
Maynilad's NRW Management Program

18 November 2010
NRW Management Training Course



Outline of the presentation

- **Background of Maynilad**
- **NRW Management Program**

Background of Maynilad



Maynilad's Challenge

- **To achieve 100% service coverage**
- **To supply additional 3 Million people**
- **To reduce high non-revenue water**

Metropolitan Waterworks and Sewerage System (MWSS)



**Oldest Water
System in Asia
at 130 Years**



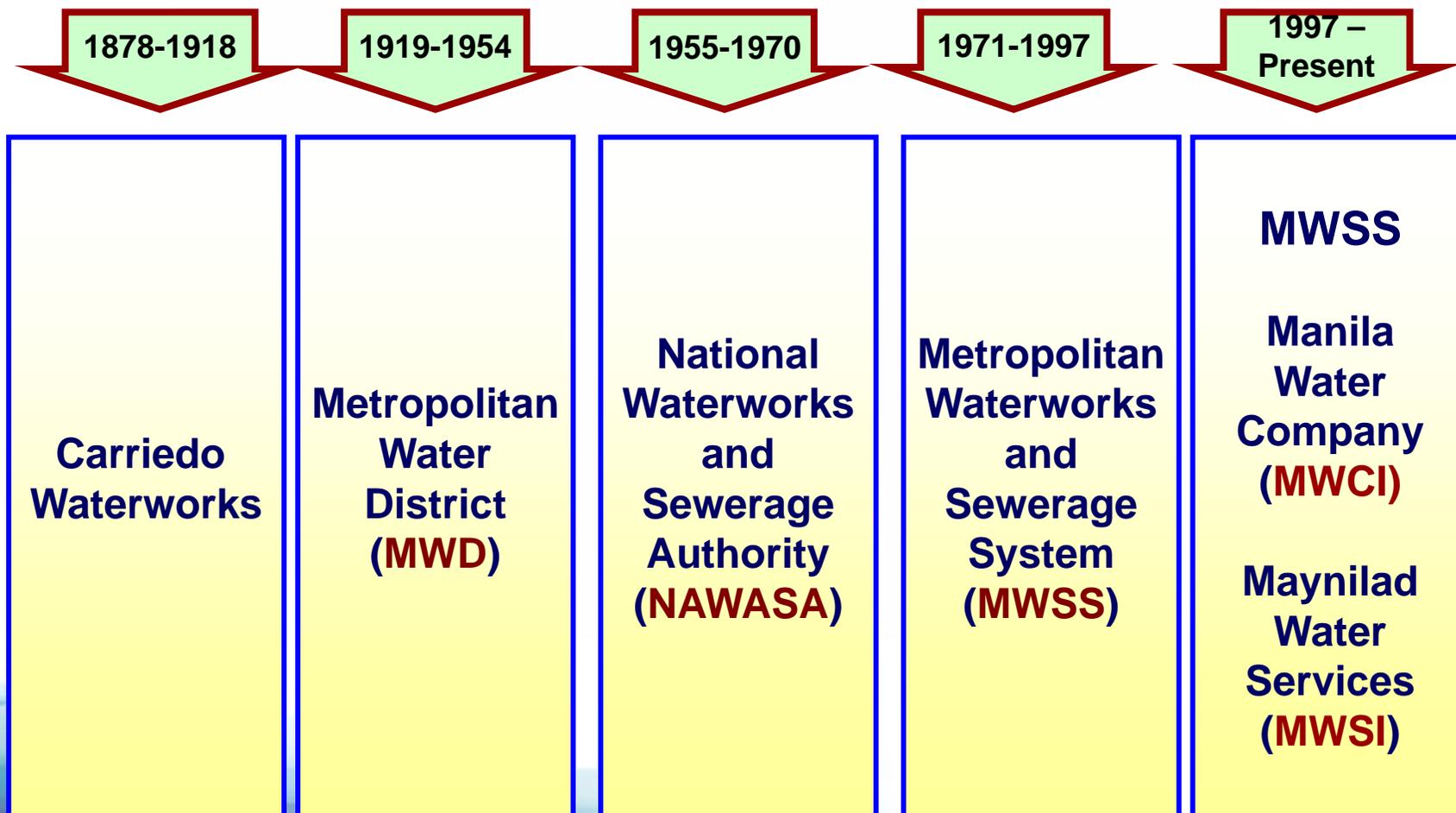
Metropolitan Waterworks and Sewerage System (MWSS)



Providing water and sewerage services to Metro-Manila and parts of Bulacan, Rizal and Cavite

Metropolitan Waterworks and Sewerage System (MWSS)

Brief History



1997 Privatization of Metropolitan Waterworks and Sewerage System (MWSS)



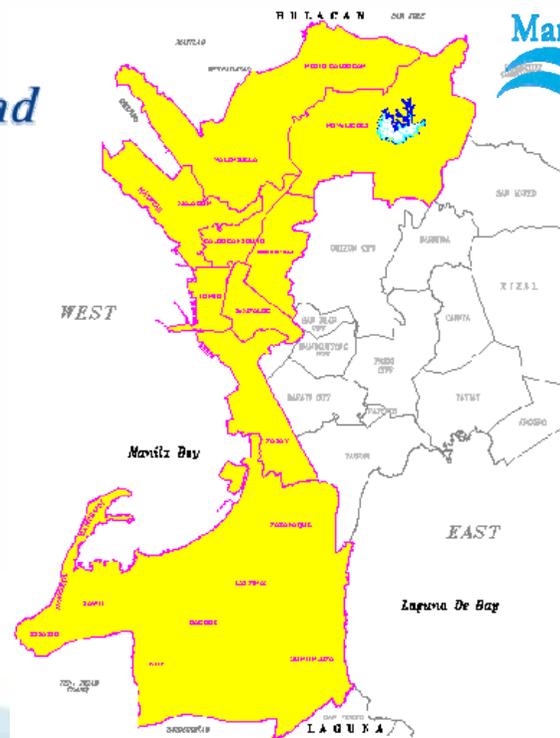
Metropolitan Waterworks
and Sewerage System (MWSS)



WEST ZONE

Population: 9M+

**17 Cities and
Municipalities**



EAST ZONE

Population: 6M+

**23 Cities and
Municipalities**



The two (2) Concessionaires



EAST ZONE: **1997**

- Ayala (Philippines)
- United Utilities (UK)
- Bechtel (USA)
- Mitsubishi (Japan)



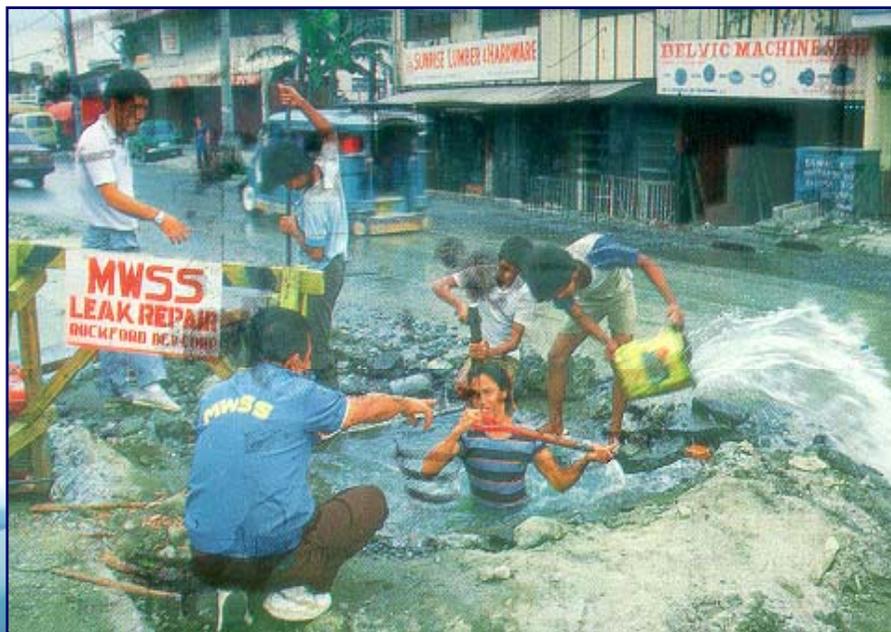
WEST ZONE: **1997**

- Benpres Holdings (Philippines)
- Lyonnaise des Eaux (France)



Reasons for Privatization

Pressing Needs	Requirement
Improve water delivery	Huge investment
Expand coverage	Answer
Develop new water sources	Privatization



Maynilad

Signing of Concession Agreement (Maynilad Water Services, Inc.)



