

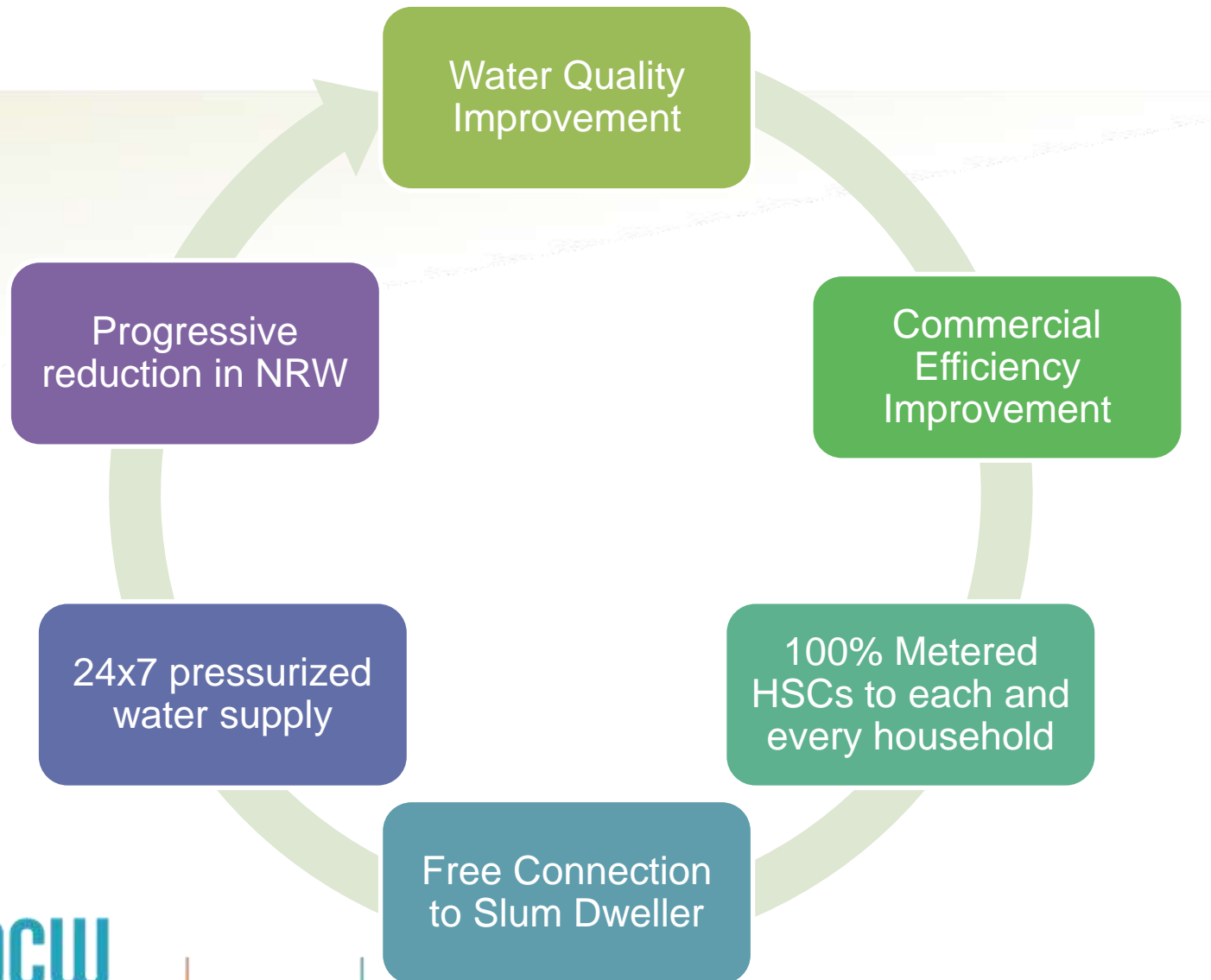
# Nagpur 24x7 Water Supply Project



