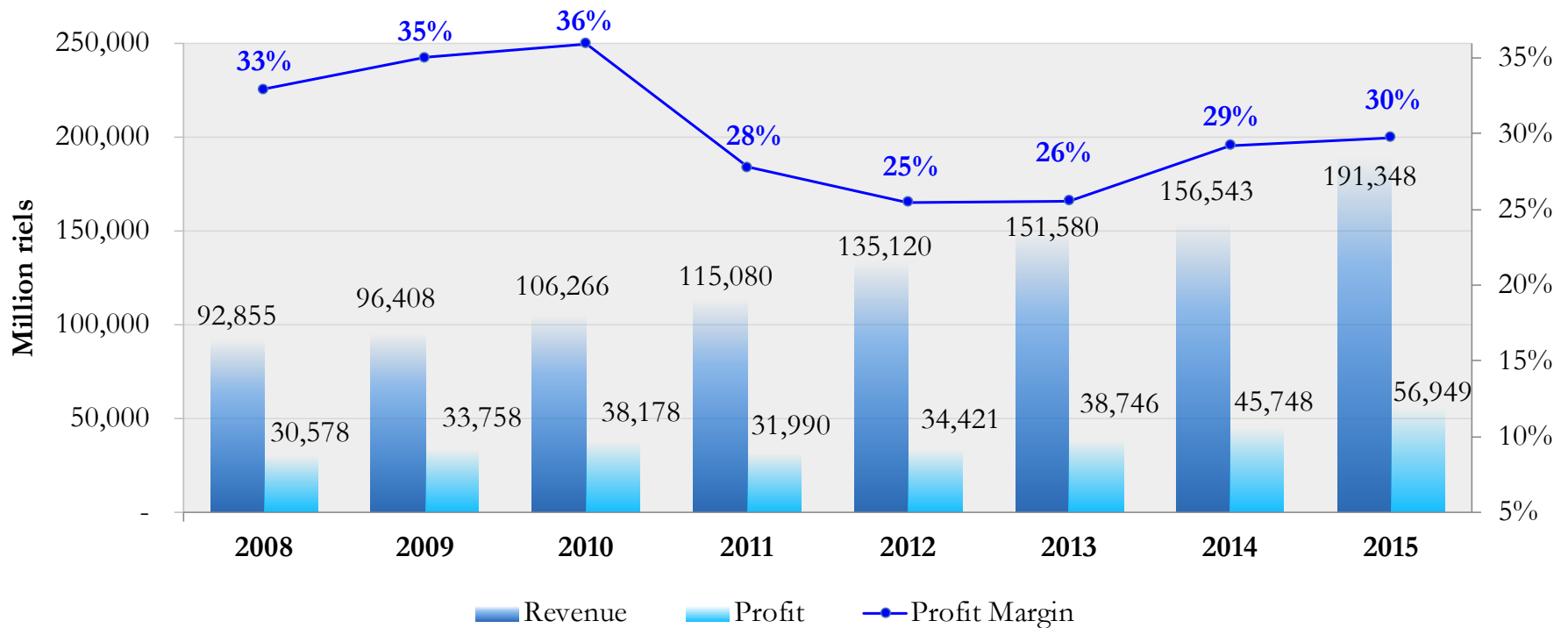


- PPWSA was rapidly reformed and developed, and became a fully autonomous organization since 1997.
- In 2012, PPWSA became the first domestically listed company on the Cambodian Stock Exchange.
- PPWSA is internationally recognized and heralded as a role-model of water utilities.
  - Queen Victoria Commemorative Medal (2017), Socrates International Award (2016), United Europe Award (2015), Platinum Technology Award (2015), The Bizz (2015), Best Enterprise Award (2015), Leadership Award (2015), Best Quality Leadership Award (2014), Stockholm Industry Water Award (2014), The Bizz Arabic Award (2014), European Award for Best Practices (2014), Diamond Eye Award for Quality Commitment & Excellence (2014), International Trophy for Quality (2014), Majestic Five Continents Award For Quality & Excellence (2013), JICA Recognition Award (2012), Stockholm Industry Water Award (2010) etc.
- PPWSA officers are providing technical support to local waterworks in Cambodia as well as water utilities in other countries as trainers – PPWSA is rolling out its good practices to the provinces and other countries.



