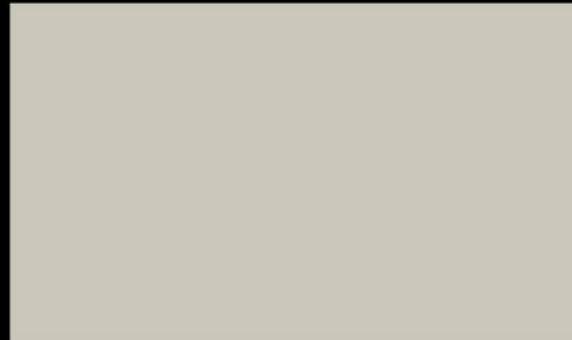


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# Lessons Learned from Failed PPP Projects: Case Studies from Different Countries

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# Lessons from Failed PPP Projects

PPP Projects can “fail” at different places in the project life-cycle, and for different reasons. The public sector’s strategy for remedying failure must be designed to reflect the unique circumstances of the project. This presentation provides three examples:

- Tala Power Distribution (India):
  - Initial failure prior to contract award
- Tampa Bay Water (USA):
  - Failure after contract award
- Manila Water, West Zone (Philippines):
  - Multiple crisis points

# Tala Power (Hydropower/transmission) Case Study

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# Tala Power Transmission

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- North India has experienced a chronic shortage of power, while neighboring Bhutan has extraordinary hydropower potential. This formed the basis of an agreement under which Bhutan constructed a 1,020 MW hydroelectric plant, with power export to India a key factor in the economic rationale for the project.
- Export of the power would require a 1,156 km 400 Kv power line and 20 km of 220 Kv lines. Due to the cost and complexity of this project, the Government of India sought to utilize a PPP.
- The public partner would be Power Grid Corporation of India, a state-owned utility.



Tala Hydropower Plant

## Initial Private Sector Interest was Limited

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- This would be the first private investment in power transmission in India.
- Indian state electricity boards had poor payment records.
- It is often difficult for private parties to obtain consents and approvals in India.
- The potential for political disputes between India and Bhutan also created risk.

# PPP Strategy to Mitigate Risk

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- A private company would be formed to execute the project
- The company would be 51% owned by private investors, and 49% by the Power Grid Corporation of India, thus ensuring the Government's commitment to the project
- Management positions would be nominated by each shareholder and the funders:
  - 4 from the private partner
  - 4 from Power Grid Corporation of India
  - 2 additional members appointed by lenders
- A higher than normal tariff would be granted



# Contract Structure

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- A private partner, Tata Power, was selected to be the majority shareholder.
- The PPP legal vehicle, Powerlinks Transmission Limited, was formed.
- Construction cost US\$265 million
- Financed 30% equity and 70% debt
- \$62 million loan from ADB
- 30 years operation as PPP, followed by transfer of operation to Power Grid Corporation of India
- Project now operational

# Tampa Bay Water Study Case Study

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# Tampa, FL Geographic Information

- Approximately 3.5 million residents
- Third largest city in Florida
- Located on the West Central Coast of Florida
- Situated on two main waterways: Hillsborough River and Tampa Bay



