

Country Presentation: CAMBODIA

*Efforts towards achievement of SDG6.3_By 2030, "Halving the Proportion of Untreated Wastewater" Should Be Accomplished.

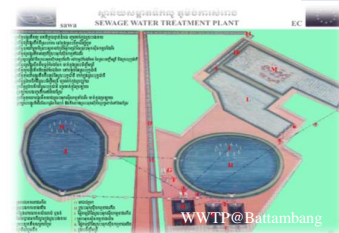


The Inaugural Symposium of Asia Wastewater Management Partnership (AWaP)

3

Participants:

1. Mr. CHAO Sopheak Phibal Director, Sewerage Management and Construction Dept_MPWT
2. Mr. MEN Vivoitvithiea Deputy Director, of Department of Investment,
General Department of Budget
Ministry of Economy and Finance, MEF



Kitakyushu International Conference Center



July 25, 2018 @ Kitakyushu, Japan

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I. Country & Ministry Information

II. Current Situation

III. Issues and Challenges

IV. Concepts of Wastewater

Management in Cambodia (Draft)



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I. COUNTRY & MINISTRY INFORMATION

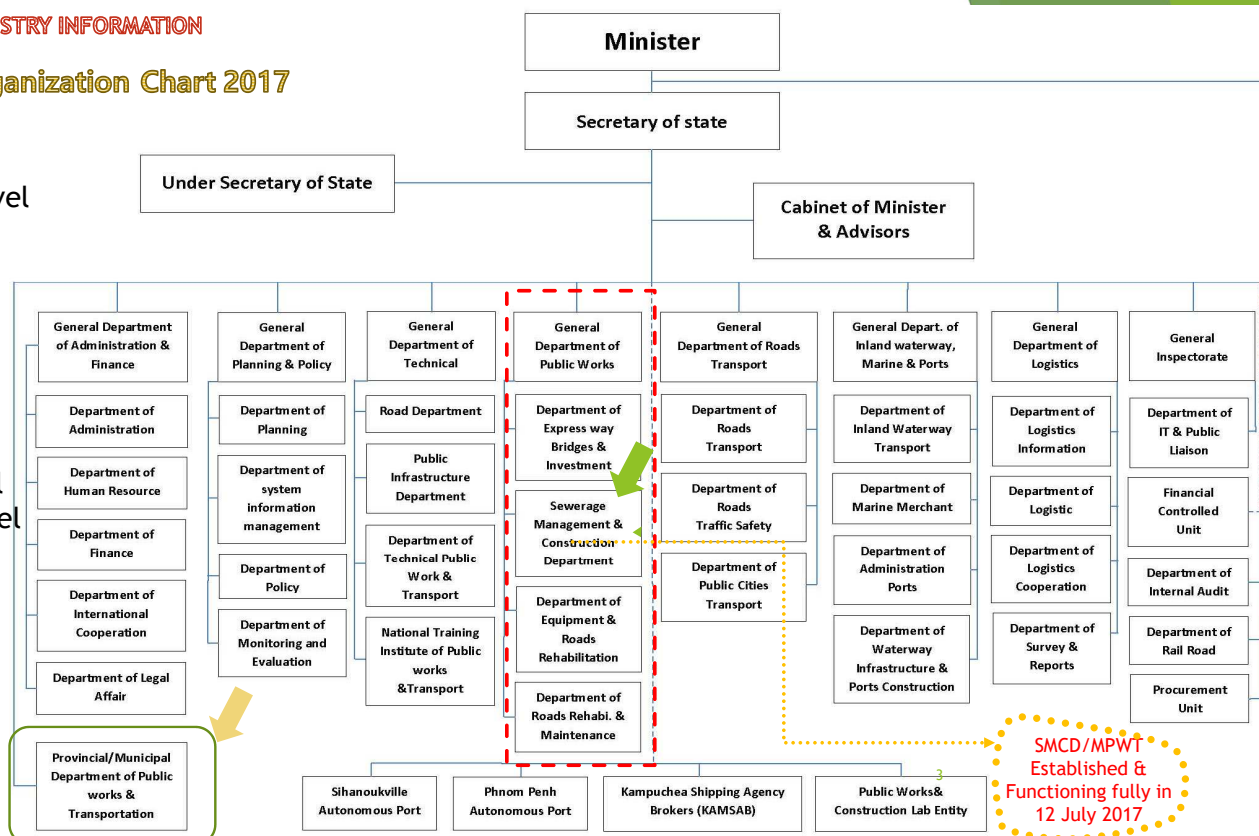
MPWT Organization Chart 2017

Management Level

Technical Level

□ National level

□ Provincial level



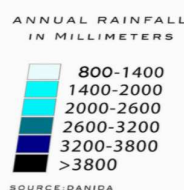
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III. Current Situation on Wastewater and System

- Fast urbanization, Socio-economical development and industrialization is our Challenges in Urban Wastewater.
- World Bank Report, 2008
 - ✓ Human excreta : 234 tons/day
 - ✓ Human urine : 2,335m³/day
 - ✓ Grey water : 8,154m³/day
 - ✓ BOD : 497 tons/day
- No Law relating to Sewerage and Drainage Management Yet, only Sub-decree No.235 dated on 25 Dec 2017 on the **Management of Drainage and Wastewater Treatment Management.**
- Limited Drainage System and WWTP
 - ✓ **Combined sewerage system** is a major type of WW collection
 - ✓ **Septic tank** is a main existing sanitation system in urban areas
 - ✓ Insufficient of WWTP Capacity (Supply << Demand)
