

# MBSDMP: Exciting times in Manila

## Water and Sanitation

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KNW 1 November 2019

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# Introduction

- Manila Bay Sustainable Development Master Plan (MBSDMP) – **MANDAMUS**
- **PUM: 3 missions of 2 experts (2 x 2018, 1 x 2019)**



# Stakeholder Problems

Declining fisheries

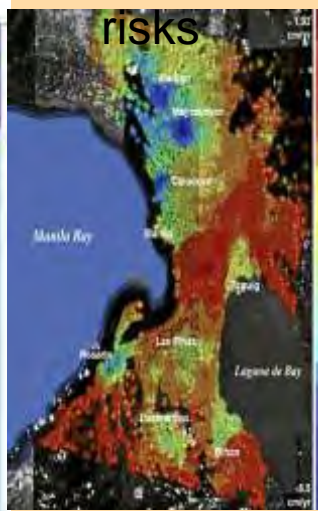


Deterioration of water and ecosystems



Typhoons

Increasing disaster risks



Sinking

Earthquakes

Floods

DET

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# Dutch Expert Team (DET) – matching partners

- PfR – Partners for Resilience
  - communities, environment
  - Red Cross, Climate Center, Wetlands International, Care, Cordaid
- CMER or NCEA - Netherlands Commission for Environmental Assessment (NCEA)
  - strategic environmental assessment (SEA) partner for DENR
- PUM – Senior expertise solid waste, sewerage, waste water, water governance**
- VNGi – Dutch Municipalities association
  - LGU strengthening, assisting coastal municipalities
  - League of Cities Philippines (LCP)
- GoN – Financial engineering
  - Innovative financing



# Stress on current system is enormous

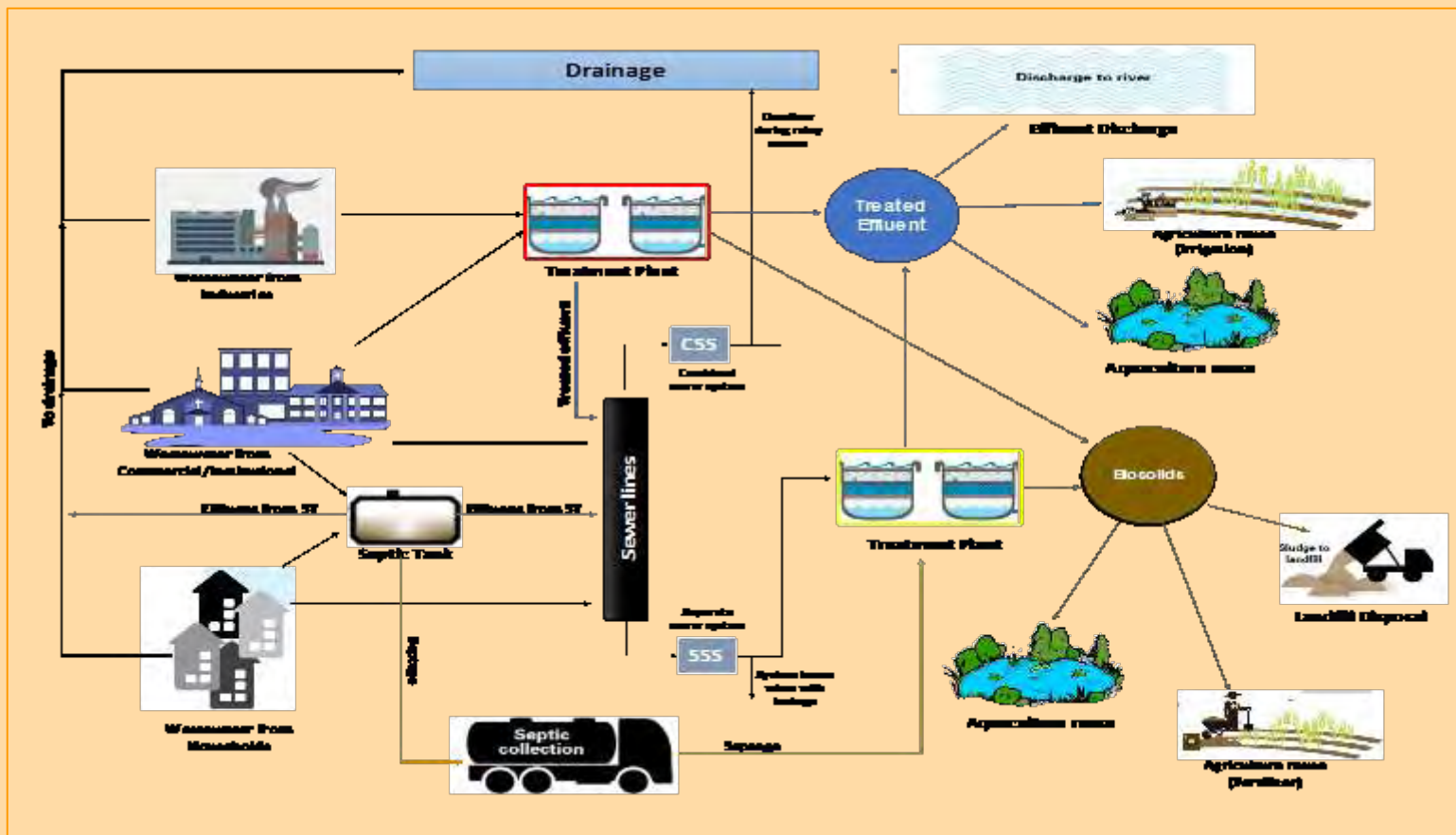
- Currently about 60% of the waste loads to Manila Bay come from sources outside MM, the total (untreated) waste load will double
  - there is very little investment and/or a long term plan “how to deal with the waste loads outside MM”
- Stress on the solid waste management system is large
  - Still many open dumpsites
  - MM is doing relatively well, enough capacity for upcoming 10-20 years
- Water quality in nearly all water systems including Manila Bay strongly deteriorated
  - Large deeper parts of MB, permanently oxygen depleted
  - From 2014 to 2016 deterioration in nearly all water systems continuing
  - Ecosystems (e.g. mudflats, mangroves) severely threatened
  - Strong overfishing