# Further Development of PPWSA

## PPWSA's Trend of Profit Margin from 2008 to 2015



Source: PPWSA Financial Statement

# Success Factors that Led PPWSA to Sweeping Transformation

---

- Development Management by the Cambodian Side
  - Cambodian Government's reform commitment
  - Strong leadership of Ek Sonn Chan, the General Director of PPWSA
  - Team formation and utilization of young, competent and motivated human resources
- Role of Japan's Aid
  - JICA's Master Plan (especially the First Master Plan 1993-2010) contributed as an effective action guideline
  - Timely support by Japan and other foreign development partners
  - Japan's contribution to human resource development through series of on-site technical cooperation

## 2. Development Management by the Cambodian Side

---

- **Cambodian Government's reform commitment**
  - Strong reform intention existed in the new administration of Kingdom of Cambodia, established by the general election in May 1993.
  - Sense of urgency by the Phnom Penh City, which was the supervisory body of PPWSA at that time prompted reform – PPWSA had been dysfunctional with cumulative deficit and poor management and could not provide proper services during the civil war.
  - Ek Sonn Chan was appointed the General Director of PPWSA in September 1993 to implement reform. He was handpicked by the Mayor of Phnom Penh to head PPWSA – a long series of transformations commenced under his strong leadership.

# Ek Sonn Chan's Background and Leadership Theory



- Ek Sonn Chan had been a government officer since 1979 and was a Commerce Director of Phnom Penh City right before appointed the GD of PPWSA .
- Prior to becoming the GD of PPWSA, he also worked as the Mayor's French interpreter, where he was recognized his great personality and gained trust.
- In recognition of his outstanding contributions in PPWSA reform, he was the first person awarded the 2006 Ramon Magsaysay Award as a Cambodian government official.

## Ek Sonn Chan's Leadership Theory

1. Leader shall have a heart of compassion and charity
2. Leader shall support and give to those in need
3. Leader shall be fair and remain impartial
4. Leader shall provide education equally, regardless of the person's status

Source: "*Miracle of Phnom Penh*" (JICA, 2015)

# Strong Leadership of Ek Sonn Chan, General Director of PPWSA

---

- Ek Sonn Chan worked straight on to rebuild the corrupt PPWSA
  - Thorough internal survey was conducted to identify problems.
  - Corrupt, high ranking managers were restructured.
  - Strict merit-based system was introduced.
    - Younger enthusiastic officers motivated to work were promoted to senior posts with more direct responsibilities.
    - Inefficient senior officers were moved into unimportant posts.
  - Incentives (higher salaries and bonuses) for good performance were introduced. Penalties were imposed for bad performance.
  - Ek Sonn Chan did not budge to strong resistance from the corrupt officers and worked closely with a core team of competent young officers.

# Team Formation and Utilization of Young, Competent and Motivated Officers

---

- Ek Sonn Chan formed a team of about 10 officers who've studied abroad and/or graduated from university and looked for ways to reform PPWSA and water supply sector together.
- Through his consistent and transparent efforts, the awareness of PPWSA officers was gradually changed and they also felt a sense of ownership of the utility and took responsibility for all its operations.
- Ek Sonn Chan was popular among PPWSA officers and got support from them, as well as gained trust from consumers.
- Ek Sonn Chan's aspirations have been passed down to successive PPWSA officers even after his retirement.
  - He retired from PPWSA in June 2012 and became Under-Secretary of State for Water at the Ministry of Industry, Mines and Energy and then became the Secretary of State, Ministry of Industry and Handicraft between December 2013 and December 2018.