2006 Re-privatization of MWSS-Maynilad



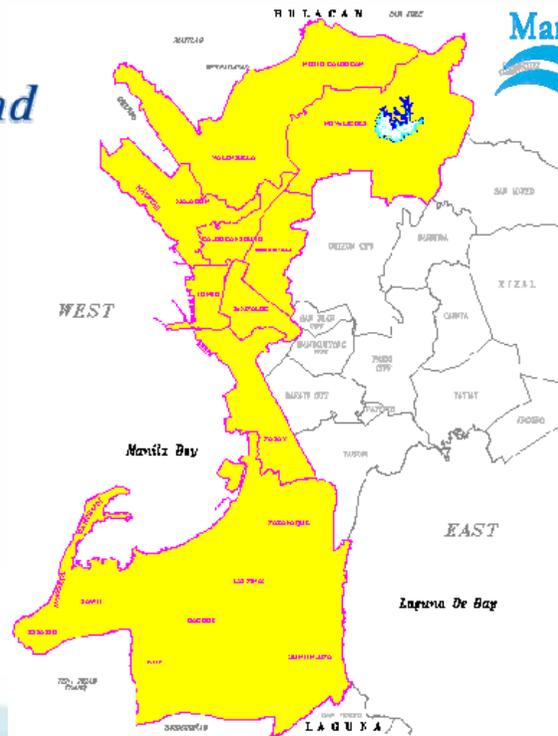
Metropolitan Waterworks
and Sewerage System (MWSS)



**WEST ZONE
(MPIC/DMCI)**

Population: 9M+

**17 Cities and
Municipalities**



**EAST ZONE
(AYALA)**

**Population:
6M+**

**23 Cities and
Municipalities**



The New Maynilad Team



BOD Chairman : Manuel V.Pangilinan

Vice Chairman: Isidro A. Consunji

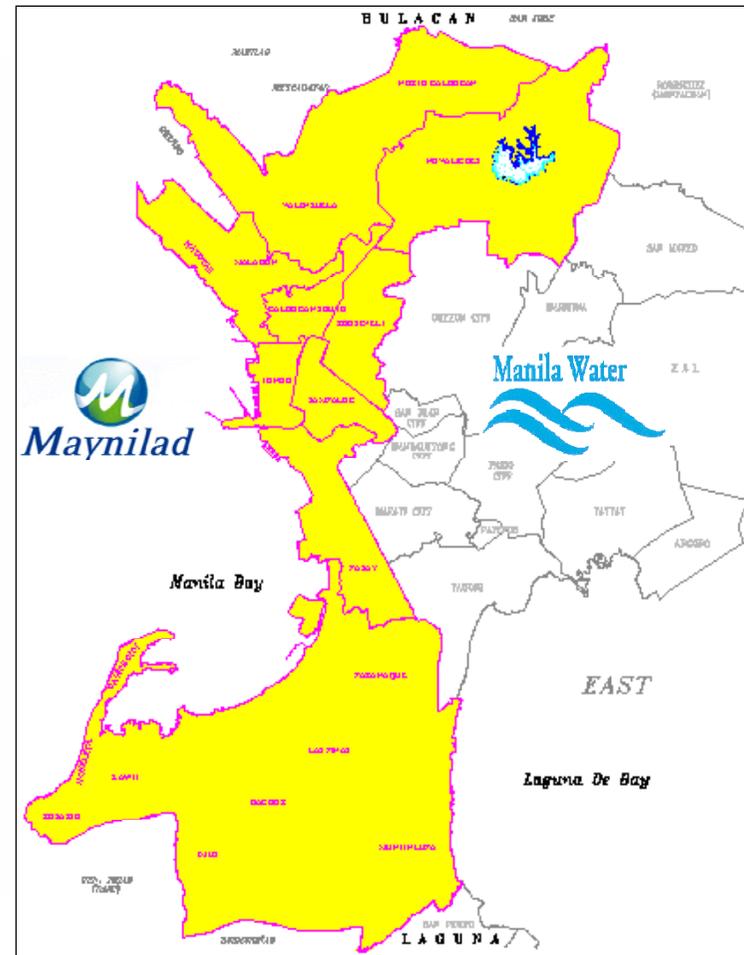
President: Rogelio L.Singson



Maynilad

Profile of Maynilad

Supply Source	:	95% Angat,Bul 5% Laguna Lake
Treatment Plants	:	3
KM of Pipes	:	5,779
Pumping Stations	:	13
Reservoirs	:	16
No.of Customers	:	884,861
Service Coverage	:	85%
No.of Water Districts	:	4
No.of Business Areas	:	12
Billed Volume (MLD)	:	1,020 (Oct-10)
Supply Volume(MLD)	:	2,218
NRW (%)	:	54
Revenue (BP/mo)	:	1.12
No. of Employees	:	2,025
Ratio/1000 wsc	:	2.5