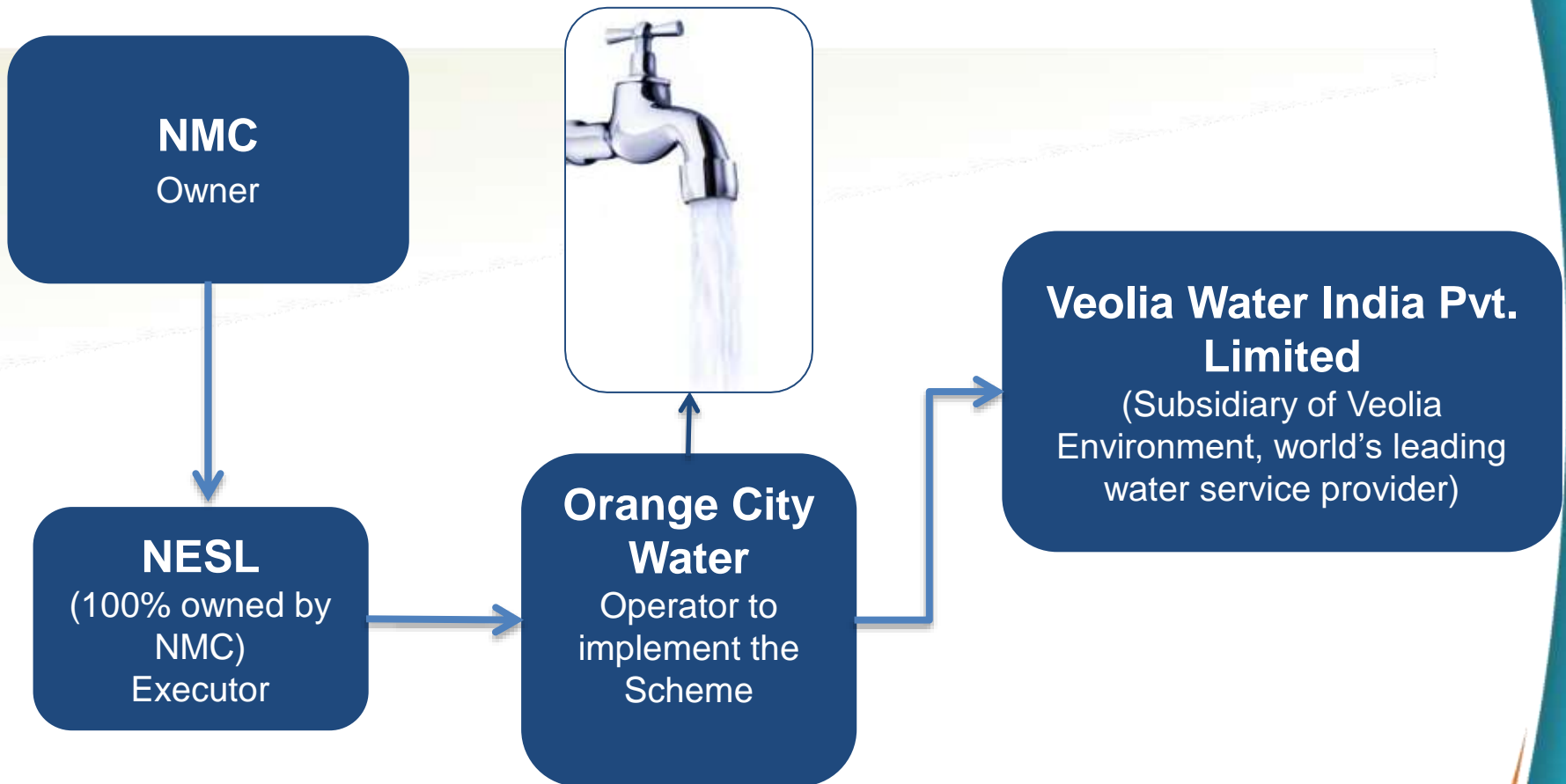
**Dr. Sanjoy Roy**  
**CEO, Orange City Water Pvt. Ltd.**