# Base Case indicators

Indicators	2015 Data	Target
1. Percentage of households below poverty thresholds	6.40%	3.20% by 2030
2. Percentage encroachment of Informal settlements in legal easement	100%	0% (Mandamus)
3. Pollution load of BOD entering Manila Bay in million tons	0.373	0.093 by 2030 75% of 2015 data reduced
4. Pollution load of PO4 entering Manila Bay in million tons	0.030	0.0075 by 2030 75% of 2015 data reduced
5. Percentage of Manila Bay that meet the SB guideline value for coliform and PO4	0 %	100% by 2030
6. Solid waste diversion rate	46.98%	80% by 2022
7. Number of open dump sites	52	0 by 2022
8. Area of Natural Habitat (intertidal mudflat, mangrove, coral, 2-m subtidal areas) in hectares	21,222	31,833 by 2040 +50% of 2015 data
9. Abundance (biomass) of demersal fish stocks in metric tons per km <sup>2</sup>	0.48	1.71 by 2040 using 1968-1972 data
10. Number of people at risk of being affected by disasters	12 Million	0

# Wastewater Management Map of Manila Bay Area



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# Manila Bay Water Quality

- Fresh water bodies (Rivers, Lakes) and sea water bodies (Coastal and Marine) strongly polluted by various sources
- Metro Manila (MWSS) 15 % sewerred, 2 Private operators covering 25 m people with water supply and (challenging) sewerage/STP expansion
- **How to expand sanitation infrastructure without facilitation by spatial planning? New innovative megacity concepts needed.**
- Strong need for institutional strengthening ( inter-institutional cooperation, public-private cooperation, big corporations eyeing for private water concessions related to land reclamation, urban and infra investments)
- PUM supports with strategic “overview” advice (technical, managerial, institutional, financial, intersectoral etc on a “you ask – we respond basis”)

# Deliverables PUM

- 1<sup>st</sup> mission (8/2018): Input into Situation Analysis on Water Quality Improvement (Sewerage, Sanitation, Solid Waste Management) **by questions/field visits**
- 2<sup>nd</sup> mission (11/2018): input into Scenario and Strategy Planning (WQI), further inventory on SWM, **dilemma on groundwater abstraction vs climate change**
- 3<sup>rd</sup> mission (2/3/2019): WQI Strategy outside Metro Manila, SWM Strategy building blocks: enhancement of recycling, **WtE Metro Manila, introduction of transfer infrastructure outside MM**

# Agenda resilient water management

- Centralized/decentralized sewerage infra
- Integrated urban spatial planning
- Transition of current septic tank infra
- Regional Water Authority
- Integrate WQI with SWM, Ecosystem Management and Erosion Control
- Energy and resource recovery
- Data/asset management

# Lessons learned

- Cooperative atmosphere
- Local consultants eager on learning, very proficient in reporting
- Local consultants internationally graduated and kept up with latest developments technically (TUD, IHE,.....)
- Institutional and spatial development complexity



**More than 1,000 Army soldiers gather garbage from the shoreline of Manila Bay in Parañaque City yesterday to support the government program to rehabilitate the bay.**





# Thank you for your attention