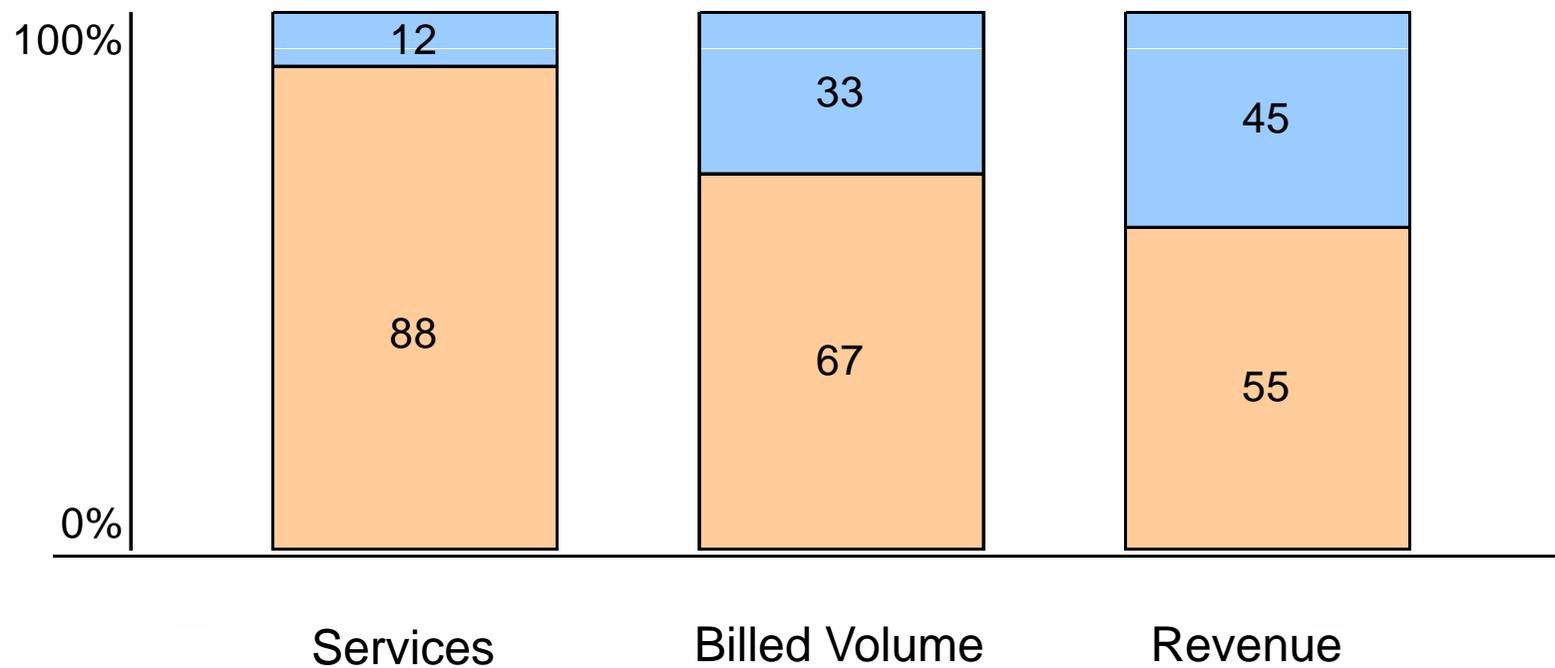


100 MLD Putatan Water Treatment Plant

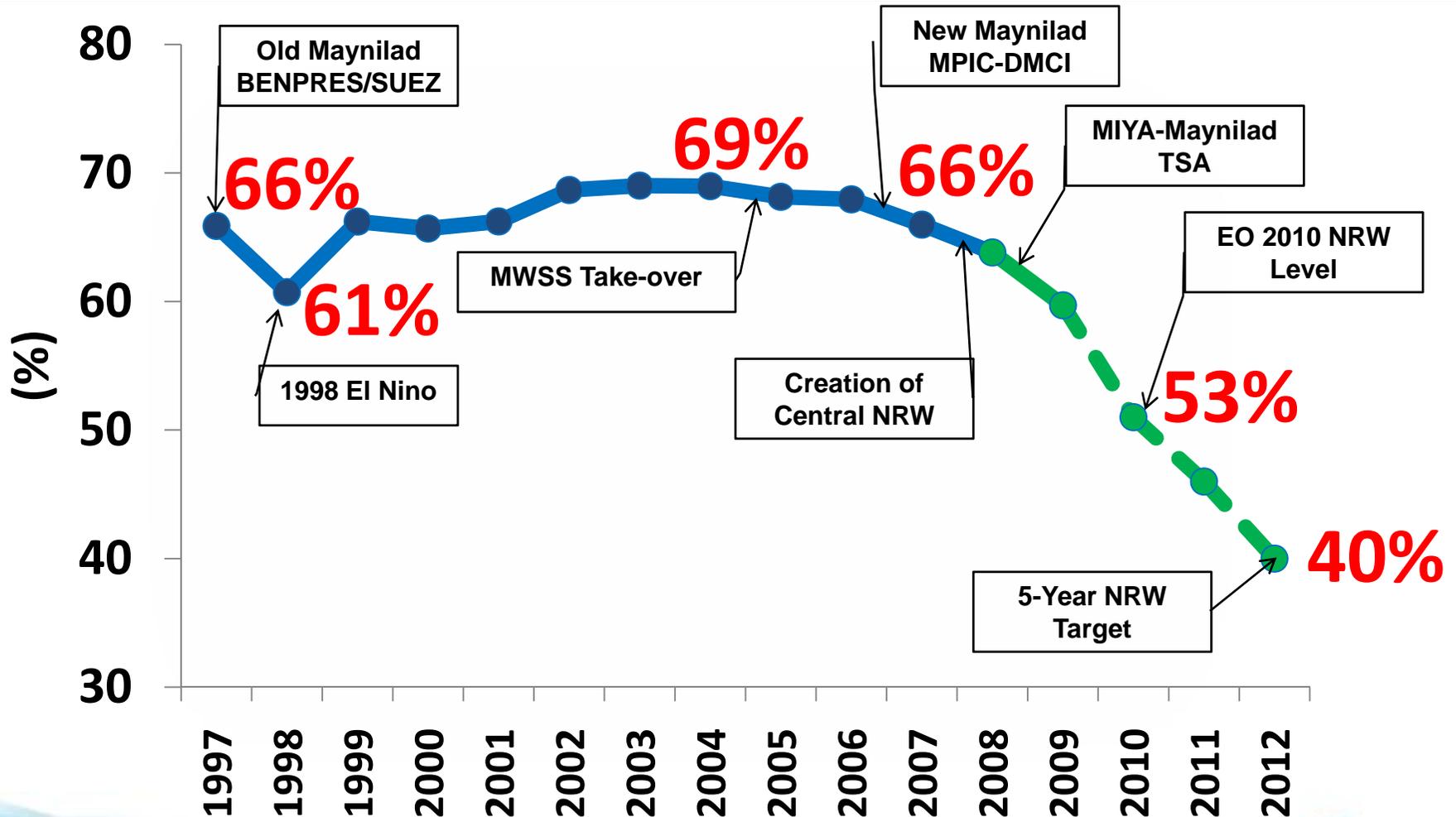


The first state-of-the-art water treatment plant in the Philippines that taps into Laguna Lake which uses microfiltration and reverse osmosis filtration method.

Customer Profile



Maynilad NRW Highlights



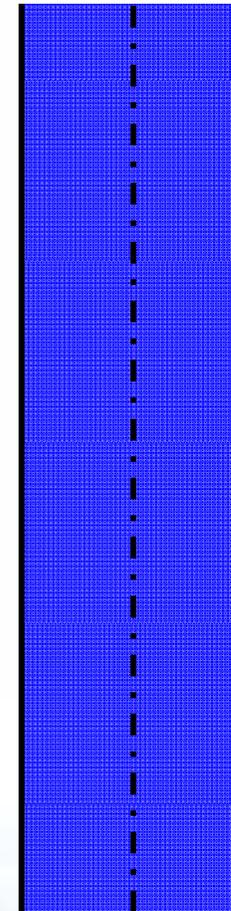
Reasons for high NRW-

- High physical losses
- Substantial commercial losses
- Poor network operation and maintenance
- Poor asset management
- Incomplete NRW program
- Lack of understanding of the problem
- Limited NRW knowledge and expertise
- Limited management support



How huge was Maynilad's NRW in 2007?

EDSA-MRT Route
Total Distance: 17 KM



1500 MLD can flood the whole stretch of EDSA-MRT route under 2-meter depth of water



Hugh opportunity in NRW

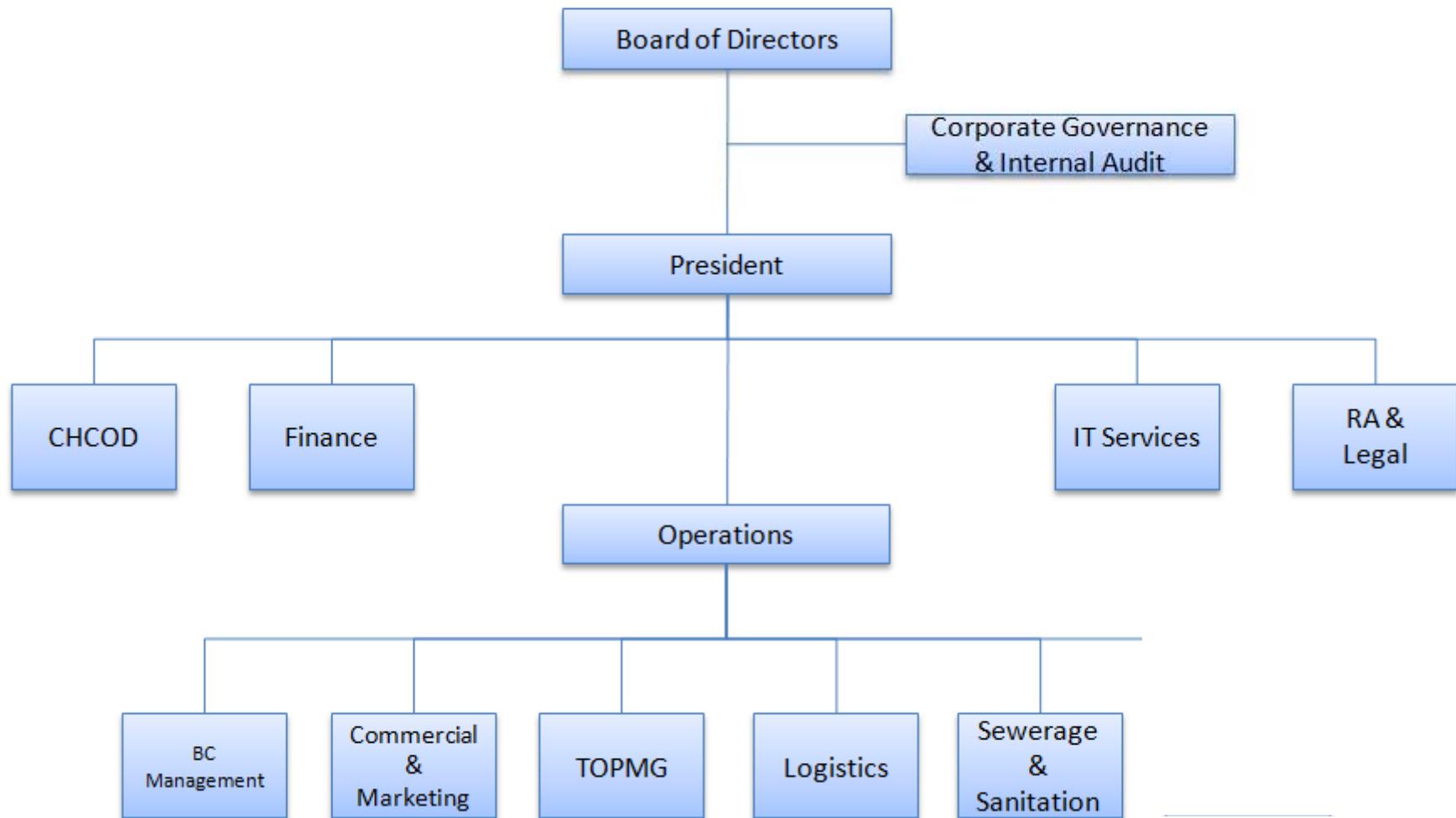
- **High NRW volume of 1500 MLD**
- **50% recovery can supply 500 K new customers**
- **Eliminates need for new water sources**
- **Cost reduction on operation and maintenance**
- **Per 1% reduction translates to 250 MP additional revenue**