# Stakeholder Management of PPWSA

---

- PPWSA's slogan "all in all": Team management aiming for the same goal not only for the officers but also for stakeholders as a whole, including contractors and consultants, local communities and local governments.
- During construction of new water supply facilities, PPWSA officers made efforts to gain understanding and cooperation from local residents and local authorities through close dialogue and established continuous relationships of trust.
- PPWSA officers also made efforts to build good relationship with contractors and consultants to encourage close collaboration as a team, aiming for the final goal of "realization of stable supply of a safe drinking water".

# Organizational Efforts to Maximize Performances of PPWSA

---

- Empowerment of executive managers and autonomous leadership
  - Management policy backed by technology
  - Organizational culture that holds “helping each other as a member of family”
  - Organizational design and personnel system that motivates employees and work incentives
  - Diversified management for expanding revenue sources
- ➔ PPWSA has become to share its experiences with provincial waterworks in Cambodia as well as in the region.



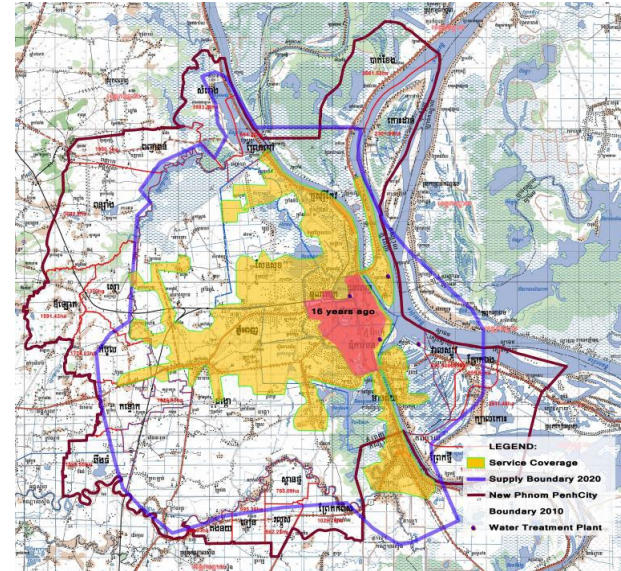
# 3. Role of Japan's Aid

- JICA supported preparation of Master Plan (1993-2010), which contributed as an effective action guideline – MP helped Ek Sonn Chan define the strategy for appropriate management, urgent rehabilitation and expansion of water supply system.

< Top three priority issues in the MP tackled by Ek Sonn Chan >

1. Increase water bill collection rate.
2. Reduce water leakage rate. (Reduce leaks and theft.)
3. Revise water tariff system.

Source: "Miracle of Phnom Penh" (JICA, 2015)



PPWSA's service coverage

(Source: PPWSA's presentation material)

# Concrete Action Based on the MP

---

- PPWSA prepared entire customer list within one year.
- Water meters were installed based on the customer list.
  - Ek Sonn Chan first installed water meter to his house.
  - He visited each person, including Prime Minister Hun Sen and persuaded them with conviction to install water meter.
  - One army officer refused and even pointed a pistol at Ek Sonn Chan, but that did not deter him and ultimately the army officer agreed to pay for the water.
- Ek Sonn Chan introduced a “commission system” to water tariff collection officers – introduction of such incentive system increased motivation of officers and increased water bill collection rate.
  - 48% (1993) → 97% (1997) → more than 99.5% (present)

# Concrete Action Based on the MP

---

- Using both carrots and sticks, transformation of a culture that does not pay water bills to a culture that pays was realized.
  - Strict penalties were imposed on those who had stolen water.
  - PPWSA officers were laid off if they were stealing water.
- Awareness raising activities to water users were carried out to foster disciplined culture.
- Revision of water tariff system was conducted to recover PPWSA's financial soundness.
  - Single rate was revised and different rates were introduced according to two categories – Domestic (Households) and Commercial rates.
  - A progressive billing system was introduced to promote water conservation.

