



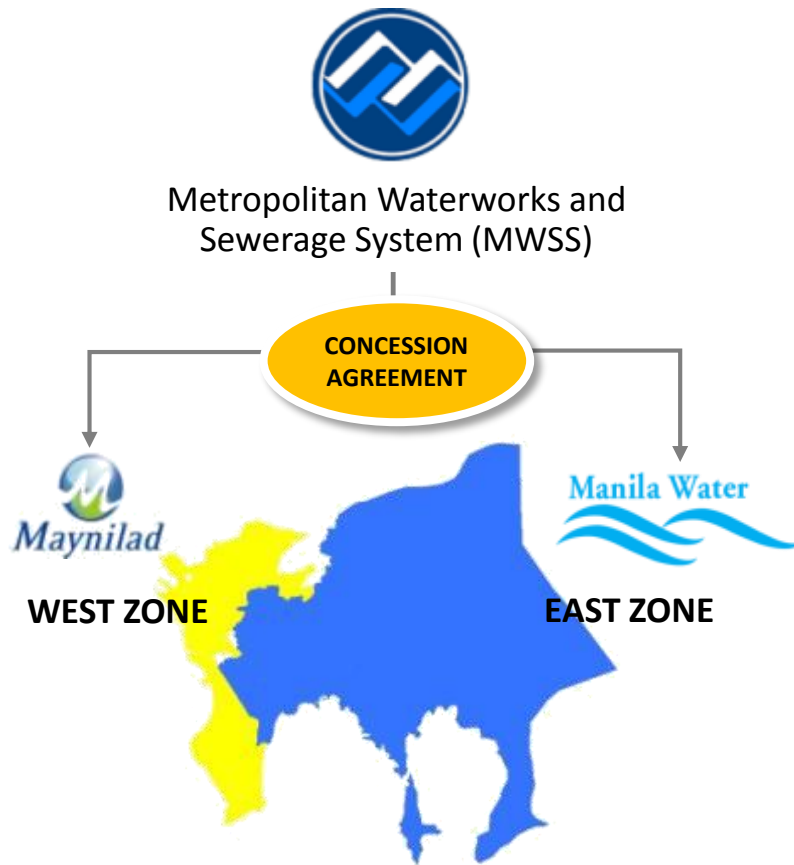
Partnerships for Sewerage and Sanitation: Lessons Learned

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Pasig River Forum
24 April 2012