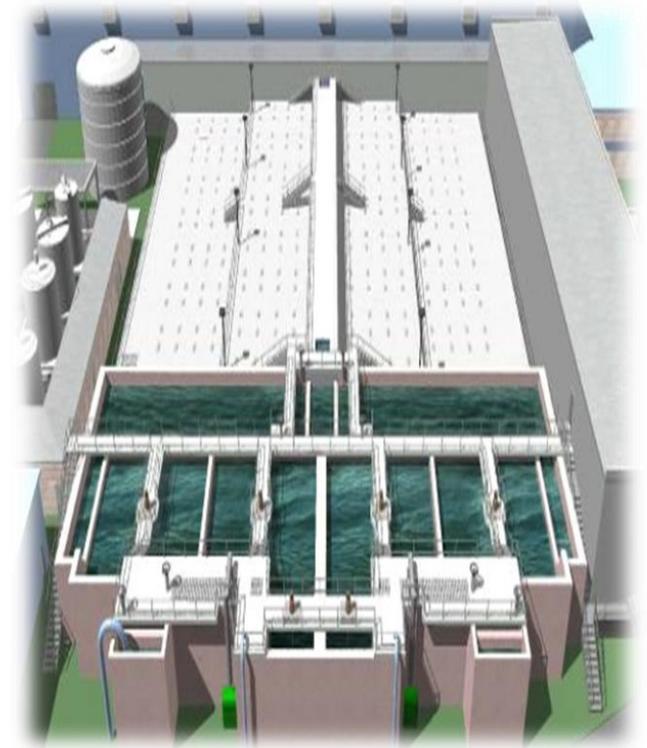
# Tampa Water History

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- Historically, drinking water for the Greater Tampa Bay area has been supplied from groundwater aquifers.
- A combination of a booming population and increasing number of severe droughts had adversely impacted the regional wellfields.
- In order to decrease the environmental impact on the stressed water system, district and regional water authorities decided to explore alternative water technology.
- After researching multiple technologies, it was determined that desalination would be the lowest cost alternative.

# Implementation Challenge for Tampa

- Since desalination is a new technology, experience using the technology within the regional water authority was extremely limited.
- Designing, building and operating the new plant would be a costly endeavor.
- How could Tampa implement this large-scale project with little expertise and inadequate public funding?



# The Solution: Public-Private Partnership

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- Develop a public-private partnership to implement the desalination technology
- Tampa Bay Water's predecessor, West Coast Water Supply Authority, issued a Request for Proposal (RFP) for the Tampa Bay Seawater Desalination Plant in October 1996 using the design-build-own-operate-transfer (DBOOT) process as its basis
  - Private Sector responsibility included the design, construction, operation and maintenance of the desalination plant, as well as 10% equity financing of the total cost of the project (approximate project cost was \$110 million)
  - Public Sector, Tampa Bay Water, responsibility included paying for the quantity of water received, monitor/sample water quality and maintain the right to purchase the plant.
  - Southwest Florida Water Management District was to provide \$85 million in funding for the plant

# Solution Implementation

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- After spending approximately 2.5 years conducting the solicitation process, Tampa Bay Water entered into a Water Purchase Agreement with S & W Water (partnership between Stone & Webster and Poseidon Resources Corp.)
- The agreement was for S & W Water to provide a drought-proof solution capable of supplying 25 million gallons of water per day (MGD) to Tampa Bay Water at a fixed price
- The contract term was for 30 years, with Tampa Bay Water retaining the right to purchase the plant at contract expiration or earlier if necessary
- Issues arose early in the process with the Water Purchase Agreement partners

# Solution Implementation

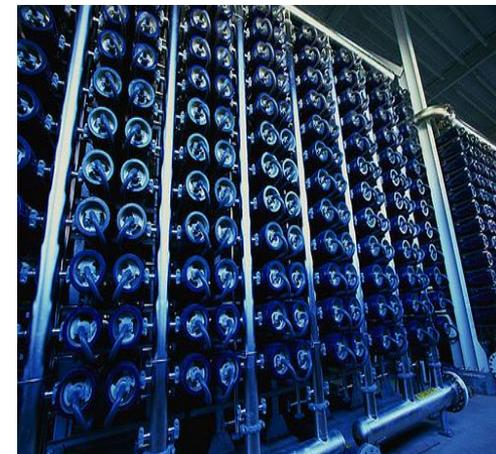
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- In June 2000, Stone & Webster declared bankruptcy and was unable to perform the required agreement services.
- Poseidon Resources Corp., the second party in the joint venture, acquired 100% of S & W Water, changing the name to Tampa Bay Desal in May 2001.
- Covanta Energy replaced Stone & Webster as the plant builder in 2001, but was unable to secure the required construction bond in December 2001.
- As a result of Stone & Webster and Covanta Energy declaring bankruptcy, Tampa Bay Water purchased the project from Tampa Bay Desal in May 2002 to allow financing under their credit rating.
  - At this time the plant's design and permitting was 100% complete, but the construction was only 30% complete