NRW Management Program

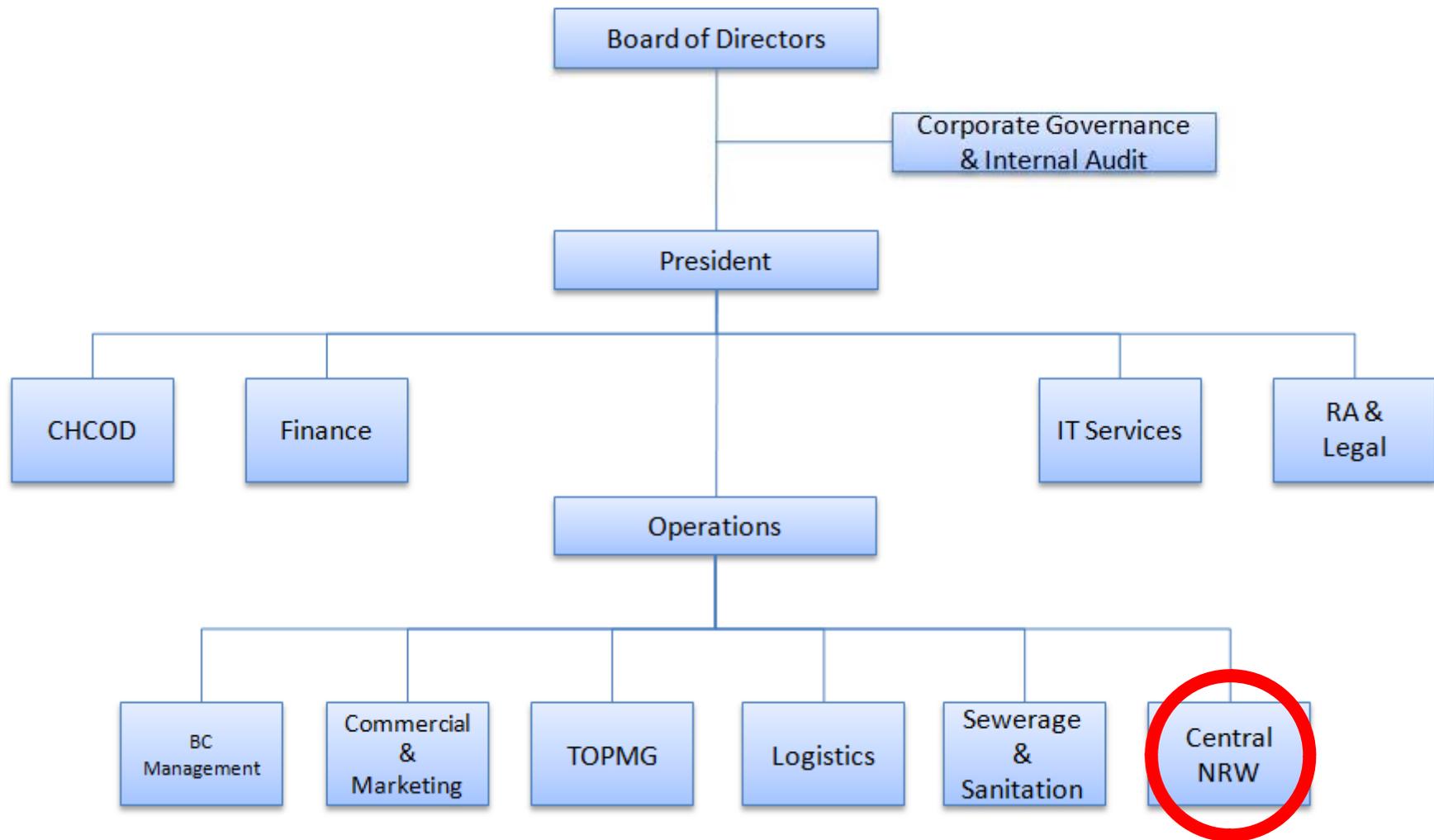
What were the actions taken?

- **Creation of Central NRW team**
- **More CAPEX**
- **Establishment of DMAs**
- **Miya-Maynilad engagement**
- **Re-organization of Metering Department**
- **Centralization of Leak Repair activities**
- **Acquisition of modern NRW equipment & technology**
- **Institutionalize NRW Training & Certification**
- **Incentive program**