Securing the Future Today

Privatization of MWSS



Expand Service Coverage



Improve Service Delivery



Increase Operating Efficiency

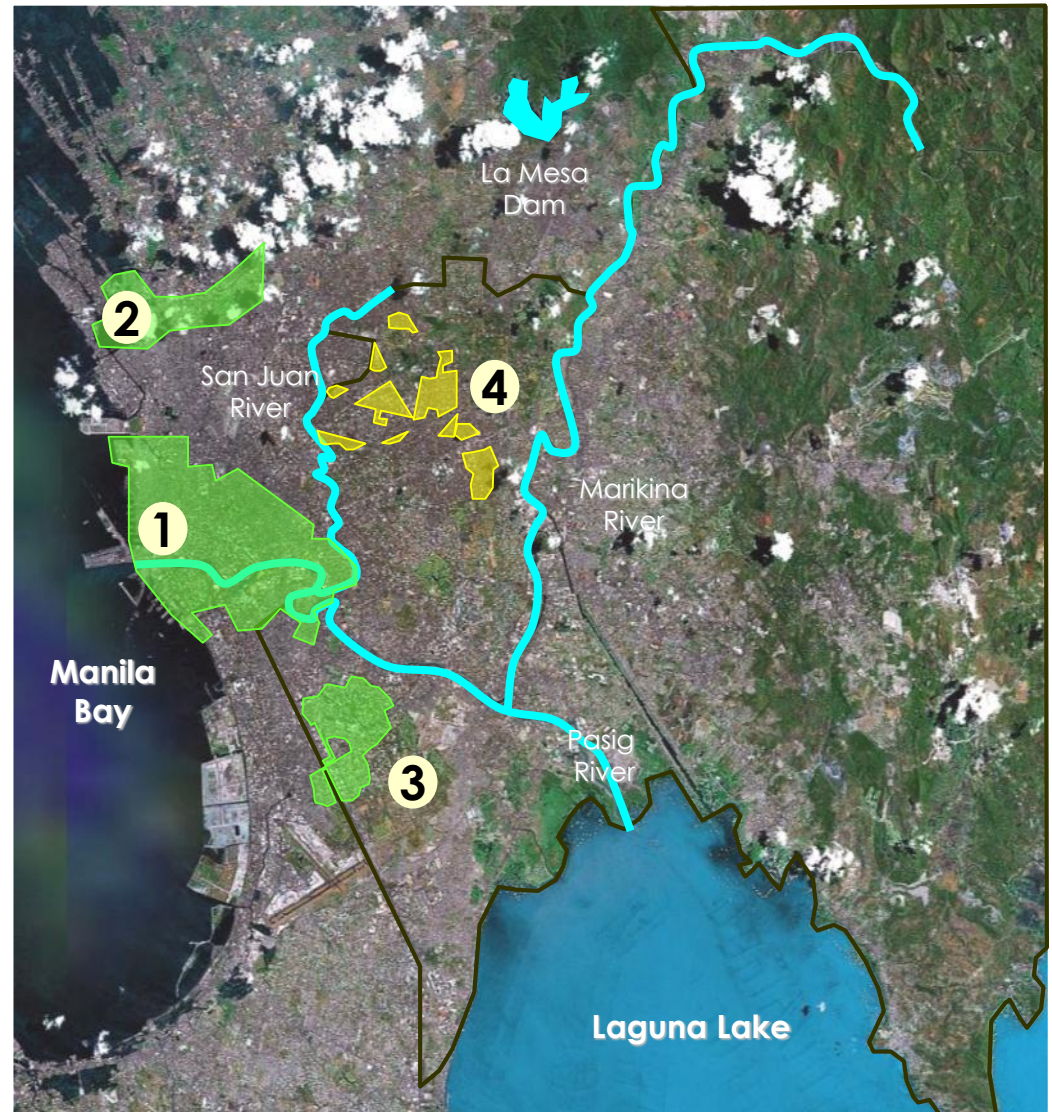


MWSS Sewerage in 1997

- Before 1997, **less than 3% sewer coverage**

1. Manila's old sewer network