# What was next for the Tampa Bay Seawater Desalination Plant?

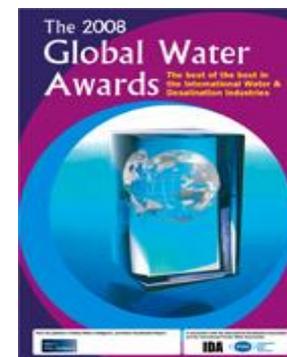
- Even though Tampa Bay Water had now purchased the project, the construction and acceptance testing still needed to be completed
  - In September 2003, the plant failed acceptance testing and Tampa Bay Water placed the plant in standby mode, eventually shutting the plant down in June 2005
- Still understanding the importance of the desalination plant to the Tampa area water supply, Tampa Bay Water issued another RFP for the private sector to perform remediation of the plant's design and construction deficiencies
  - Tampa Bay Water partnered with American Water – Pridesa (a joint venture between American Water and Acciona Agua) to perform remediation services and operate the plant long-term
  - This Water Purchase Agreement would cost \$29.1 million with an owner's allowance of \$2.5 million



# Tampa Bay Seawater Desalination Plant a Success

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- American Water – Pridesa corrected the plant deficiencies and the plant began successful operations in 2008
- The Tampa Bay Seawater Desalination Plant decreased the use of groundwater from 158 MGD to 90 MGD, meeting the primary project objective
- Largest desalination plant in the United States
  - Tampa Bay Seawater Desalination Plant is now used as a model for multiple coastal areas
- The Tampa Bay Seawater Desalination Plant has won three awards:
  - 2008 Desalination Plant of the Year
  - 2008 Trendsetters by Hanley Wood's Public Works Magazine
  - 2008 Public-Private Partnership Award from the National Council for Public-Private Partnerships



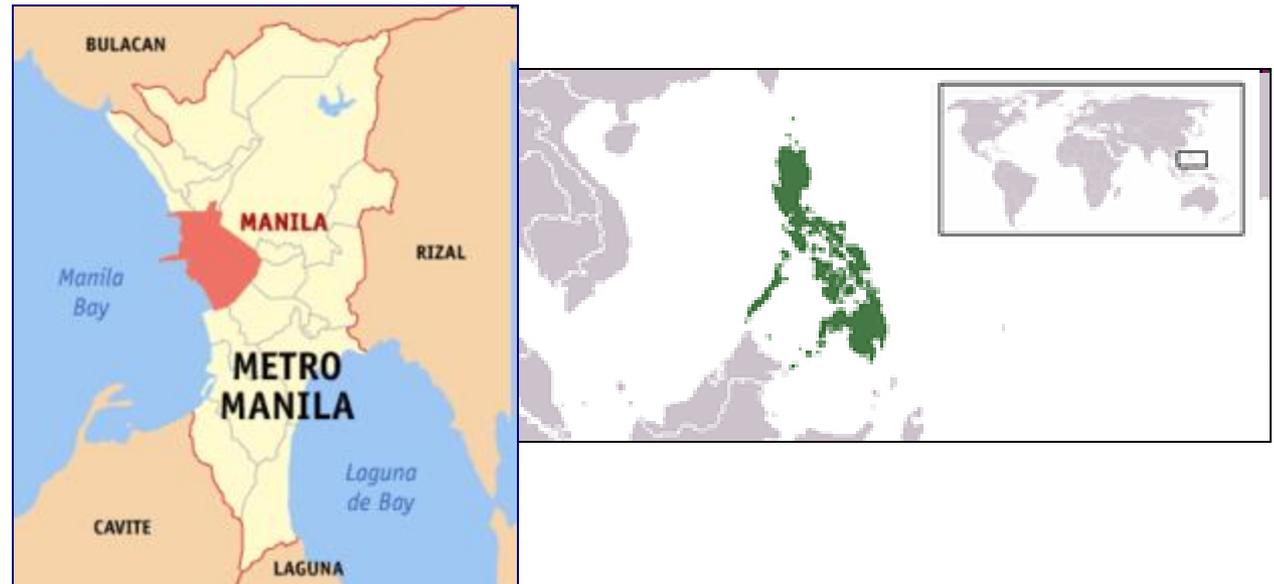
# Manila Water – West Zone Case Study

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# Metropolitan Manila

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- Capital of the Philippines, metro area consisting of 17 separate municipalities
- Population of over 14 million
- Intensely congested in parts – second most populous country in S.E. Asia