# Project Brief

# Objective of the Project



# Institutional Structure



# Water Infrastructure Assets



WTP  
5 Nos  
786 MLD



ESRs, GSRs,  
MBRs  
65 Nos  
201.96 ML



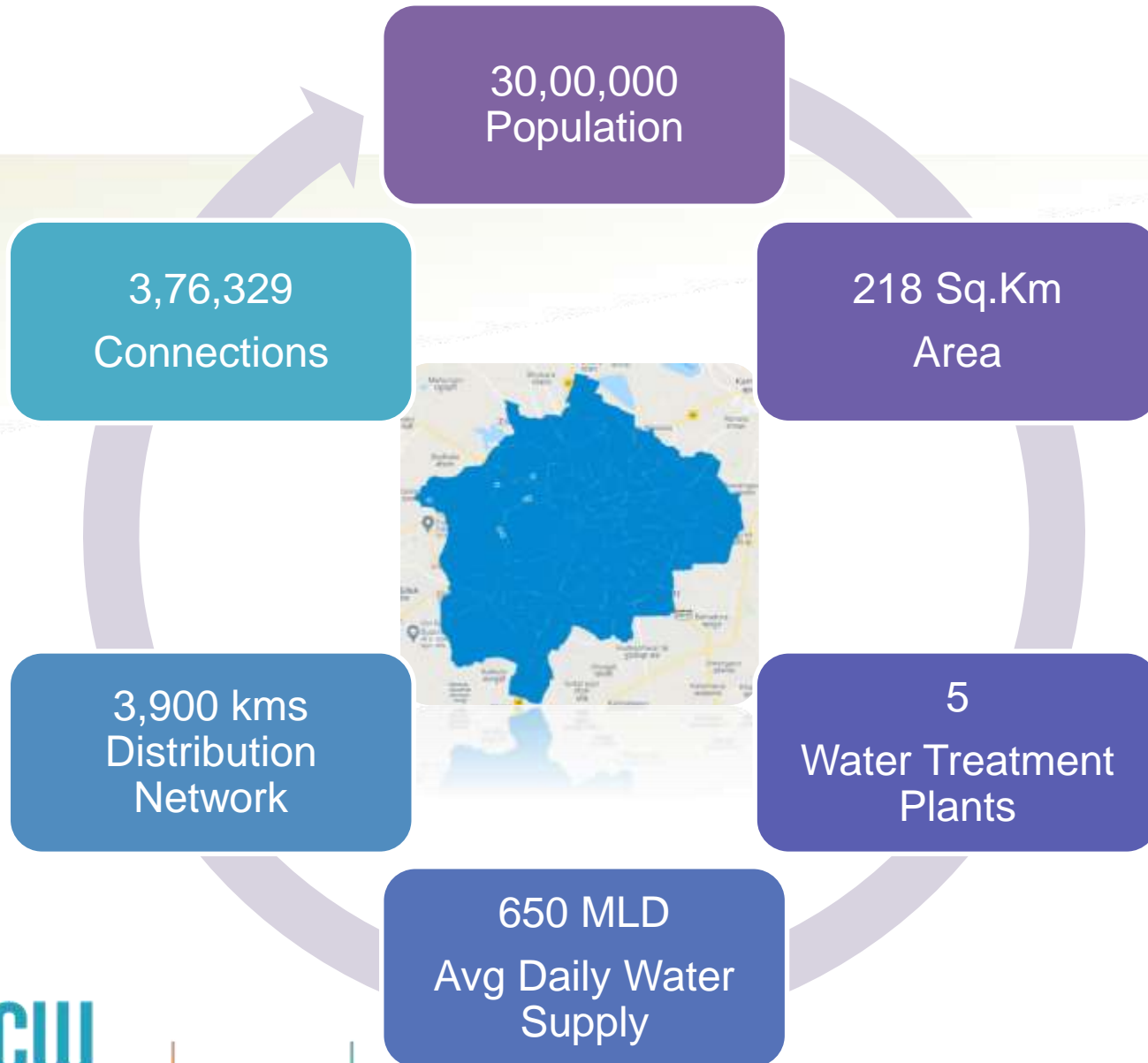
Feeder  
196 km



Distribution  
3,900 km



# Water Supply Scenario at Nagpur



# Project Brief

## Rehabilitation Works

Replacement of House Service connections including water meters:  
2.95 Lakh

Replacement of deteriorated pipe line: 736 km out of 2,000km

Rehabilitation of one WTP and twelve ESRs

## Operation & Maintenance

WTPs, Pumping Stations and GSRs

Feeder and distribution network

