Water Supply in Provincial Area of Thailand

- Challenges of NRW management

- Public Private Partnerships
MAJOR AGENCIES CONCERNED WITH WATER SUPPLY IN THAILAND

Cabinet

Ministry of Interior
- PWA
- MWA
- Provincial Adm.Dept.
- Local Adm.Org.

Ministry of Prime Minister
- National Economic and Social Development Board Office

Ministry of Finance
- State Enterprise Policy Office

Ministry Of Natural Resource And Environment
- Water Resource Dept.
- Ground Water Resource Dept.
- Natural Resource And Environment Policy and Planning Office

Ministry of Industry
- Industrial Estate Authority
Water Supply Service Agencies in Thailand

- **PWA (16%)**
  (Across the country except Bangkok, Nonthaburi, Samutprakarn and Local Authority water supply system)
  3.7 mil. connections

- **MWA. (9%)**
  Bangkok, Nonthaburi, Samutprakarn
  2.1 mil. connections

- **Municipality / Subdistrict / Village (58%)**
  14.4 Mil. Connections

No tap water 17%
PWA Headquarters
10 Regional Offices
234 Waterworks
74 Provinces
3.7 Million connections
Vision

Customer delight with water quality and excellent services

Mission

TO PRODUCE AND DISTRIBUTE WATER

TO INCREASE EFFICIENCY AND EFFECTIVENESS OF WATER SUPPLY PRODUCTION AND DISTRIBUTION SYSTEMS

TO REINFORCE CUSTOMER-CENTERED SERVICES

TO DEVELOP INFORMATION TECHNOLOGY SYSTEMS

TO ENHANCE HUMAN RESOURCE CAPABILITIES
Organization Structure

Board of Directors

Governor

- Office of the Governor
- Office of the Corporate Communication and Customer Relations
- Office of Auditors
- Office of Information Technology
- Office of Geographic Information System

Deputy Governor (Strategic Plan)

Deputy Governor (Technical Affairs)

Deputy Governor (Administration)

Deputy Governor (Finance)

Deputy Governor Office of Operation 1

Deputy Governor Office of Operation 2

Deputy Governor Office of Operation 3

Deputy Governor Office of Operation 4

Deputy Governor Office of Operation 5
PWA CORPORATE PLAN

Year 2012 - 2015

Year 2014 - 2016

Year 2016 - 2018

Year 2018 - 2021
3.7 Million Connections

GOVERNMENT & SMALL BUSINESS
0.52 Million Connections (14%)

STATE ENTERPRISE & LARGE BUSINESS
0.22 Million Connections (6%)

Domestic
2.96 Million Connections (80%)
## SIZE OF PWA’s WATERWORKS
(Classified by Number of Customer)

<table>
<thead>
<tr>
<th>Customers (Households/Connections)</th>
<th>Number of Waterworks</th>
<th>Proportion %</th>
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</thead>
<tbody>
<tr>
<td>1-5,000</td>
<td>57</td>
<td>24</td>
</tr>
<tr>
<td>5,001-10,000</td>
<td>71</td>
<td>31</td>
</tr>
<tr>
<td>10,001-15,000</td>
<td>39</td>
<td>17</td>
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<tr>
<td>15,001-20,000</td>
<td>18</td>
<td>8</td>
</tr>
<tr>
<td>20,001-25,000</td>
<td>15</td>
<td>6</td>
</tr>
<tr>
<td>&gt; 25,000</td>
<td>34</td>
<td>14</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>234</strong></td>
<td><strong>100</strong></td>
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EARLY RETRY

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<th>YEAR</th>
<th>1999</th>
<th>2001</th>
<th>2003</th>
<th>2005</th>
<th>2007</th>
<th>2008 - 2013</th>
<th>SUM</th>
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<tbody>
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<td>PERSON</td>
<td>-</td>
<td>372</td>
<td>138</td>
<td>133</td>
<td>103</td>
<td>-</td>
<td>746</td>
</tr>
</tbody>
</table>
Year 2013

Product : 1,523 Mil. Cum.
Sales : 1,091 Mil. Cum.
NRW : 28.31 %

PWA water supply services

- Domestic: 49%
- Government and Small Business: 27%
- State Ent. And Industry: 24%

Sales

NRW
Population across the country
(65 Million People/22.7 Million Household)

Expected can serve thoroughly within 10 years

(+94,000 Connections /Year)

(+160,000 Connections /Year)

(Estimate)
Total 6.02 Million Cu.m/Day

- PWA: 4.81 (80%)
- Private: 1.04 (17%)
- Water Reserve: 0.17 (3%)
1. Ratchaburi & Samutsongkram (BOO)
2. Phuket (BOO)
3. Nakhon Pathom & Samutsakhorn (BOO)
4. Pathumtani & Rungsit (bulk water) (BOOT)
5. Nakhon Sawan (BOOT)
6. Chachoengsao (BOOT)
7. Bangpakong (BOOT)
8. Phanat Nikhom – Baan Beung (BOO)
9. Sattahip (Lease Contract)
10. Koh Samui (RO) (BOO)
11. Rayong (BTO)
- Decrease burden of government subsidy
- Increase PWA’s asset when contract ends (BOOT) or construction finishes (BTO)
- Resolve water shortage problem in PWA service areas
- Increase water coverage areas as planned
- Increase sale volumes of water supply
- Stipulate effective management
- Introduce technology for water production and water loss control
Cons

- Increase higher unit cost of water due to the yearly adjustment of water sale according to the contract
- Increase operating cost in PWA branch areas where PPP is used
- Make PWA staff lack of skill since private companies run the operation for a long time during the contract period
- Consume time of project process in accordance with rules and regulations specified in the PPP Act
- The service may not meet customer's demand since it is profit-driven
The group of waterworks for determination the direction of NRW management on 2014 – 2016.

Classify waterworks for NRW management into 3 groups:

**Group 1**  Not more than 15,000 connections (Small Group: S=169 waterworks.)

The water production system was designed by PWA and the equipments were installed by private company, after that PWA will take the management.

**Group 2**  Between 15,000 – 40,000 connections (Medium Group: M=41 waterworks.)

The water production system was designed by PWA or private company and the equipments were installed by private company. PWA will take the management (if ready) or hires private company taking the management 2 years.

**Group 3**  More than 40,000 connections (Large Group: L= 21 waterworks.)

The water production system was designed by PWA or private company and the equipments were installed by private company. PWA will take the management (if ready) or hires private company taking the management 3 years.
The determination of NRW management can be specified into 4 types:

1. PWA operates and hires private company to install the equipment following PWA’s plan.

2. PWA hires private company to design, install and operate (without DMA)

3. PWA hires private company to design, install and operate (already have DMA)

4. PWA hires private company to design, install and operate (already have DMA). PWA will pay incentive if they achieve the specific goal (In case of waterworks that has higher cost of water)
THANK YOU