2. Dagat-dagatan sewer network
3. Makati CBD sewer network
4. Scattered communal septic tanks in Quezon City, Cainta & Pasig

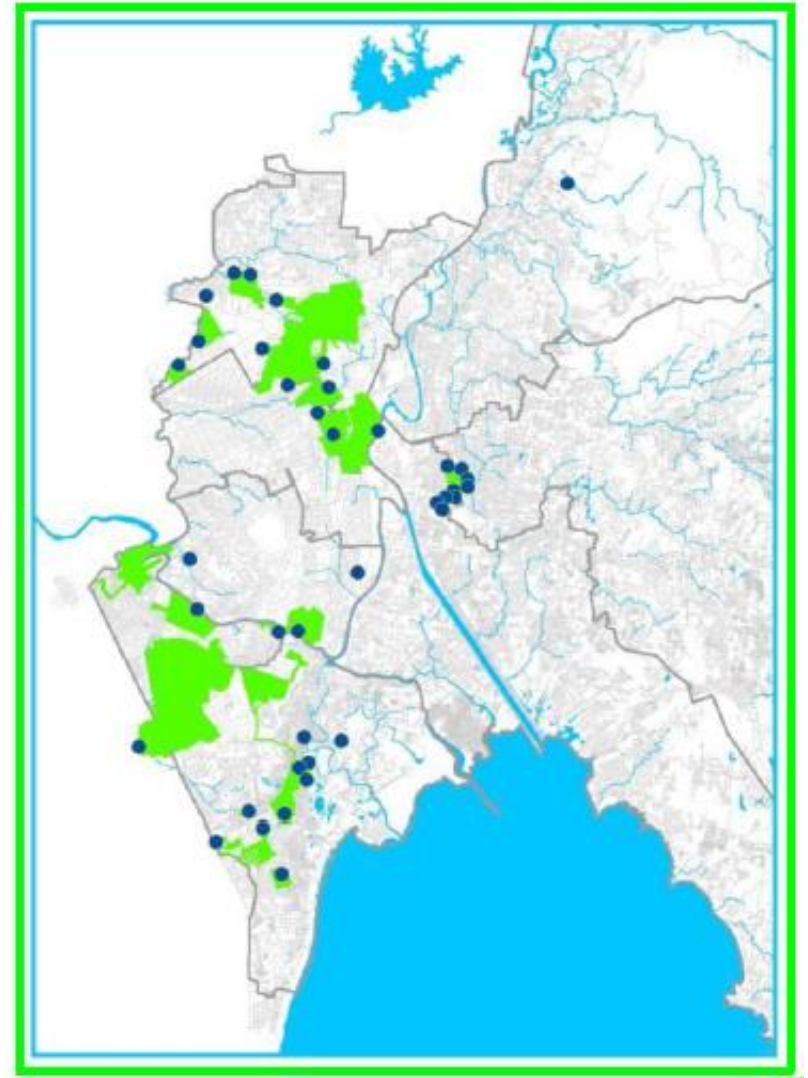
- More than **80% use septic tanks**
 - Most improperly designed
 - Not regularly maintained
- **~10%** have no access to sanitary facilities