To supply safe drinking water at consumer end

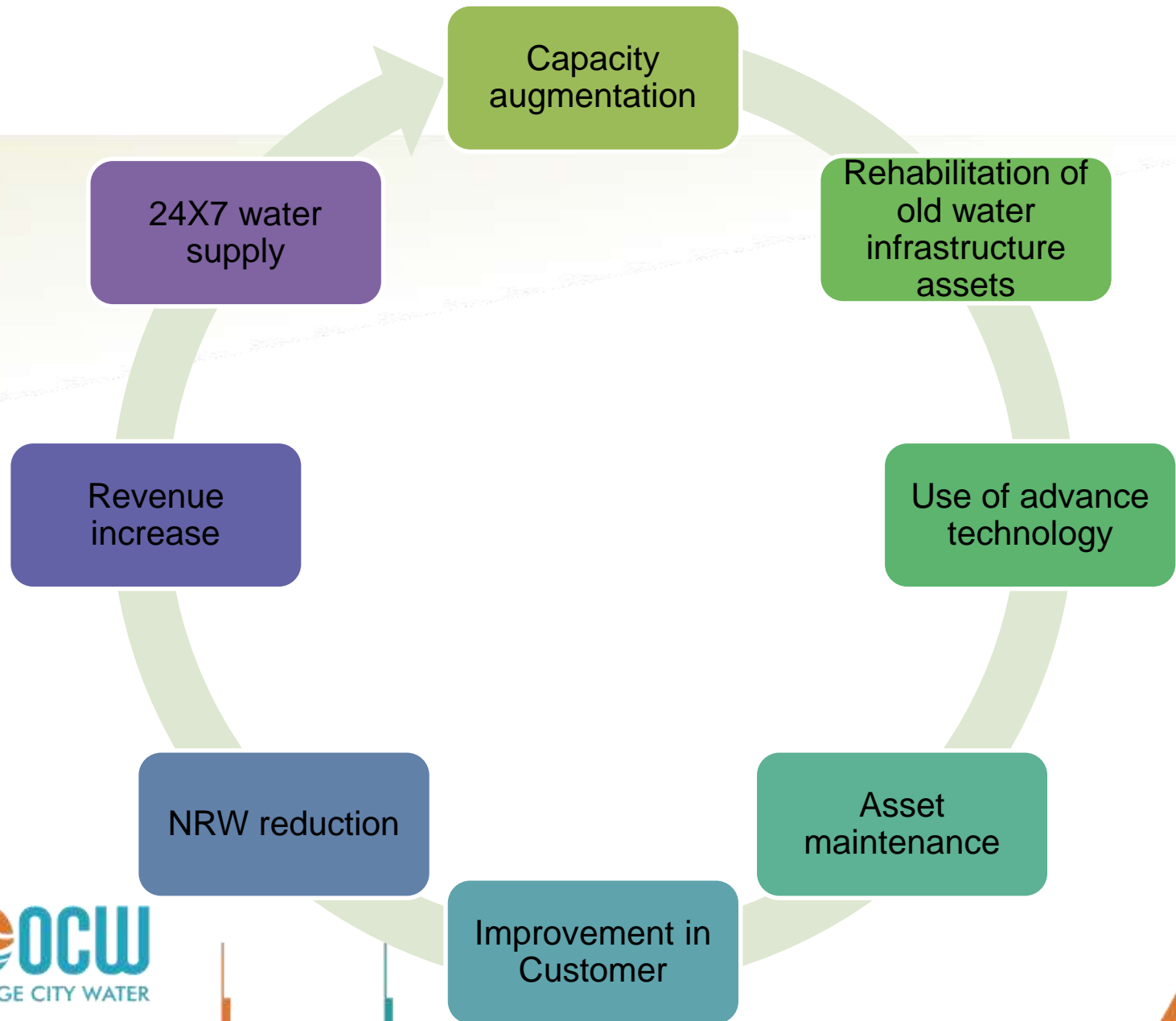
Consumer Billing and collection

Consumer complaint redressal as per citizen charter

# Benefit of Public Private Partnership (PPP)



# Benefit from PPP in Water Sector



# Basic Principals

**PPP project awarded to OCW through tender process**

**Investment: Both GoI, GoM but ULB share to be borne by Private Partner**

**Asset Ownership : NMC**

**NMC to decide Tariff, collection by private partner**

**NMC to decide Development Plan for City**

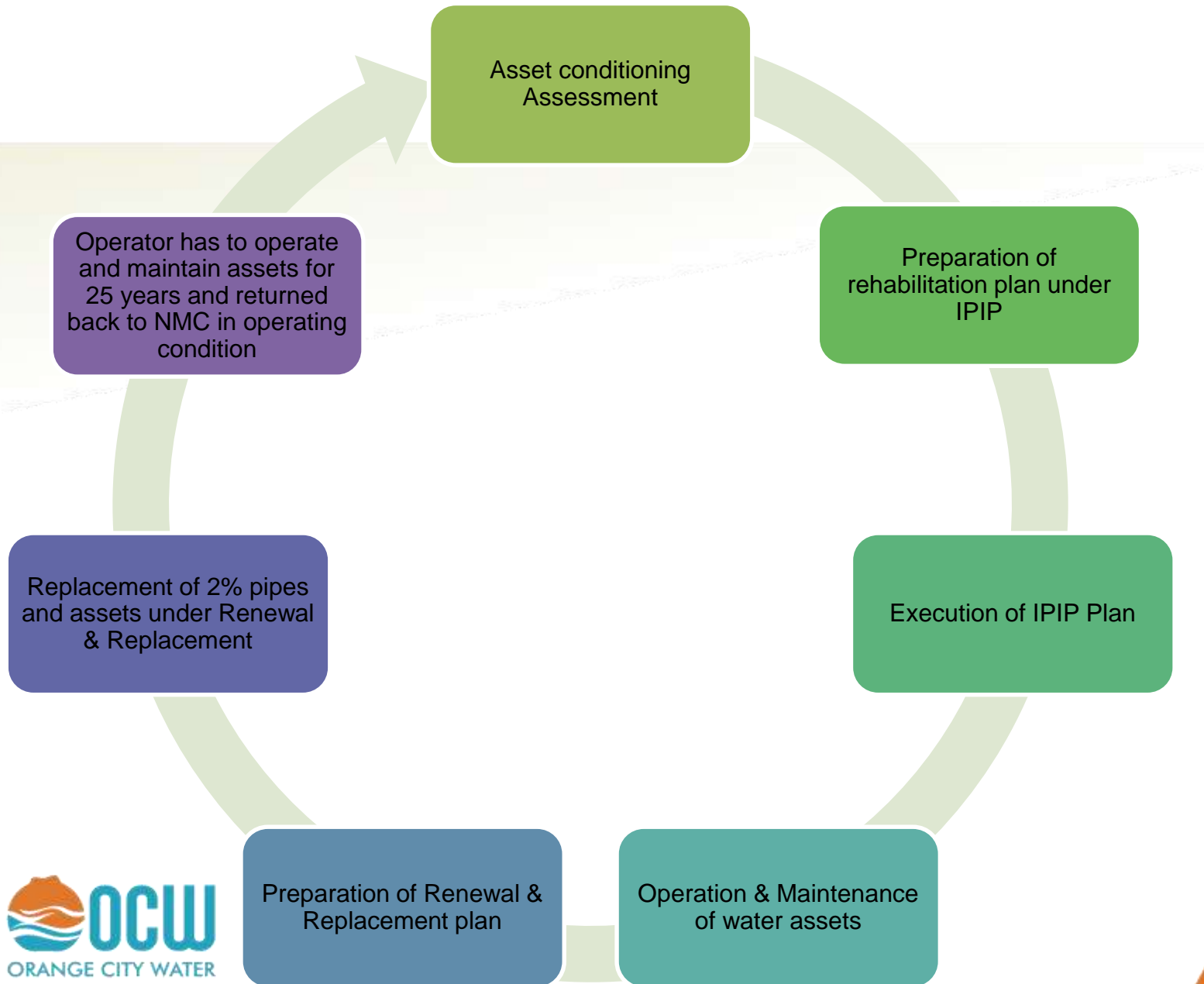