# Timely Support by Japan and Other Development Partners Based on MP

---

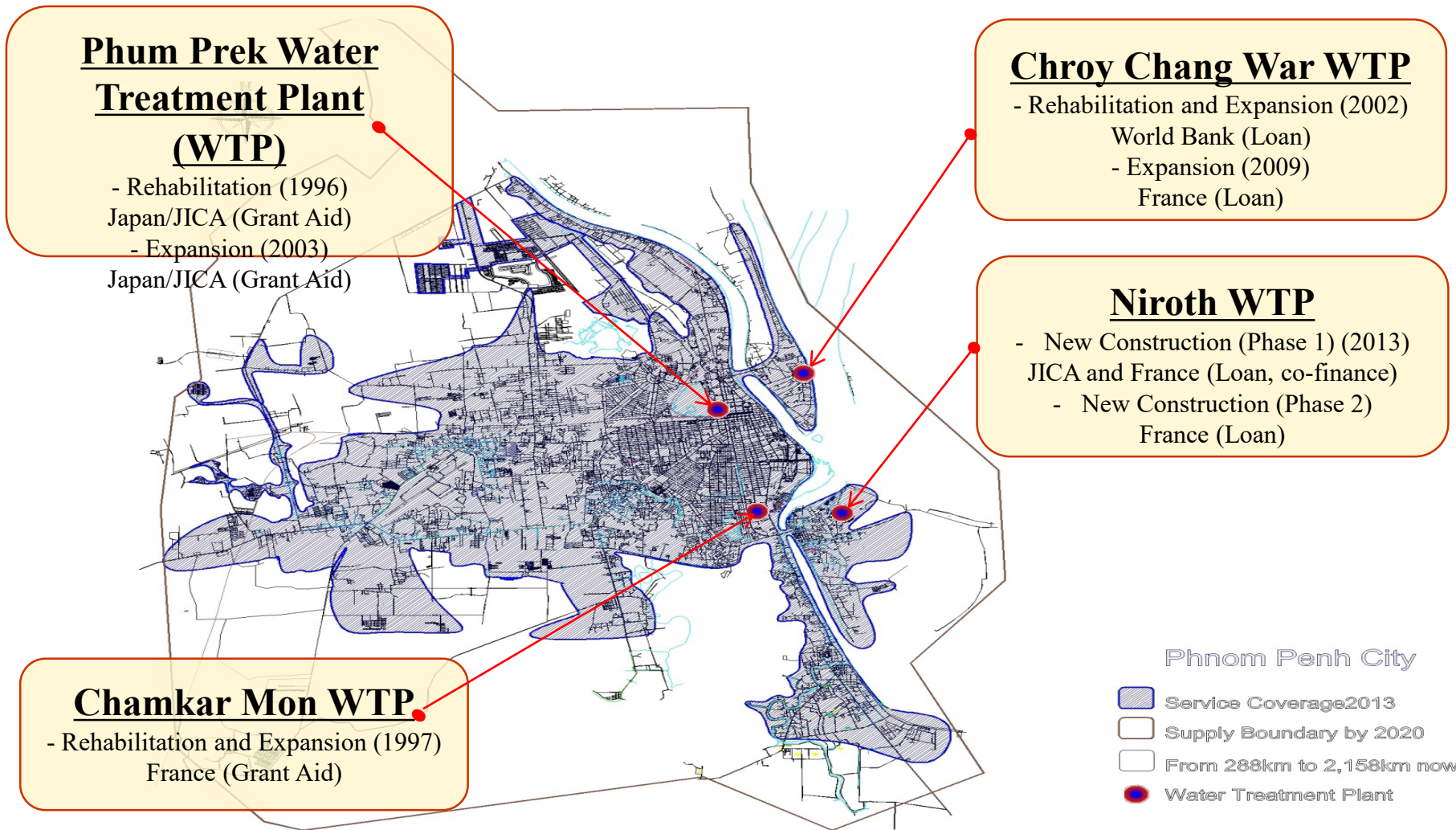
## Foreign Assistance to PPWSA (1993-2014)