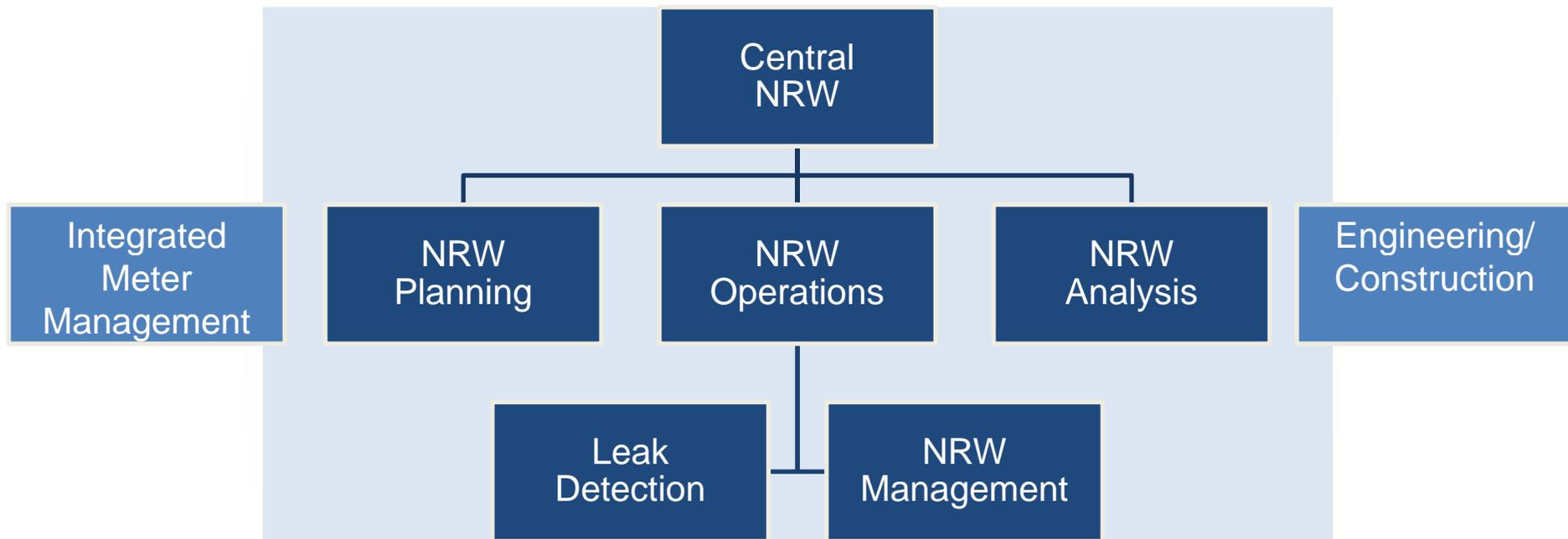
New Maynilad Organization Chart



New Maynilad Organization Chart



Central NRW Team



- **Dedicated NRW team**
- **New office environment**
- **Mostly new staff**

Central NRW Team

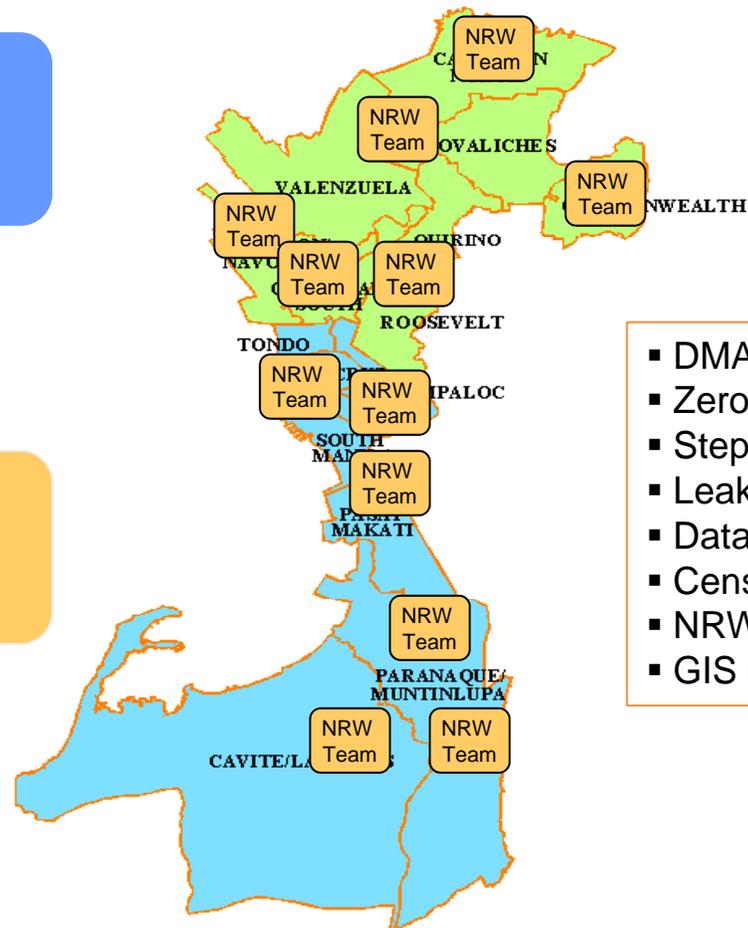
Central NRW HO

- Central NRW head office
- Provides over-all direction



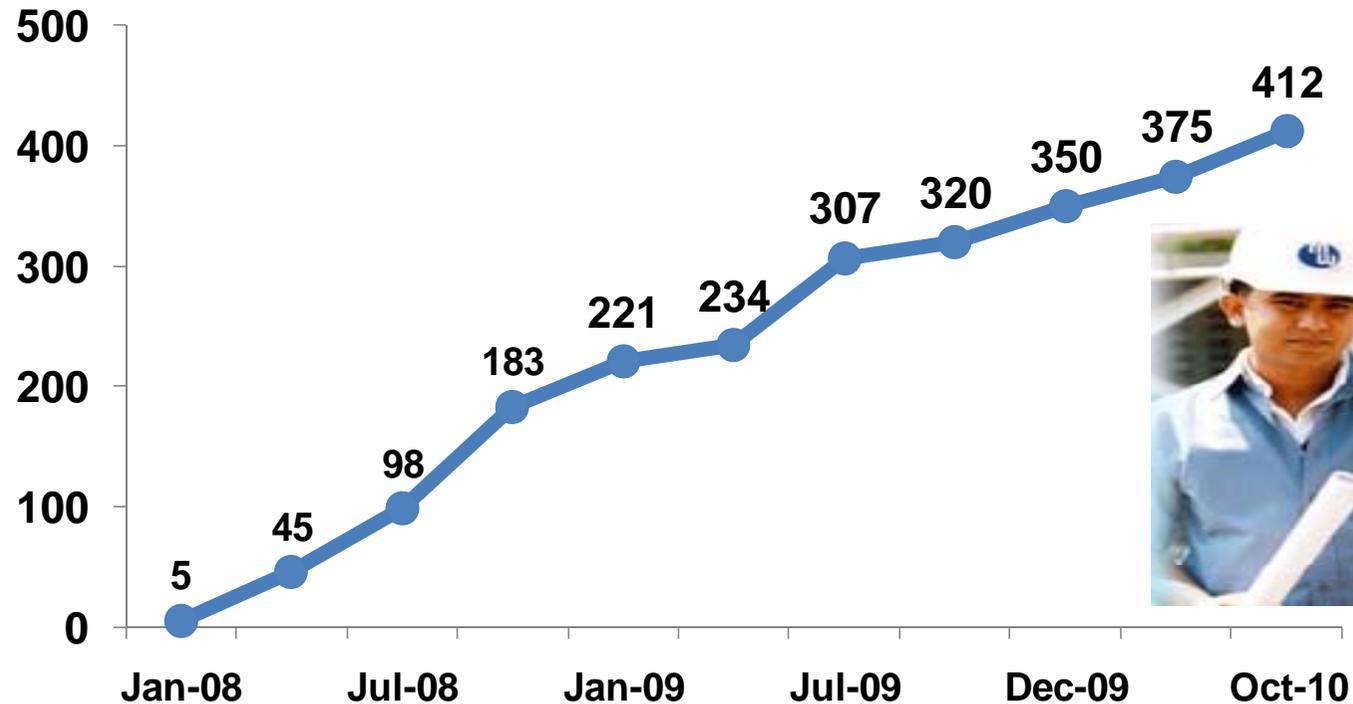
BA-NRW Teams

- NRW teams in BAs
- NRW frontliners



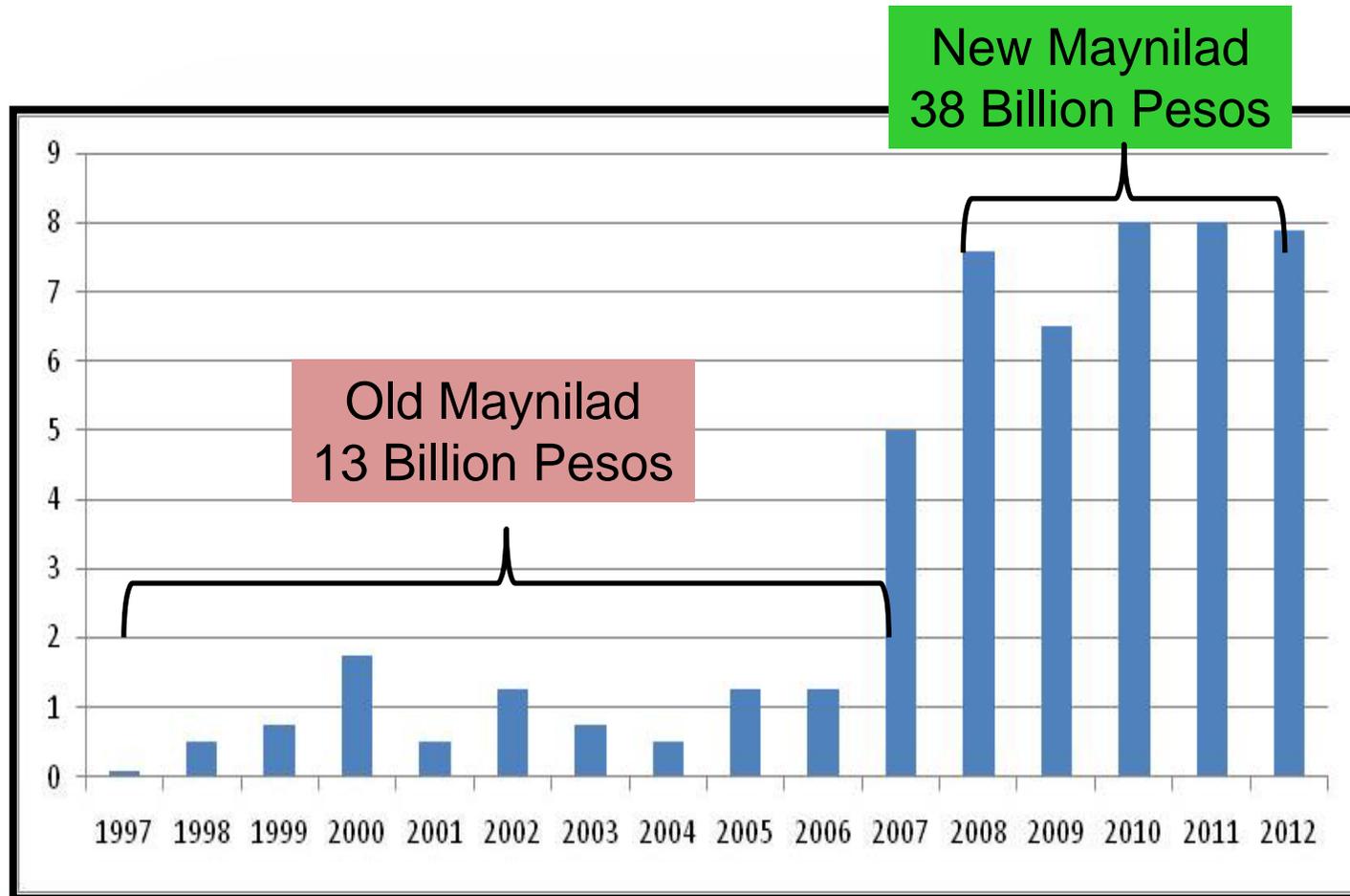
- DMA establishment
- Zero pressure test
- Step test
- Leak detection
- Data logging
- Census/survey
- NRW analysis
- GIS mapping