**Operation: Private**

**Private Partner to operate and maintain the system.**

**Private Operator to earn profit through efficiency in implementation and operations against fees collected**

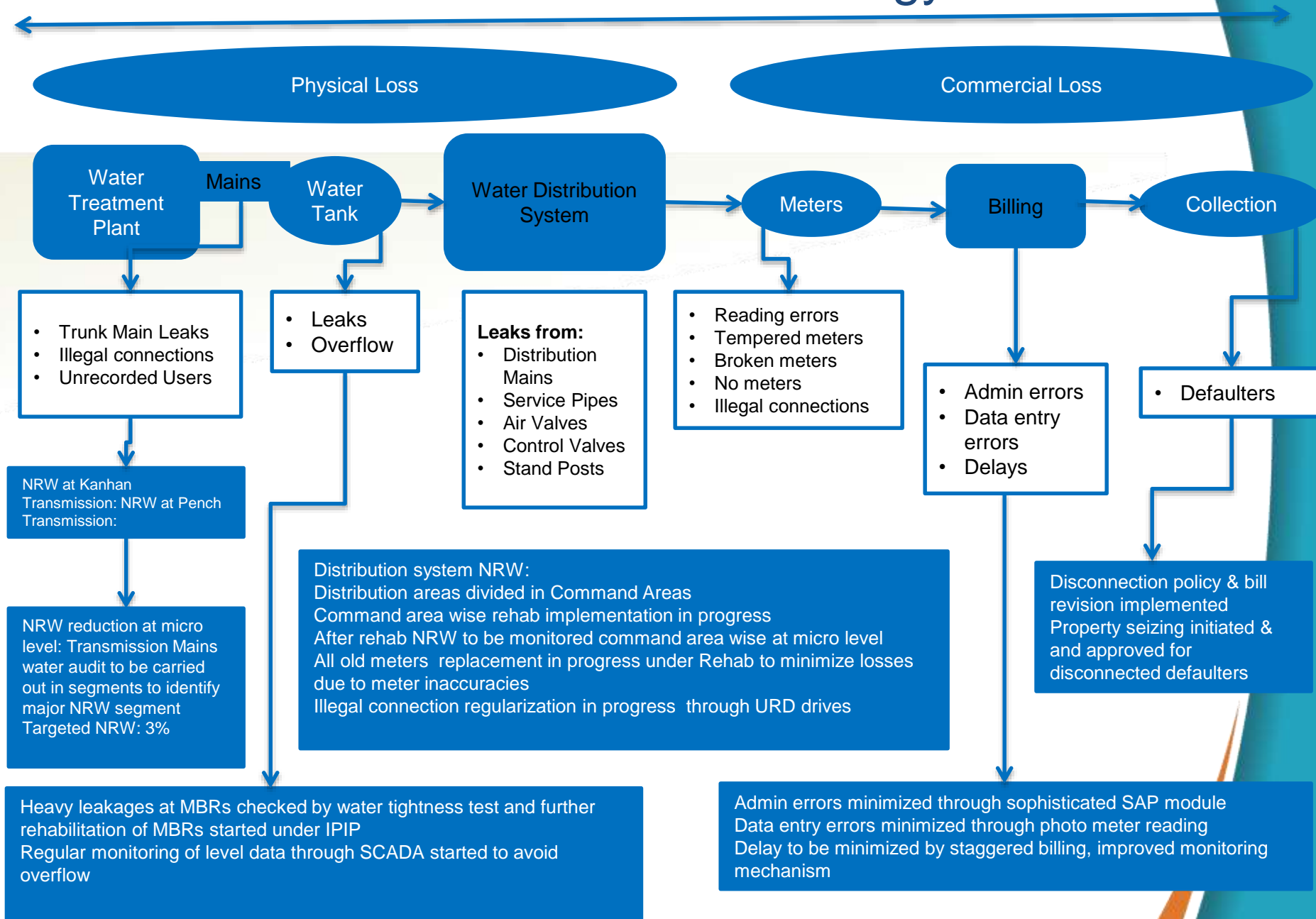
# Asset Rehabilitation & Maintenance

# Asset Rehabilitation



# NRW Reduction

# NRW Reduction Strategy



# Leak Detection - Approaches

## Visible Leak Survey

A preliminary survey during supply hours, route along the water pipeline network

Searching for signs of leaks and checking the most common places for leaks to occur

Leaks are being searched by sight or sound