# Water and Wastewater Delivery

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- In the mid-1990's, water and wastewater services in Manila were inadequately provided by the public utility:
  - Less than two-thirds of the population had piped water.
  - Water was available, on average, 16 hours per day.
  - 63 percent of water was lost due to leaky pipes and illegal connections.
  - Only seven percent of the population connected to the sewage system.
  - More than 90 percent of sewage flowed untreated into Manila Bay.
  - Government utility hugely indebted: approximately \$800 million.

# Background

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- The Philippine Build-Operate-Transfer (BOT) Law of 1993 enabled private sector participation in public works activities.
- The Water Crisis Act of 1995 gave the President authority to establish a water/wastewater concession.
- In August 1996, the government was forced to increase water rates by 38 percent in an attempt to keep the government-owned water company financially viable, but this was insufficient.

## The Solution (?): A PPP

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- In 1996, the Metropolitan Waterworks and Sewage System (MWSS) began planning for a PPP.
- The Manila metropolitan area was split into two zones, east and west, to be run by two different concessionaires.
- The concession duration would be 25 years.
- After the concessions were awarded, MWSS would split into two entities, one to manage the concession agreements, and one to be the regulator.
- The concession agreements were awarded in 1997.

## Government Objectives for the PPP Contracts:

- Improvement in quality and efficiency of service.
- Expansion of service.
- Reduction in water tariff.
- End expensive government subsidies.
- Transfer debt to private partners.

# The West Zone

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- The winning bid was submitted by Maynilad Water Services, Inc., a consortium of a private Philippine corporation and an international water company.
- Initial cash equity investment of U.S. \$100 million.
- Annual fees of \$1 million to the regulatory office, and \$4.25 million to the contract manager. Commencement fee of \$5 million to cover consultant fees.
- Maynilad pays for all operation, maintenance, and investment.
- Maynilad pays 90% of MWSS debt load (\$720 million).
- Maynilad keeps water/wastewater fees, receives tax incentives.
- Financial structure designed to end investment by Philippine government.

# Performance Goals

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## ➤ By end of contract:

- 98 percent of those living in West Zone would receive safe drinking water.
- 66 percent of those living in West Zone would receive sewage service.

## Initial Results

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- From 1997 to 2002, residents with water service increased from less than 66 percent to 75 percent.
- Water pressure increased from 3-5 psi to above 8 psi.
- Residents with wastewater service increased from seven to 19 percent.

# Mounting Problems

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- The Request for Tender identified the West Zone as having 2,500 kilometers of pipes; the actual system included 4,000 kilometers.
- From mid-1997 to mid-1998, El Niño effects reduced Manila's bulk water supply by 40 percent.
- The Asian financial crisis hit in 1997; by 2001, the Philippine peso had valued from 26 to 55/\$1.
- By 2001, Maynilad was \$300 million in debt. Concession payments stopped in March 2001, as the concessionaire ran short of funds.