Foreign Assistance	Grant (USD)	Loan (USD)
Japan/JICA	72,454,440	44,407,560
UNDP/World Bank	2,803,000	
World Bank		29,455,000
Asian Development Bank		12,639,000
France	21,248,500	39,461,500
Total	96,505,940	125,963,060

Source: PPWSA's presentation material

Note: Grant Aid and Loan mainly for the development of physical infrastructures

# Timely Support by Japan and Other Development Partners Based on MP





# Japan/JICA's Support to PPWSA

ODA Loan "Niroth Water Supply Project" (2009-2014)



Photos taken during ex-post evaluation survey

# Japan/JICA's Support to PPWSA

---

## <Technical Cooperation>

- Development Study “The Study on the Master Plan of Greater Phnom Penh Water Supply in Cambodia” (1992-1993)
- Small-Scale Development Partnership Project (Construction of Monitoring System for Distribution Block) (2001-2002)
- Technical Cooperation Project “Capacity Building for Water Supply System” (2003-2006)
- Development Study “The Study on the Master Plan of Greater Phnom Penh Water Supply in Cambodia (Phase 2)” (2004-2006)

## <Grant Aid>

- “Phnom Penh Water Supply Development Plan” (1992)
- “Phnom Penh Water Supply Development Phase 2” (1997-1999)
- “The Project for Expansion of Phum Prek Water Treatment Plant” (2001-2003)
- “The Project for Introduction of Clean Energy by Solar Electricity Generation System” (2010-2013)

## <ODA Loan>

- “Niroth Water Supply Project” (2009-2014)

# Japan/JICA's Comprehensive Assistance with Program Approach

---

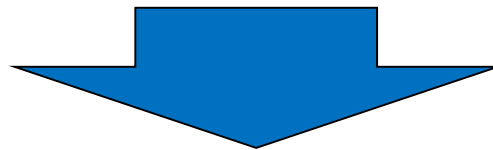
- PPWSA's own efforts, together with JICA's long-term comprehensive cooperation have led to its current outstanding performance of water utility.

## Grant Aid and Loan

- Rehabilitation and Expansion of Water Supply Infrastructures

## Technical Cooperation

- Preparation of Master Plans
- Strengthening of O&M and Financial Management Capacity



Outstanding Performance  
of PPWSA



# Japan's Contribution to Human Resource Development

- A long history of cooperation by Kitakyushu City Water and Sewer Bureau, a local government water utility in Japan, through JICA projects
  - In 1999, Kitakyushu City Water and Sewer Bureau started technical cooperation for PPWSA through JICA support. Since then, the Bureau and PPWSA have always worked together to establish reliable water supply system.
  - JICA technical cooperation projects have spread beyond Phnom Penh to support eight waterworks in the provinces.