Look for wet spots or search for sounds in chambers/ drains etc.

## Invisible Leak Survey

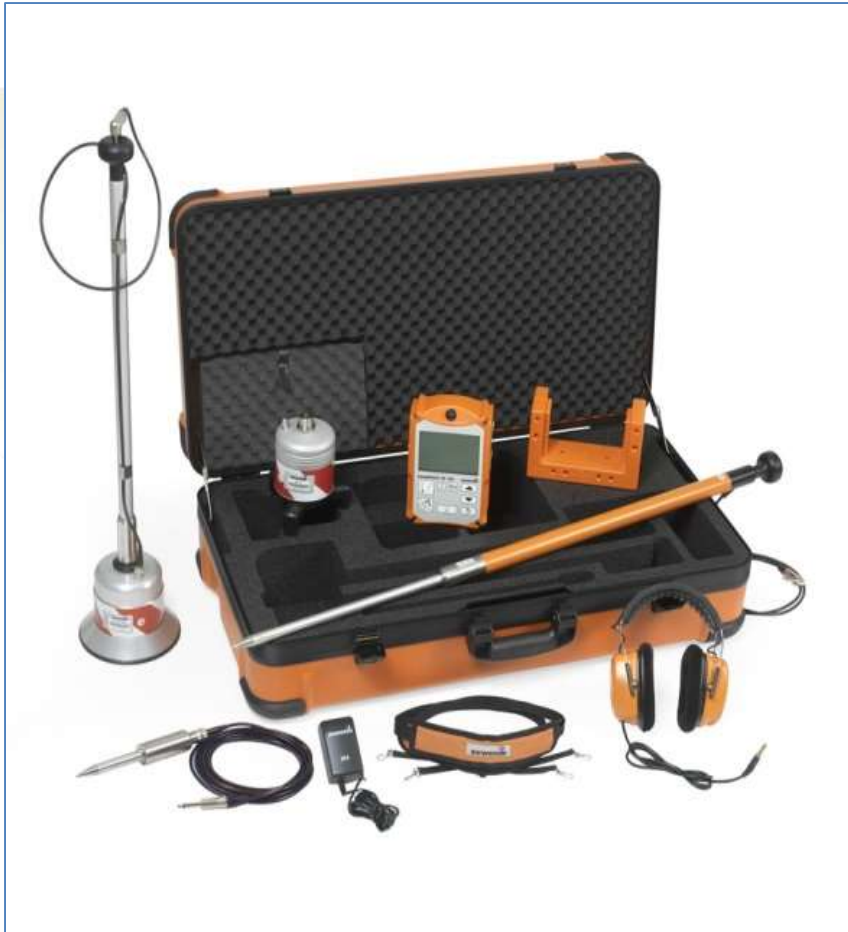
The technique used for preventive invisible leak detection on supply networks revolves around three very distinct but complementary operations:

Sectorization & District Metered Areas

Pre-location of Leaks and

Located Leaks

# Acoustic Instruments for Leak Locating



**Aquaphon A-100: Ground Microphone Kit**



**Secorr - 08: Leak Noise Correlators**



# Leak Detection Work: Acoustic Leak Detection



# NRW & Commercial Efficiency

# Challenges & Gaps

# Hurdles faced

Only 15% is to be replaced.