## From Bad to Worse

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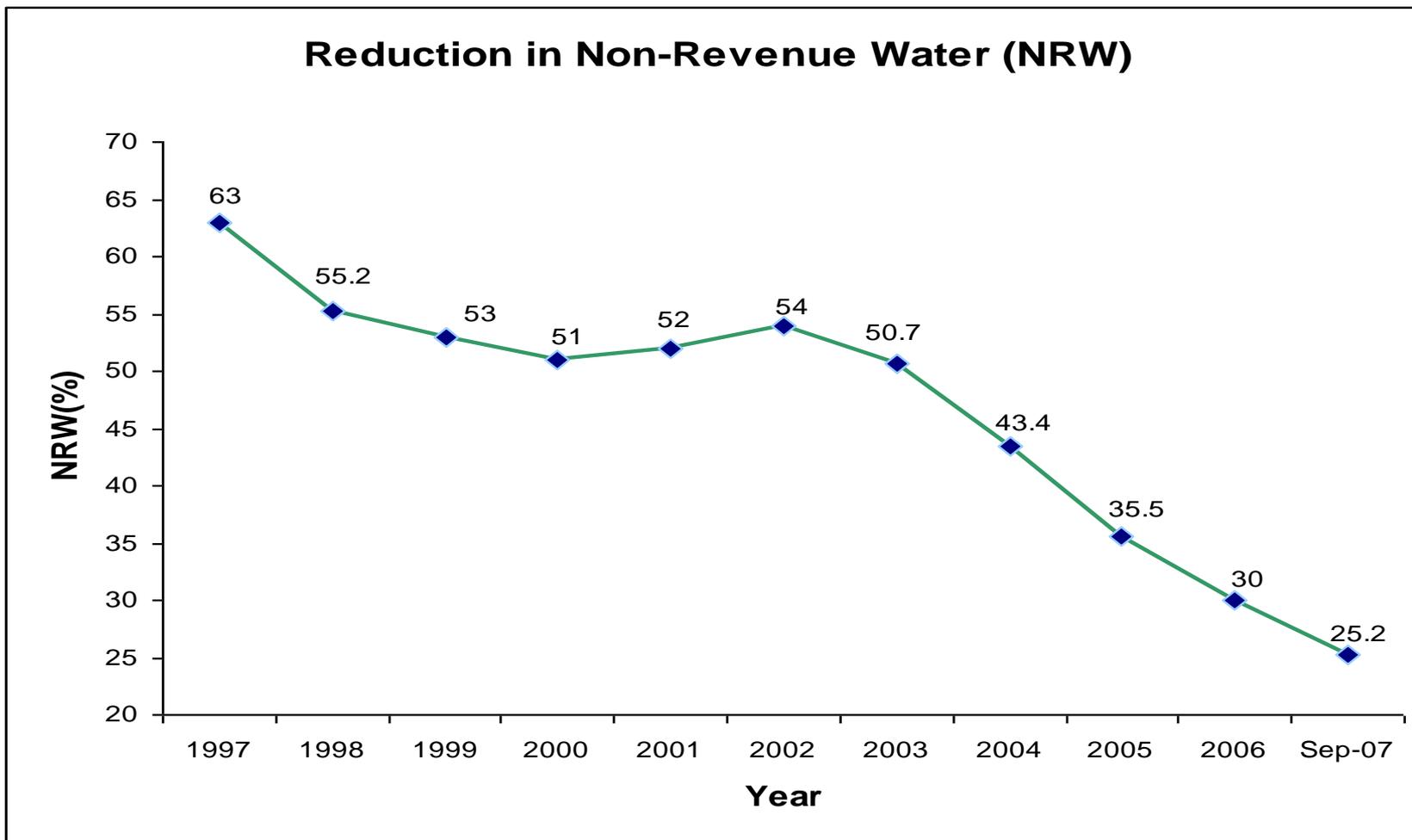
- In December 2002, one of the concession partners filed with the arbitration court for termination of the concession, asserting MWSS failure to meet its obligations.
- MWSS filed its own petition to terminate the contract, asserting the concessionaire had failed to meet its obligations.
- In November 2003, the arbitration panel ruled that neither party could terminate the agreement.
- Maynilad continued to provide water services “to the extent necessary to serve the public interest”. However, water rates increased by 275 percent from 1997 to 2004.

# What Could Have Helped?

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- Accurate and complete Request for Tender.
- Contingency clauses based on water availability.
- Currency fluctuation safeguards.
- Clearly defined dispute and arbitration guidelines.