Building-Up Central NRW Team



**Over-all average age of staff is 31 years;
and 70% is below 30 years of age**

Capital Expenditures

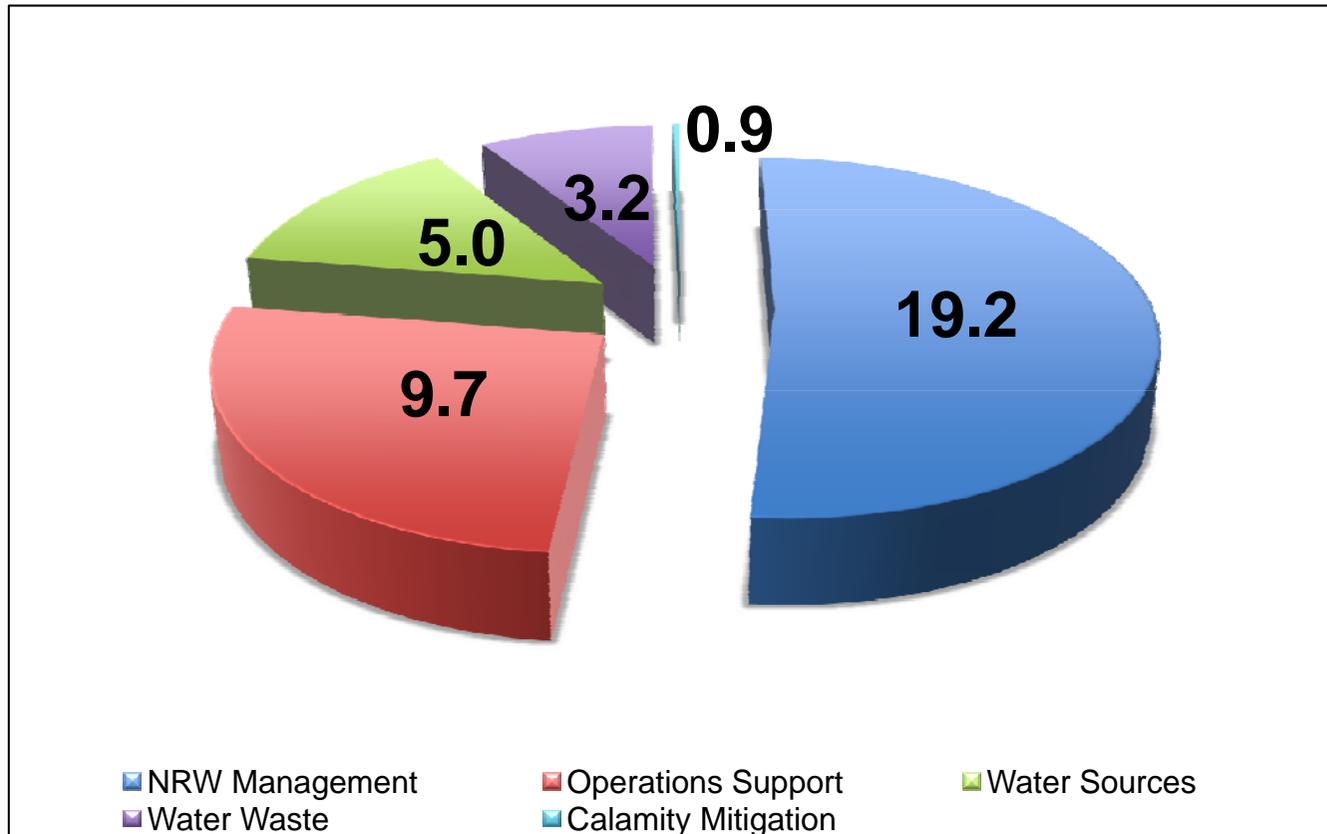


COMPARISON OF ANNUAL CAPEX(1997-2012)