- Only three WWTP through out the country/24 Provinces plus Phnom Penh Municipality
 - ✓ In Sihanoukville, Siem Reap & Battambang Provinces
 - ✓ **Phnom Penh Municipality- Under detailed study & construction by JICA**
- **Master Plan** on Drainage and Sewerage Improvement in Phnom Penh Metropolitan Area by JICA in December 2016
- **Master Plan** on Sewerage System Development in Takhmau Town, Kandal Province, EDCF, Korea Oct 2016
- **Master Plan** under study by Chinese Firm at 03 Provincial Towns expected to complete by 2020
 - ✓ **Sihanoukville, Siem Reap & Takhmau Towns**
- MOC, MOUs (MLIT-Japan, CDIA, GGGI) & Sub-TWG/UWS

Globally, 80% of Wastewater generated flow back into ecosystem without treated or reuse.



DISTRIBUTION OF RAINFALL - CAMBODIA

MAP OF CAMBODIA & Brief Data

- ❖ Total land area : 181,035Km²
 - ❖ Land : 97.50%
 - ❖ Water : 2.50% (Land-Based Water)
- ❖ Total Population : 16.2 Mil. (2018)
 - ❖ Urban area : 21.7% (2018)
- ❖ GDP Growth rate : 7% (2015-2018)
- ❖ Tourists : 5.6 mil. (2017), 6.0 mil. (2018), 7.0 mil. (2020)-10.0 mil. (2025)
- ❖ 01 Municipality, Phnom Penh
- ❖ 24 Provinces, 1,646 Communes
- ❖ Improved access to sanitation
 - ❖ Rural : 65% (2018)
 - ❖ Urban : >80% (2018)



III. Current Situation, WWTP (Cont.)

Existing Wastewater Treatment Plants (Lagoon System)

Description	Unit	Sihanoukville	Battambang	Siem Reap
Population (2008)	people	0.221 million	1.025 million	0.896 million
Type of WWTP	-	Oxidation Pond	Oxidation Pond	Oxidation Pond
Size of WWTP	ha	16.2	4.7	8
Capacity of WWTP	m ³ /day	5,900	450 (Planned 1,000)	8,000
Coverage service area	ha	221.5	16,836 homes and business owners	1,083 (Excluding 264ha of ADB Project)
Construction cost	USD	11.19 million	0.46 million	29.96 million
Construction Completion	-	2005	1994	2013
Sources of Fund	-	ADB Loan	EU	ADB and EDCF loan
Current status	-	In Operating	Partially Operating	Partially Operating

