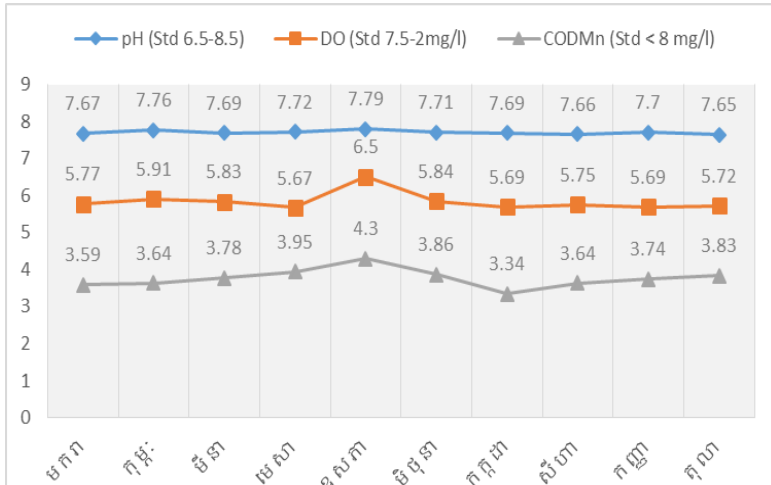


Updates of Water Environment Governance in Cambodia

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Facts and statistics of water quality



- Commonly, the values of BOD, COD are ranged in the standard, except few locations of which the values of TN and TP were identified to slightly increase.
- Sap River TN=2.95mg/l TP = 0.35mg/l,
- Tonle Sap Great Lake TN=3.33mg/l TP = 0.35mg/l,
- Bassac River TP = 0.42mg/l



Facts and statistics of domestic wastewater management

- Domestic wastewater is 760 375 m³/d (80% of water supply) were treated by:
 - ✓ Central Wastewater Treatment Plants 34000 m³/d,
 - ✓ Onsite treatment plant at Commercial Building, Sub city and
 - ✓ Septic tank at individual house.

Central Wastewater Treatment Plants :

- ✓ Battam bang city:1000m m³/d,
- ✓ Siem Reab City city:8 000m m³/d,
- ✓ Preah Sihanouk City :25 000m m³/d



Facts and statistics of Industrial wastewater management

Statistic of factories in Cambodia

N ^o	Type of Factories	Number
1	Garment	407
2	Garment and Washing	69
3	Bag and Shoes	67
4	Printing	43
5	Jean washing	23
6	Animal food	10
7	Electrical Material	9
8	Cigarette	8
9	Beverage	6
10	Medicine	5
11	Other	497
	Total	1, 144

- ❑ High potential pollution sources (99 Factories) were control by Inspection team of General Directorate of Environmental Protection.
- ❑ 6 Factories were fine by discharging treated wastewater excess effluent standards.
- ❑ Compare to 2018 , the violation against effluent standard is about 3% decrease.

Sources: Department of Law enforcement and Inspection (2018)

Legislative framework for water environmental governance

- Laws on Environmental Protection and Natural Resources Management (1996)
- Laws on Water Resources Management(2007)
- Sub-decree on Solid Waste Management(April 27, 1999)
- Sub-decree on Environmental Impact Assessment (August 11, 1999)
- Sub-decree on the Management of Sewage and Wastewater Treatment System(25 Dec. 2017)

Legislative framework for water environmental governance

- Draft Law on Sewerage System In Cambodia (MoPWT)
 - ✓ Objective: To manage, develop and use of sewage filtration station and sewage discharge system to ensure their quality, safety, effectiveness and sustainability in the Kingdom of Cambodia.
- Final draft undemand of Sub-decree on Water Pollution Control (Apr 6, 1999):
 - 8 articles
 - 4 Annex:
 - Effluent standard
 - Classification of pollution sources
 - Environmental quality standard (surface water quality standard and human health protection standard)

Institutional framework for water environmental governance

- Ministry of Water Resources and Meteorology(MWRAM), based on the Law on Water Resources Management, are paying more attention on monitoring watercourses (in terms of quantity and quality) in Cambodia.
- Cambodia National Mekong Committee (CNMC) is a governmental institution operating under the direct supervision of the Ministry of MWRAM .
- Ministry of Environment, in complying the Environmental Law and Sub-decree are paying more attention on monitoring environmental quality (in terms of water, soil and air) in Cambodia.

Water quality monitoring framework

- Officers of MoWRAM base on Water Quality Monitoring Network (MRC Program) collect water samplings monthly at primary, secondary and other stations (19) and analysis at the MoWRAM's LAB (19 parameters: T⁰C, pH, EC, Alkalinity/Acidity, DO, COD,BOD, T-P, T-N, NH₃-N, NH₂₋₃-N, Feacal coliform, TSS, Ca, Mg, Na, K, SO₄, Cl.)
- Officers of MoE, in complying the Environmental Law and related Sub-Decrees, conducts:
 - ✓ Monthly monitoring and analyzing water quality at the MoE's LAB (those water samples are taken from Mekong River, Bassac River, Tonle Sap River, Tonle Sap Great Lake, their tributaries, and marine water), in order to identify the implication of pollution and water environment.

Enforcement instruments for water environment management

- Department of Inspection and Law compliant under the direct supervision, is a core function to facilitate among technical department under General Directorate of Environmental Protection and provincial department of environment lead in monitoring, inspection all kind of environmental pollution sources in Cambodia.
- Working group monitoring the environmental pollution on Special Economic Zone(Co chair by under secretary from CDC, MoE) is responsible for:
 - ✓ Facilitate all required document follow the existing legislation
 - ✓ Strengthening the effectiveness of the implementation of environmental plan and contract
 - ✓ Consult and provide technical advisory on solid, liquid waste and air management
 - ✓ Control and sold the confect related to environmental protection

Future targets/plans, issues and challenges of water environment governance

- Cooperation with country in the region, ater Quality Monitoring Station will be installed in some provinces.
- Cooperation with development partners, central sewage treatment plants at some cities (Phnom Peng, Battambang city, Serei soporn city, Poy Pet city, Stoeng Sen city, Bavet city) are on the process.

Future targets/plans, issues and challenges of water environment governance

- Environmental violation still happen, especially discharging wastewater from factories without treatment or treating not comply to effluent standard
- Lack of budget, technical equipment, and human resources (both quantity and quality)
- Suggest WEPA to support the proposal from Cambodia.

Thank you for you
kind attention