Maynilad

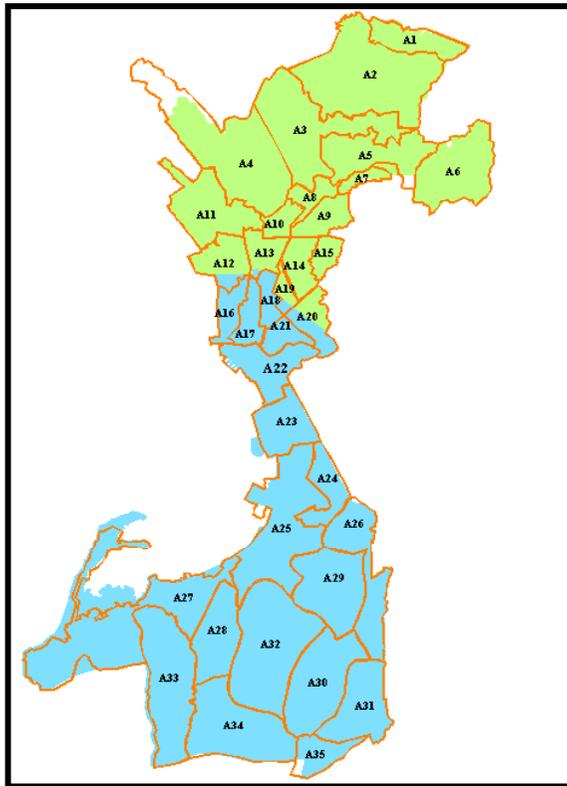
CAPEX Highlights



CAPEX Breakdown: Major Programs
51% allocated to NRW Management

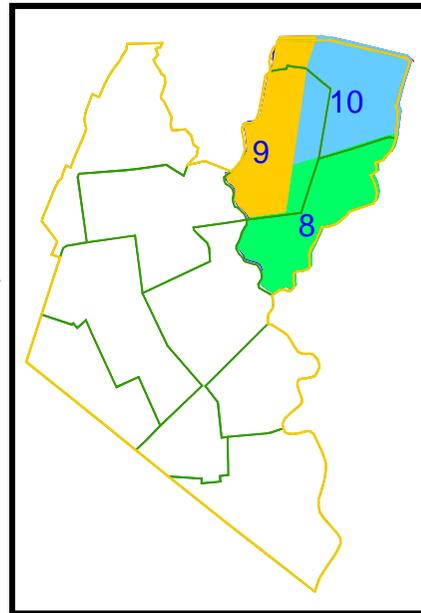
DMA Establishment

Maynilad



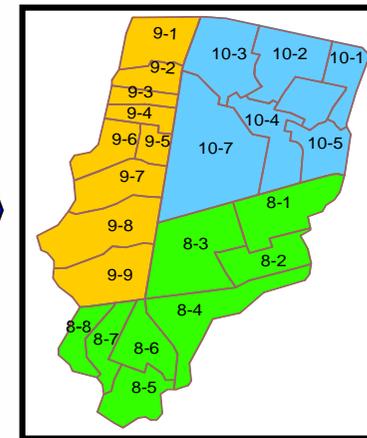
830,000 connections

Hydraulic Zones



20,000-50,000 connections

DMAs



500-1,200 connections

**Localize and diagnose the problem
and effect clear NRW solutions**



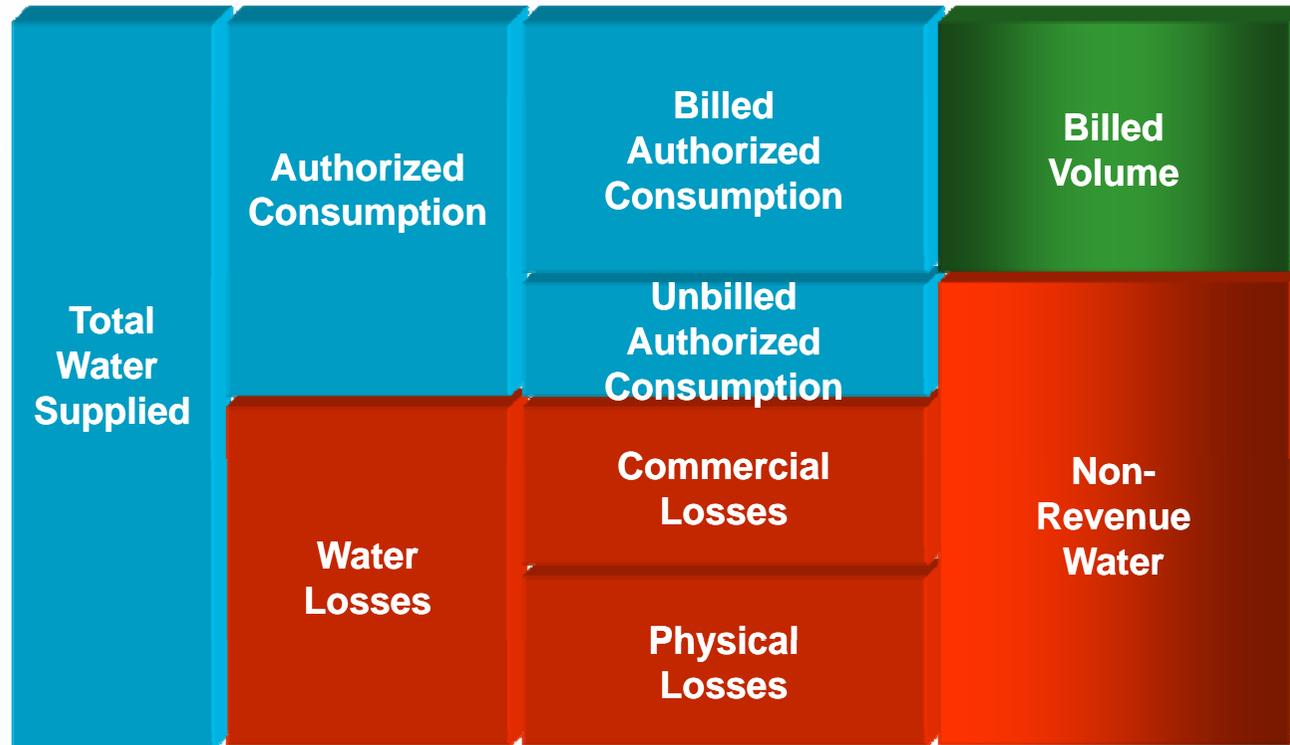
MIYA-Maynilad TSA



Early 2009, Maynilad engaged Miya for a Technical Service Agreement (TSA)



Water Balance



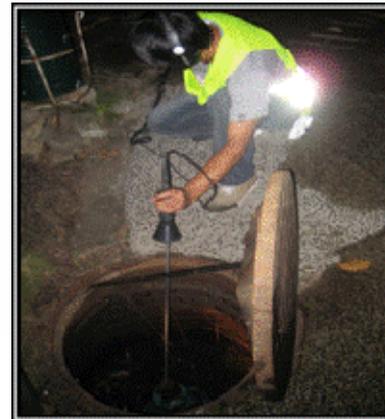
In 2007, a system wide IWA-based Water Balance was made to assess Maynilad's NRW situation and come-up with NRW management strategy

Framework of NRW Management Program

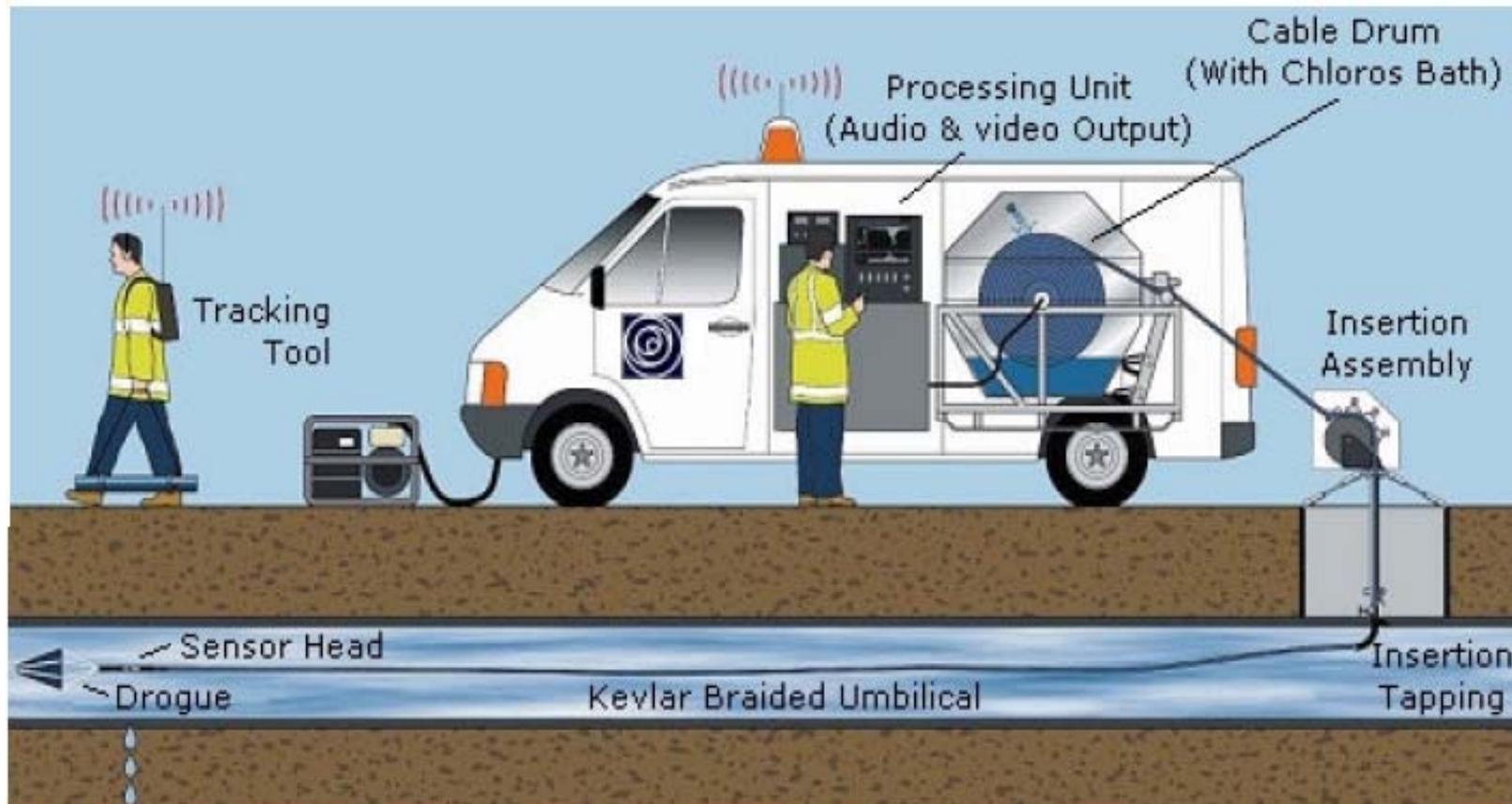
- **How much water is being lost?**
- **Where is it being lost?**
- **Why is it being lost?**
- **What strategy to use to reduce losses?**
- **How to maintain and sustain improvements?**