Feeder mains and Distribution System buried under Concrete Roads

Reducing NRW

Development of a Policy for Slum

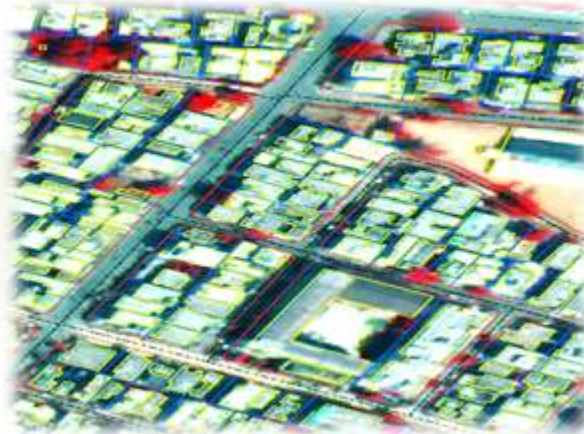
Theft and tampering of meters. Refusal for going in for metered connections.

# Advanced Technology

# GIS Implementation



**Satellite Image Procurement**



**Base Map Preparation**



**Consumer Survey**

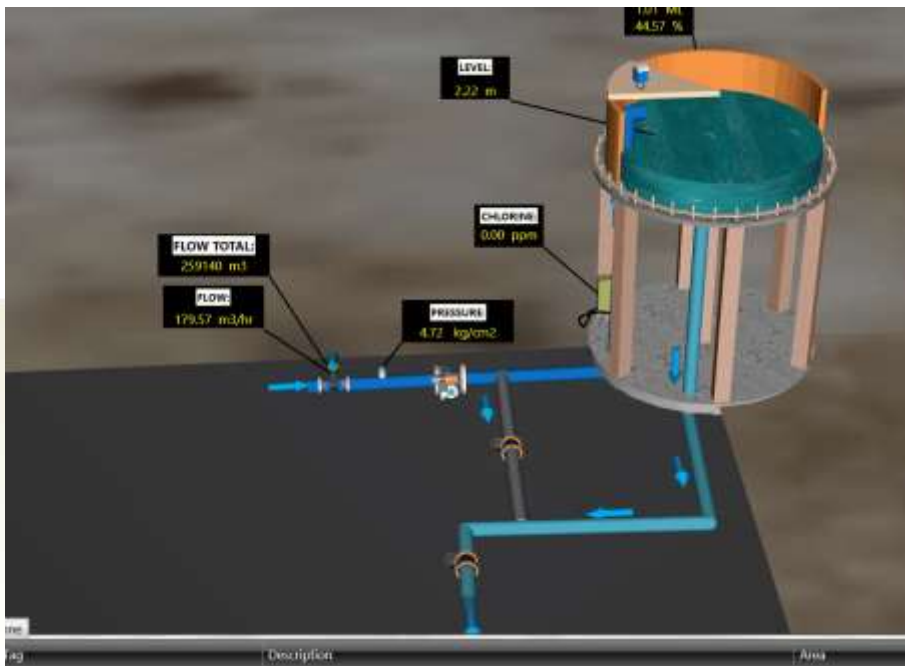


**Integration with Billing**



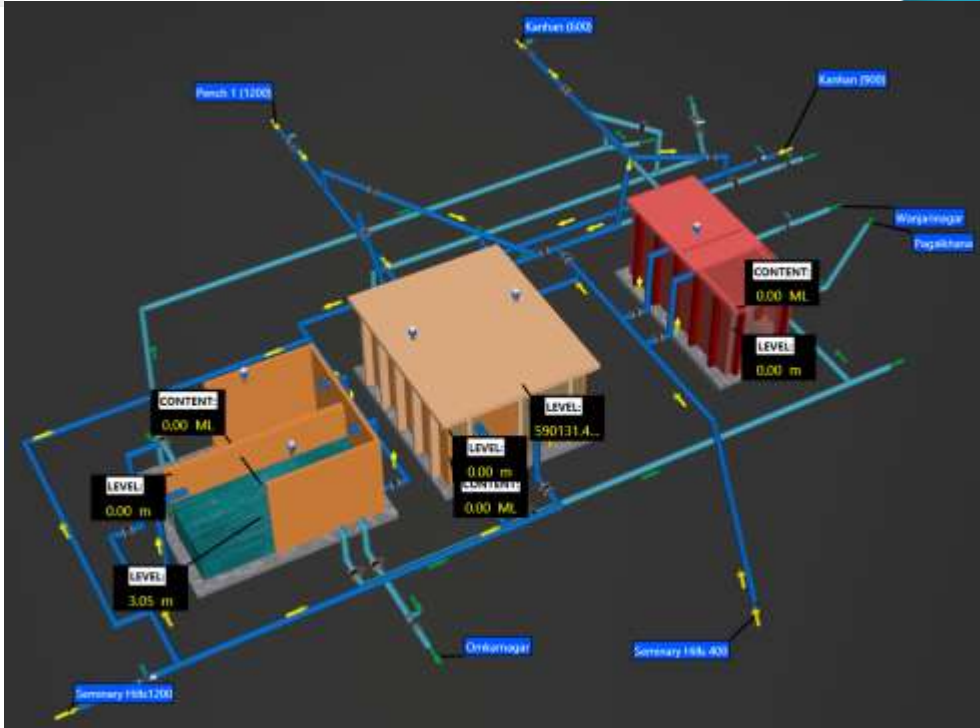
**Overlay of Water Network data over Consumer / Landbase database**