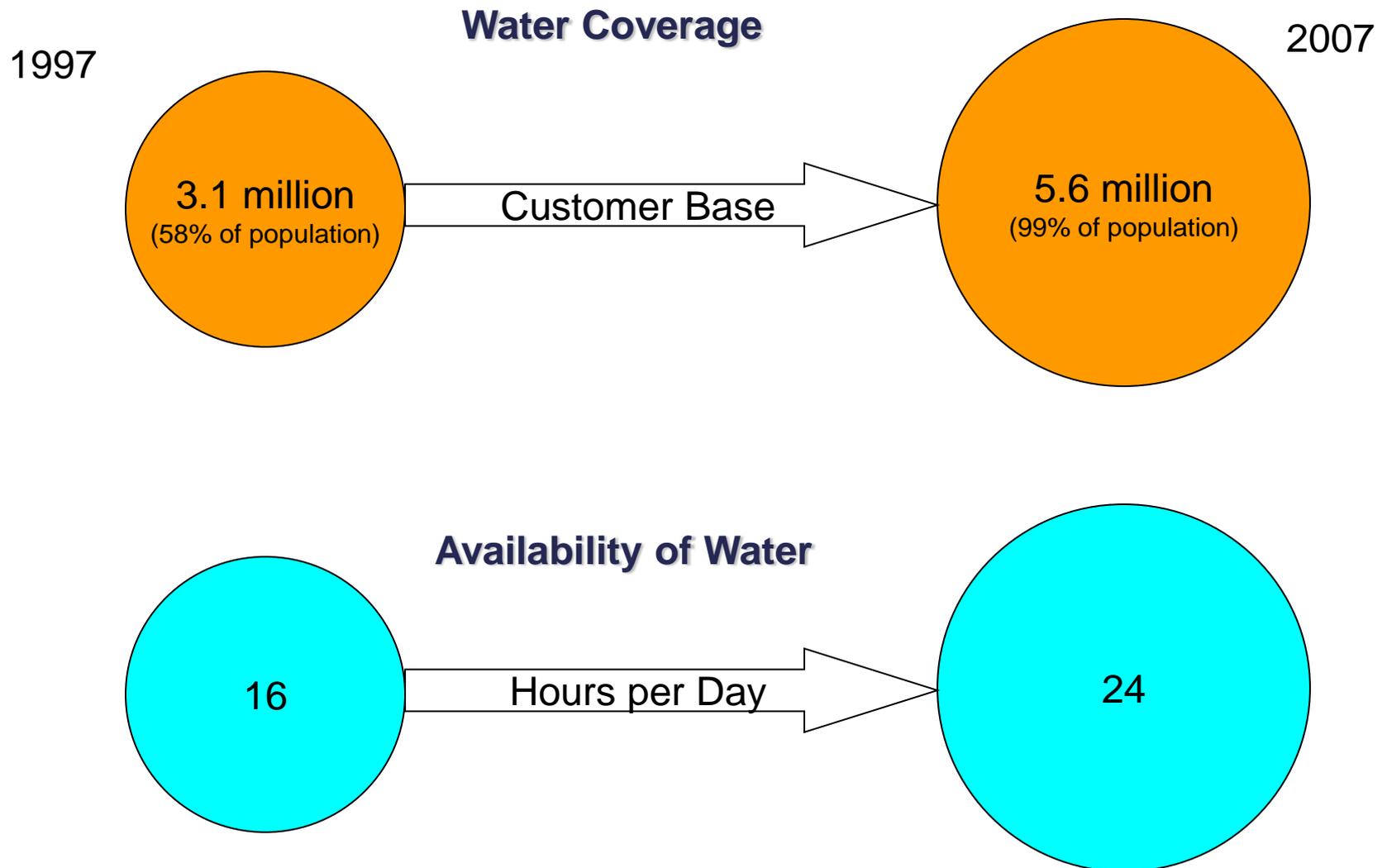
# East Zone Results



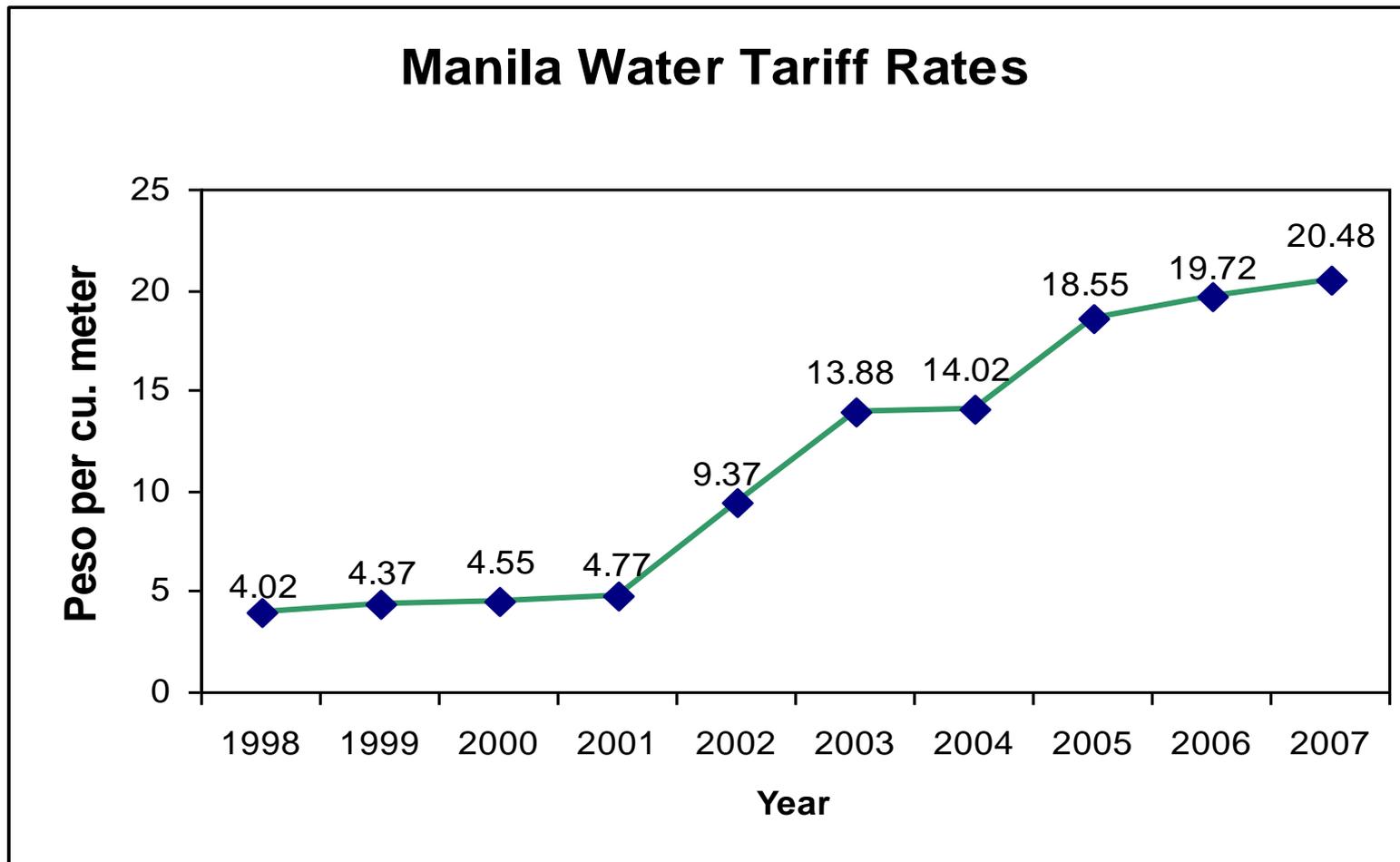
Source: Building Viable Water Utilities: The Manila Water Experience  
Virgilio C. Rivera, Jr., Group Director, Regulation and Corporate Development  
Manila Water Company, Inc.

# East Zone Results

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# East Zone Results



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