Manila Water's Wastewater Facilities (end of 2011)

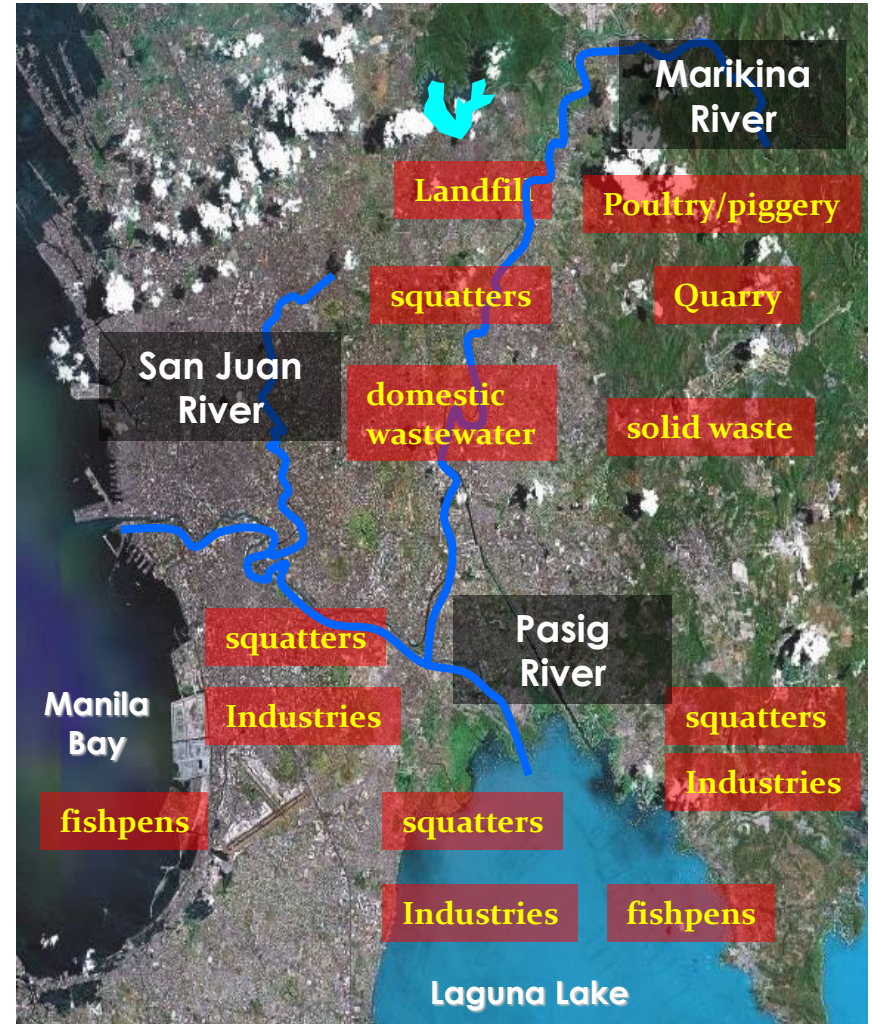
YEAR	FACILITY		CAPACITY
1997	Makati South		40 mld
2005	UP Pagasa Fisheries Philam Heroes Hill Kalayaan Sikatuna Belarmino A Luna Palosapis MRH	Karangalan 1-9 Valle Verde Diego Silang Lakeview Maharlika Centennial Fortville BLC Makati Pabahay Guadalupe	40 mld
2010	Olandes Pineda East Avenue Road 5 Poblacion	San Mateo FTI Boni	55 mld