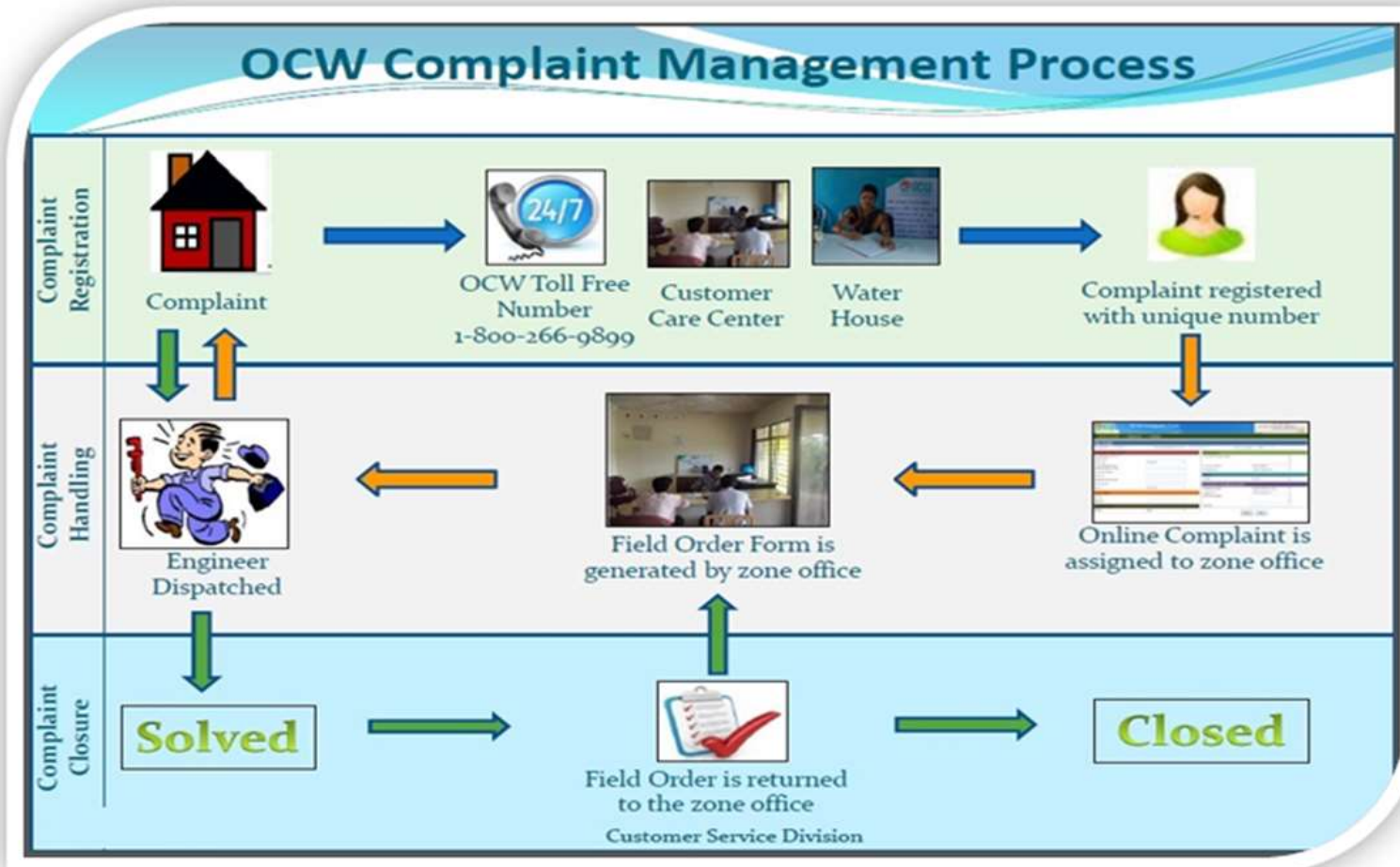


# Pressure & Flow monitoring @ ESR

# Pressure & Flow Monitoring @ MBR



# Complaint Redressal - Complaint Management Process





# Future Strategy