Active Leakage Control

- **Increase capacity to detect and repair**
- **Before: 0 LDT; Now: 22 LDT**
- **Hiring young and new engineers**
- **Acquiring latest LD equipment**
- **Continuous trainings**
- **Aggressive leak repair**
- **Sahara pipe inspection on the big diameter pipes**
- **Testing new LD technology**

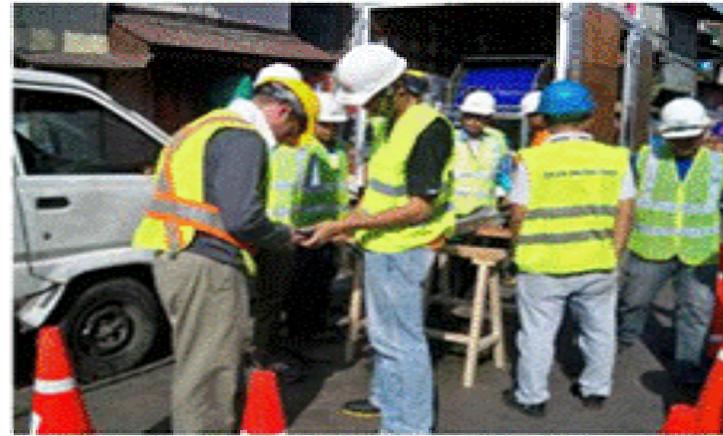


Sahara Leak Detection System



* Sahara transmission main leak location technology and Sahara video inline CCTV inspection technology

Sahara Operations in Maynilad

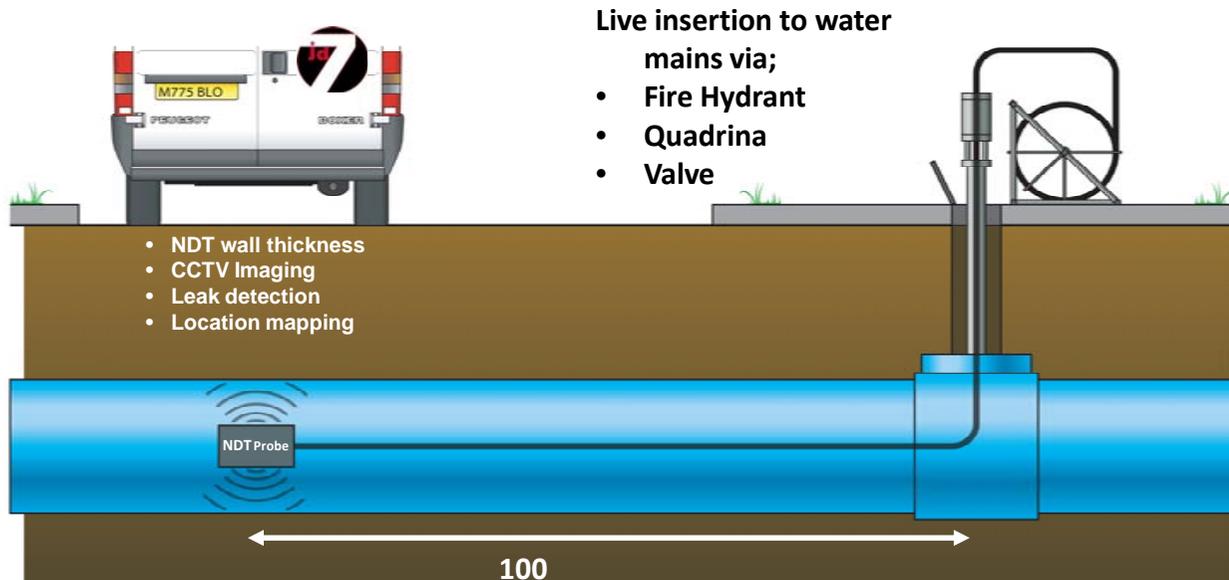


- **First operation in Asia**
- **2-units Sahara operating:**
- **4-5 leaks per KM of pipe**
- **Discovering pipe anomalies**
- **Updating pipe lay-out**



JD7 : An alternative to Sahara

Live Insertion No-dig Inspection



Type-1 : For Distribution Mains (below 300 mm)

Type-2 : For Trunk Mains (above 300 mm)

Metering Program

- Re-organized meter dept.: put in young manager and staff
- Re-evaluated meter performance from 23 to 5 quality meter brands
- Correct sizing of meters
- Select/use quality meters
- Meter replacement program
- Testing new technologies
- Guided by meter expert
- Benchmarking with others



Maynilad

Results after 3 years-

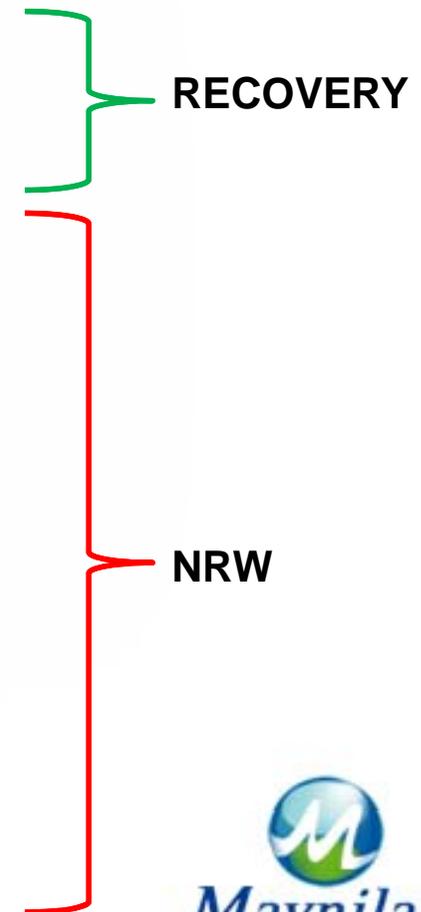
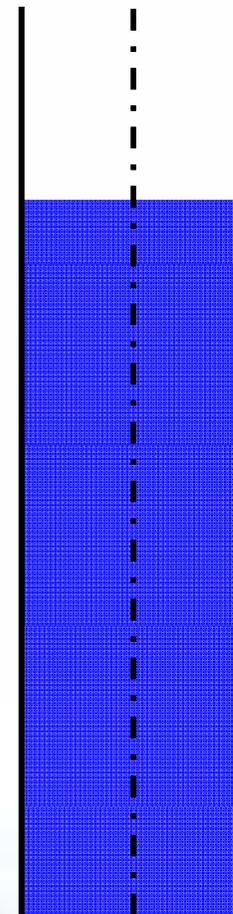
KPI	2007	2008	2009	2010
Billed Volume (MCM)	286	315	350	380
Billed Services (x1000)	704	762	815	900
NRW (%)	66%	64%	60%	53%
NRW (MLD)	1,500	1,534	1,448	1,200
%24-HR Supply Cover	46%	58%	65%	75%
% over 7 psi Pressure	53%	67%	79%	85%
CAPEX Spent (Million P)	4,985	7,499	6,350	7,500
Revenue (Million P)	7,377	8,245	10,619	14,000
Net Income (Million P)	1,666	1,994	2,825	4,500

- Reduced NRW
- Improved service level
- Increased customer base
- Increase revenue



Results after 3 years-

EDSA-MRT Route
Total Distance: 17 KM



Transformation

THEN

- Lack of understanding
- Lack of capacity

- Old equipment
- Lack of data
- Less motivation
- Limited management support



NOW

- Full understanding
- Dedicated NRW team w/complete ownership; guided by NRW experts
- Modern equipment
- Database management
- More incentive programs
- Full management support

Key Elements of Maynilad NRW Program

- **NRW reduction is a complex problem which needed aggressive & innovative approach**
- **Dedicated NRW team guided by experts**
- **NRW is a continuing program not an adhoc function**
- **NRW reduction is not going to be free but will require substantial but prudent budget**
- **Full Top Management involvement & support**
- **NRW reduction is a good business proposition**

Central NRW Team Challenge

- **First real challenge is how to efficiently implement and deliver on time the plan CAPEX program for NRW management.**
- **To provide results that are expected from us by the management.**
- **And, to lead this young team to the right directions; to build the capacity of our young staff which is the best asset of the company.**

Summary

- **Still a long way to go...**
- **Seeing the whole picture...**
- **Gradually learning the trade...**
- **Keep on transforming...**
- **Aiming to be one of the best...**

Thank you.