38 facilities with total capacity to treat
~135,000 m³ per day



Drivers for fast tracking programs in sewerage and sanitation

- 💧 RA 9275 Clean Water Act of 2004
- 💧 Supreme Court decision on cleanup of Manila Bay (2008)
- 💧 Millennium Development Goal 7: Environmental Sustainability
- 💧 MWSS Concession Agreement Extension to 2037: double and fast track investments for water & wastewater



Manila Water's Wastewater Strategy



Septic Tank Desludging & Septage Treatment



Package Sewage Treatment Systems

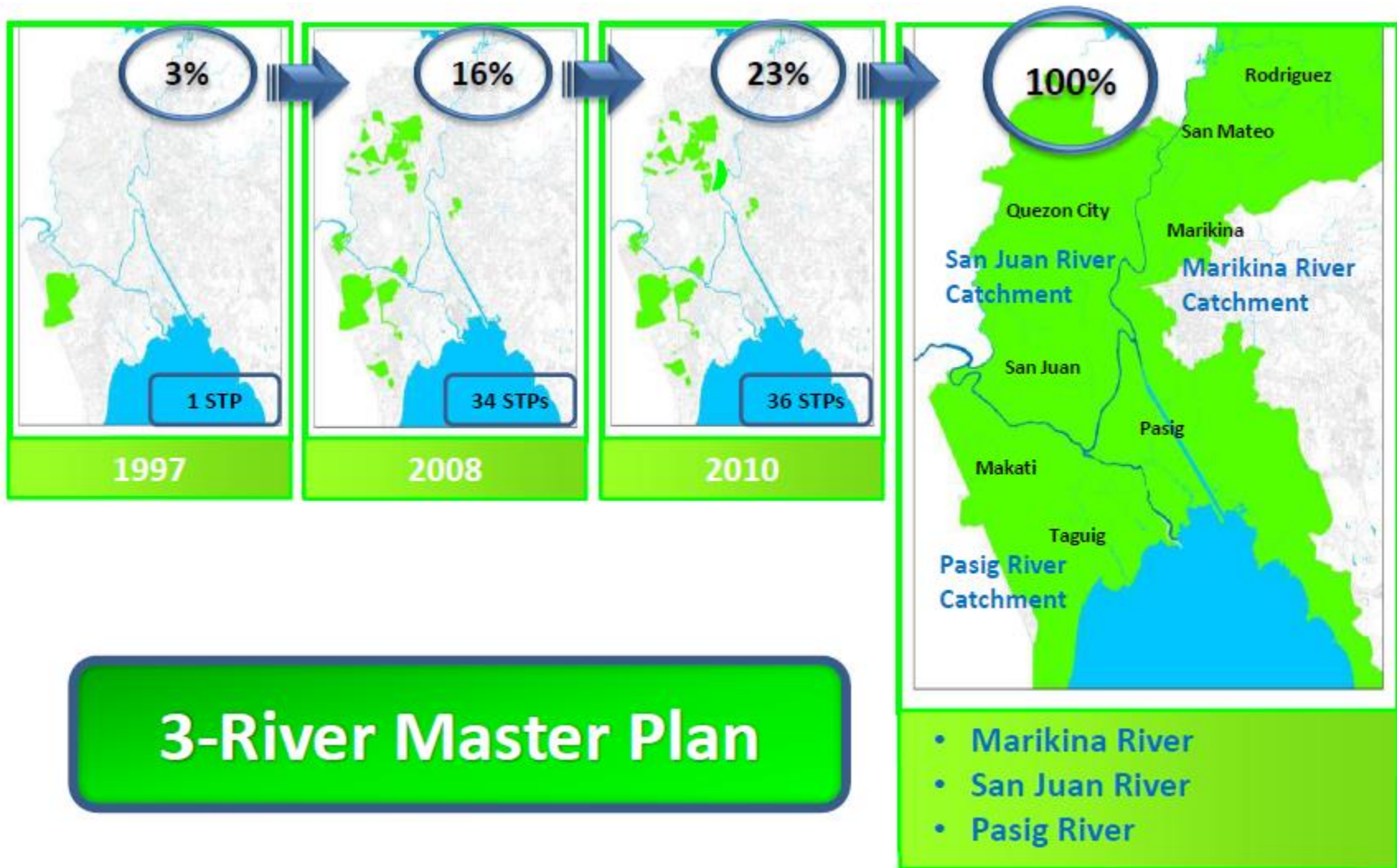


Combined Sewer-Drainage Systems

- septic tank desludging for customers every 5 years
- septic tank sludge is sent to septage treatment facilities

- for areas with pre-existing separate sewer networks

- for areas served by individual septic tanks and with no existing sewer network
- intercept greywater in street canals for full treatment



