



# Wastewater Production, Treatment, and Use in the Philippines

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# Wastewater production and treatment

Sources	Production (million cum/year)	Dominant Treatment
Municipal (Domestic)	<b>7,081.678<sup>a</sup></b>	Primary
Industries (agri-related)	<b>383.530<sup>b</sup></b>	Primary & secondary
TOTAL	<b>7,465.208</b>	

a. – based on 2010 population

b. - 2011 data

# Wastewater use/disposal in agriculture

Type of wastewater	Area irrigated (ha) <sup>1/</sup>	Area applied as soil conditioner or for nutrient <sup>1/</sup>	Major crops
Formal sector (treated wastewater)	1,904	1,424	assorted vegetables, maize, cassava, sugarcane, pineapple, banana, mango
Informal sector (untreated, inadequately treated, diluted)	No available data but there are unconfirmed reports of using raw or untreated wastewater from small-scale industries for vegetables, rice and fruit trees.		

<sup>1/</sup> Based from the reports submitted by DA-Regional field Units per application of certification for safe use of wastewater in agriculture per DA-AO No. 26. Series of 2007

# Regulations and Implementation of National Guidelines

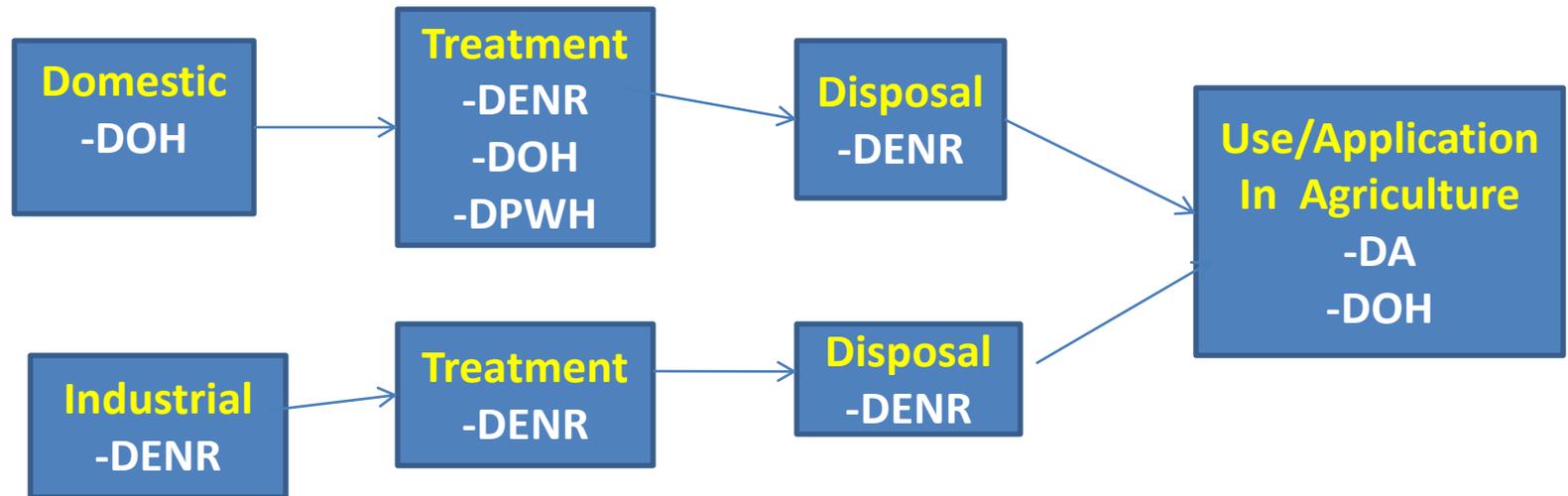
**DENR Administrative Order No. 2005-10** Implementing Rules and Regulations of the **Philippine Clean Water Act of 2004 (RA 9275)** (Section 13)

**DA Administrative Order No. 26, Series of 2007** Guidelines on the Procedures and Technical Requirements for the Issuance of a Certification Allowing the Safe Reuse of Wastewater for Purposes of irrigation and other Agricultural Uses

## **DOH Sanitation Code**

- Implementing Rules and Regulations of Chapter XVII – Sewage collection and disposal, Excreta disposal and Drainage (Dec 21, 1995)
- Supplemental IRR: “Rules and Regulations Governing the Collection, Handling, Transport, Treatment and disposal of Domestic Sludge and Septage” (May 4, 2004)

# Institutional Arrangements



Note: Water service providers and LGUs are implementors of sewage disposal /wastewater management subject to the national guidelines

# **Government's current approach to wastewater management**

- Formulation of harmonized policy and regulations with other concerned agencies
- Implementation of Guidelines
- Awareness and information campaigns
- Encouraged research and development and participation of private sector

# Challenges to pursue safe use of wastewater

- **Technical** – lack of expertise on wastewater management and application
- **Institutional** – fragmented guidelines on wastewater management
- **Policy** – weak implementation of existing national policy
- **Standards** – unregulated parameters to ensure public health and safety, and the environment i.e. coliform, metals, nutrients, etc; no parameters for processed sludge
- **High investment cost** in establishing WW treatment facilities (Low priority program of the government)
- **Weak** research and development component
- **Weak IEC** campaign for wastewater management and application

# Possible solutions to make use of wastewater safer and productive

1. **Active implementation** of existing national laws and adoption for local regulation
  - develop standards for wastewater and sludge parameters related to public health and safety
2. **Capacity Building**
  - creation of formal unit and assigned technical staff within the concerned national and local agencies
  - advocacy to increase professionals engaged with wastewater management and application (e.g. Sanitary/Environmental Engineers, Agricultural Engineers)
  - training for key stakeholders

# Possible solutions to make use of wastewater safer and productive

- Advocacy for funding provision for wastewater systems
- Coordination with DPWH's NSSMP and DOH National Sustainable Sanitation Plan
- Strengthen research and development
  - Piloting of new approaches and technologies
  - Documentation of best practices

***MABUHAY***

**AND**

**HAVE A NICE DAY!!!**