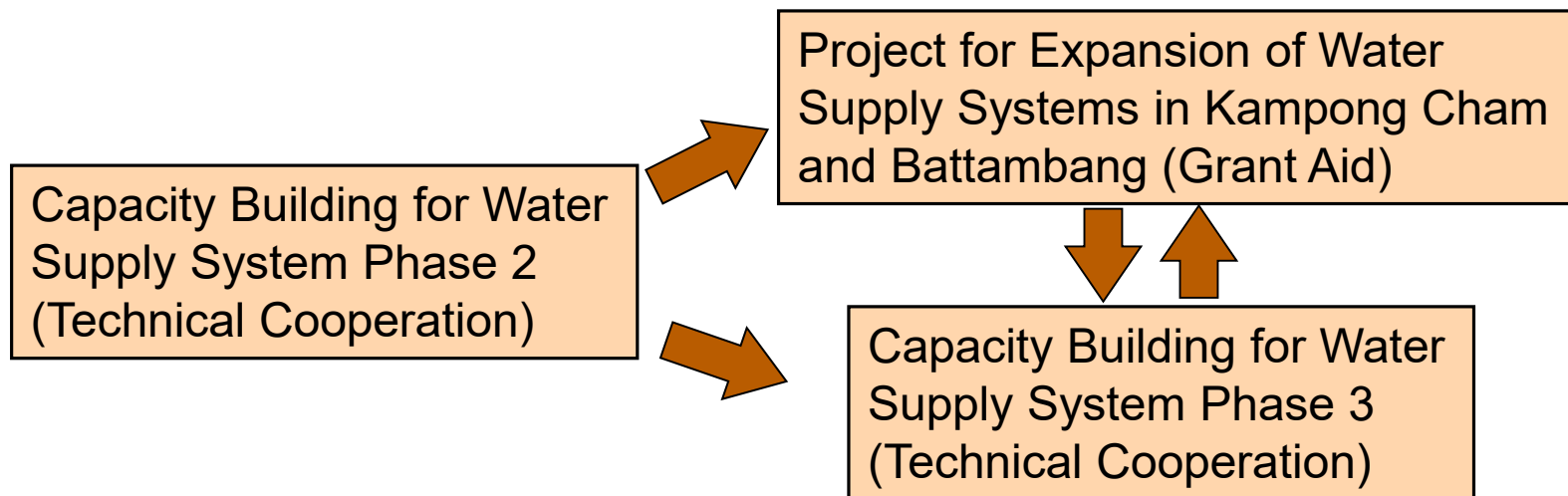
Capacity Building for Water Supply System	Contents of JICA Technical Cooperation Projects (Kitakyushu City Water and Sewer Bureau officers participated as experts)
Phase 1 (2003-2006)	Support for strengthening the operation and maintenance capacity of water facilities for PPWSA
Phase 2 (2007-2012)	Support for strengthening the operation and maintenance capacity of water facilities for eight waterworks in the provinces
Phase 3 (2012-2017)	Support for strengthening the operation and management capacity of water utilities for eight waterworks in the provinces

# Japan's Contribution to Human Resource Development

---

- Synergies have been created through collaboration between different schemes of JICA assistance.
- Officials of Kitakyushu City Water and Sewer Bureau participated in different schemes of assistance as experts which enabled detailed and consistent support with appropriate sequence.

Example: Collaboration between capacity building projects and grant aid for the expansion of water supply infrastructures for waterworks in the provinces



# PPWSA's Initiatives to Strengthen Human Resource in Local Waterworks

---

- PPWSA actively participated in JICA technical cooperation project (Capacity Building for Water Supply System Phase 2 and 3) together with Kitakyushu City Water and Sewer Bureau to share its own experiences to waterworks in the provinces.
- PPWSA provided inputs and advice to Kitakyushu City Water and Sewer Bureau to make sure that trainings are conducted according to the status of facilities and equipment in Cambodia and the skill level of waterworks officials in the provinces.
- PPWSA also provided lectures on management method and practical trainings on the ground to waterworks officials in the provinces.

# PPWSA's Further Initiatives

---

- PPWSA is also assisting other developing countries to supply safe potable water to their people. Requests are coming from Nepal, Myanmar etc. for training programs to strengthen capacity of water utilities.



Photo of PPWSA taken during ex-post evaluation survey

# Topics for Discussions

---

- Please share experiences of organizational/sector reform in your country.
  - What would be important factors to push forward organizational/sector reform?
  - What are possible obstacles to organizational/sector reform?
- Do you think foreign development partners can play important role to facilitate reform?
  - What would be key elements for development partners to provide effective assistance?
  - Please share any case of success or failure where development partners contributed or hampered reform.