East Zone Catchment Areas for Sewerage

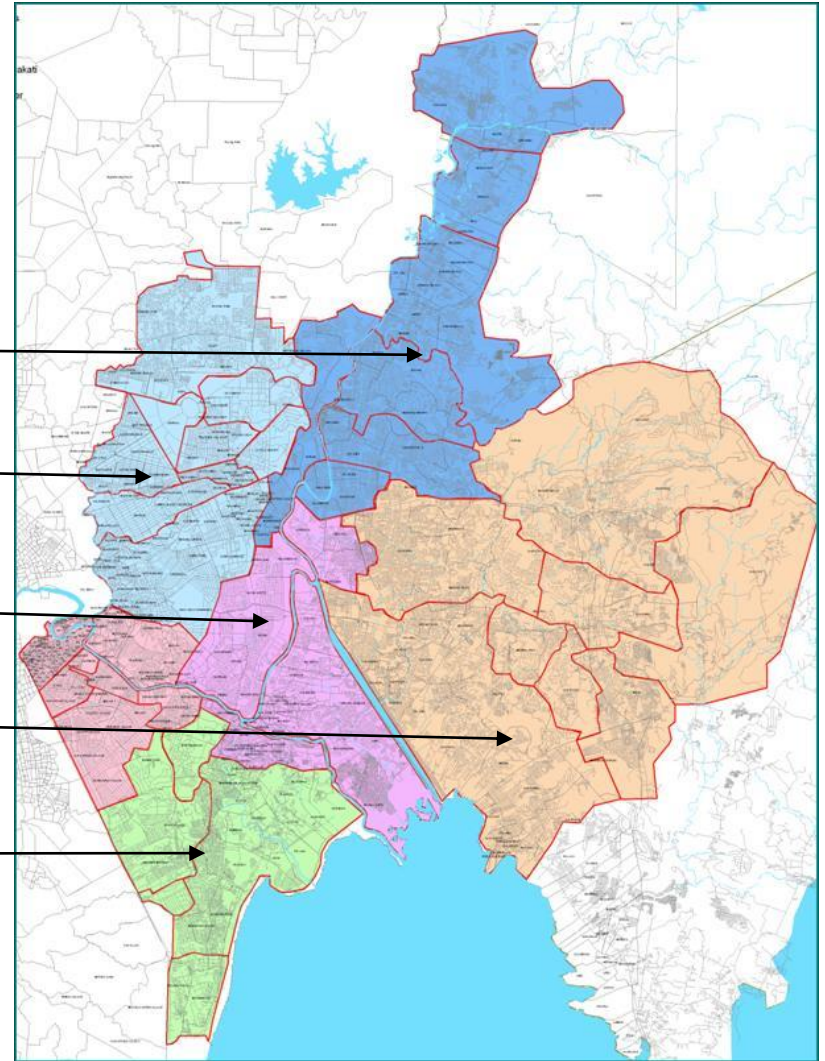
Marikina River sub-catchments

San Juan River sub-catchments

Pasig River sub-catchments

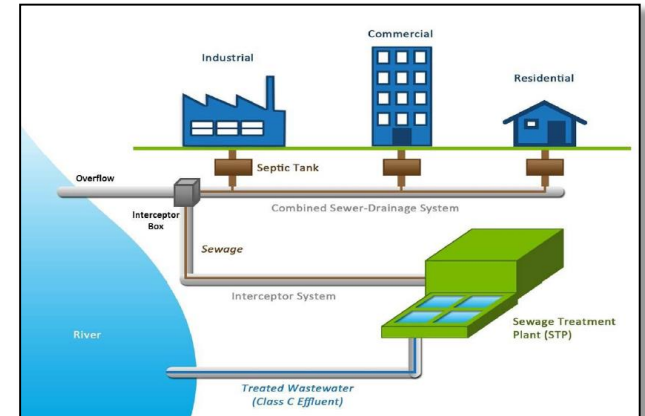
East of Manggahan sub-catchments

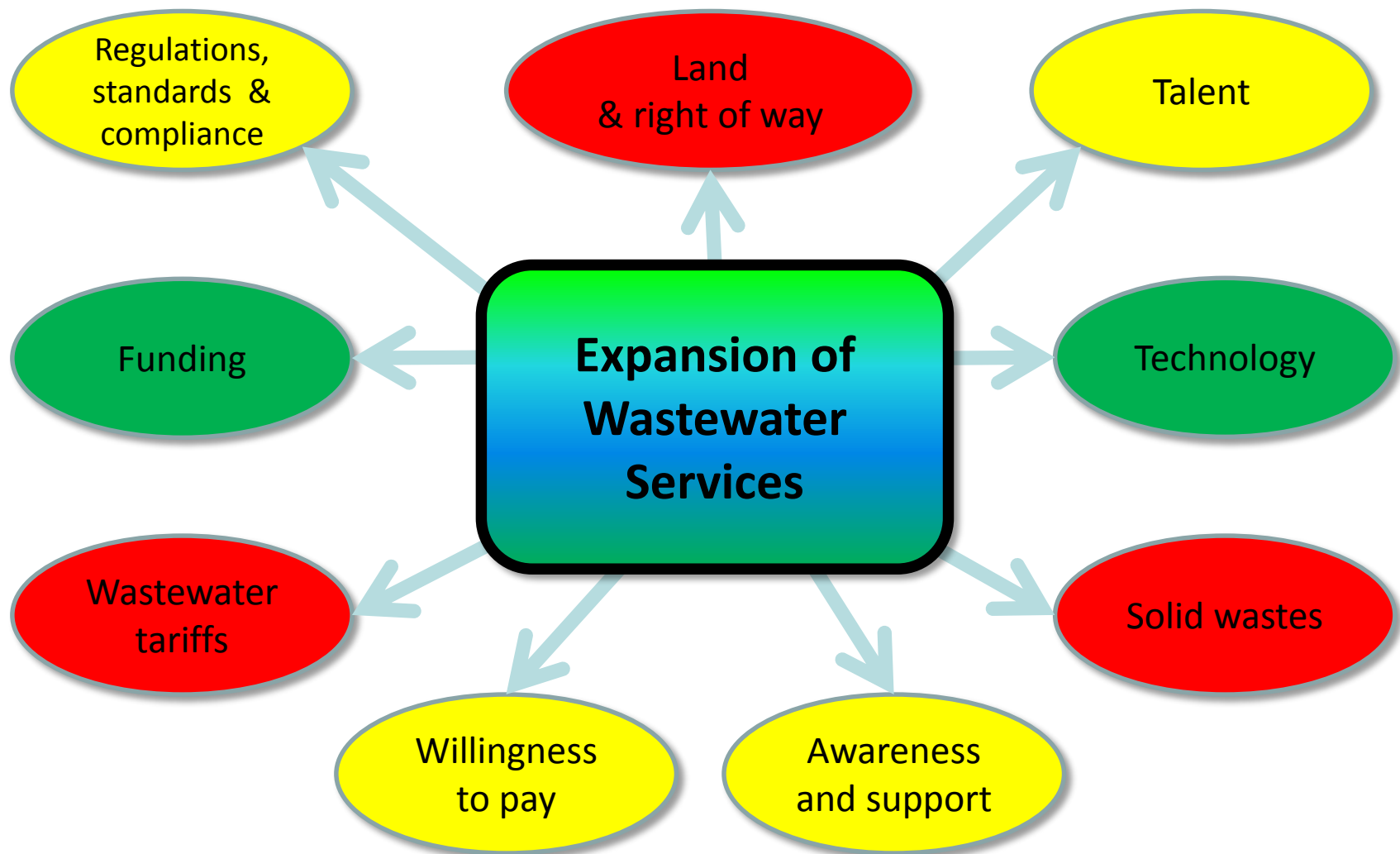
Taguig sub-catchments



Challenges in project implementation and operations

- Public's awareness and willingness to pay
- Infrastructure for collecting sewage
- Acquiring land for treatment facilities
- Possible future change in effluent standards
- Concept of compliance for publicly owned treatment works
- Sustainability of wastewater tariff structure





***Estero de Paco* low-cost sanitation**

Partnership with PRRC, KBPIP, PNR

- 💧 Eco-sanitation approach: Anaerobic Baffle Reactor (ABR) system to address sewage from tenement housing before sending effluent to the main sewer network
- 💧 Partnership between Manila Water, Pasig River Rehabilitation Commission, Kapit Bisig Para sa Ilog Pasig, and Philippine National Railways, with BORDA-BNS as contractor



Olandes STP

Partnership with Marikina City LGU

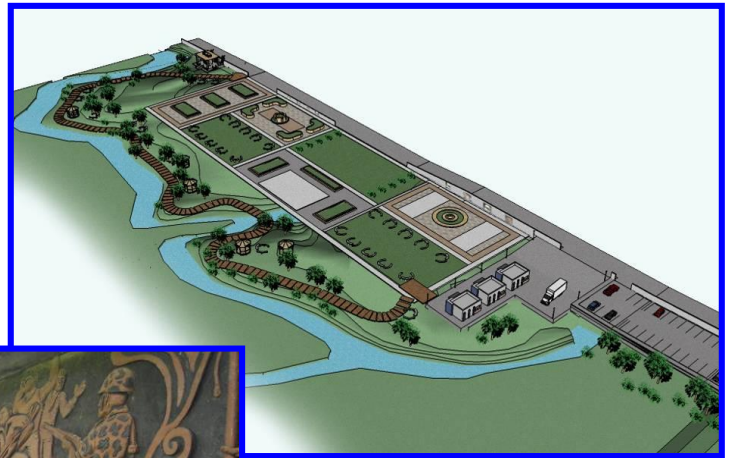


- 💧 'Climate-proof' wastewater facility
- 💧 Open to the public, part of the Marikina River Park
- 💧 New, ongoing project: Marikina North STP at Balubad

Taguig West STP

Partnership with DND

- Underground sewage treatment plant in the grounds of the Libingan ng mga Bayani
- Open air museum (park and murals) on top of the STP
- Effluent reuse in park maintenance



Septic Tank Desludging Program

Partnership with Marikina LGU, USAID-LINAW



- Partnership with Marikina City in 2008.
- City ordinance required mandatory septic tank desludging for all homes.
- USAID LINAW project involved in social marketing.
- Barangays coordinated with MWC on schedules.
- MWC provided the desludging services.



The 'Lakbayan' Water Trail

Partnership with the public

- 💧 A tour of our water & wastewater facilities for the public to appreciate the complete water cycle



Summary

- 💧 Manila Water cannot do it alone. The risks to attaining our wastewater targets are best addressed through partnerships with key stakeholders.
- 💧 Our partnerships have resulted in creative and synergistic solutions that would otherwise have remained undeveloped if we had done things on our own.



Manila Water



Securing the Future Today