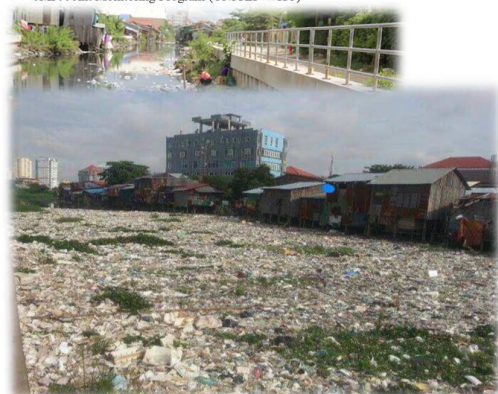


III. Issues and Challenges

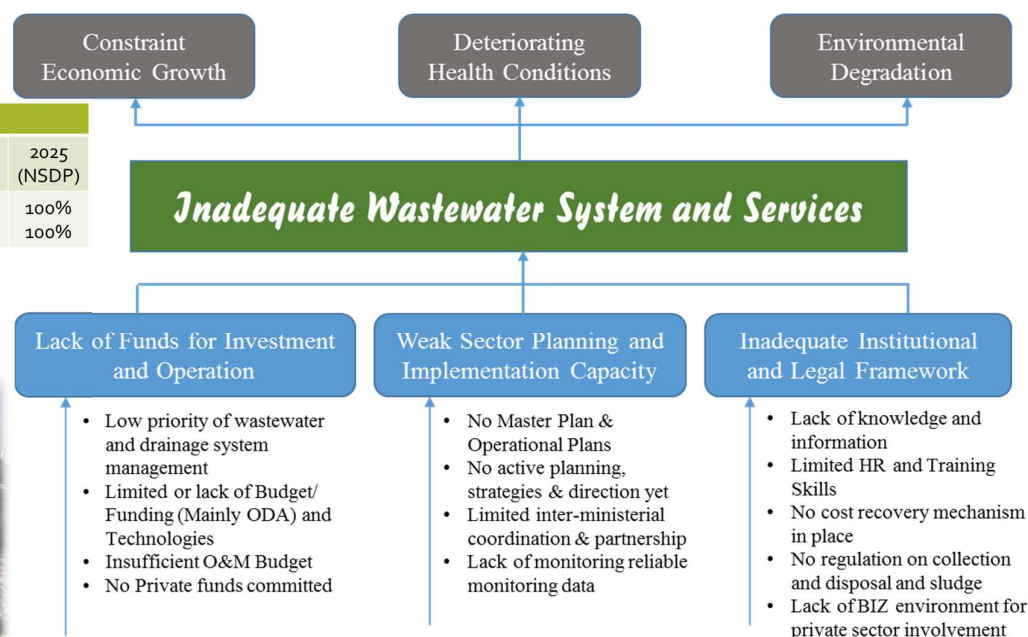
CAMBODIA: Access to Sanitation
Current Status vs Targets

Sanitation Accessibility	Current Status		Targets		
	2012 (NSDP)	2012 (JMP)	2015 (CMDG)	2018 (NSDP)	2025 (NSDP)
1. RURAL	25%	25%	30%	65%	100%
2. URBAN	>80%	82%	74%	>80%	100%

Note:
✓ NSDP: National Strategic Development Plan, 2014-2018
✓ JMP: Joint Monitoring Program (UNICEF-WHO)



PROBLEM TREE ON WASTEWATER SECTOR






 Samdech Akka Moha Seta Padei Techo HUN SEN
 Prime Minister of the Kingdom of Cambodia

Phnom Penh, 10 July 2018

His Excellency Shinzo Abe
 Prime Minister of Japan
 Tokyo

Your Excellency

I am extremely saddened to learn about the loss of so many lives in the floods and landslide due to heavy rains, which have caused massive damages in the Southern and Western parts of Japan, since last week.

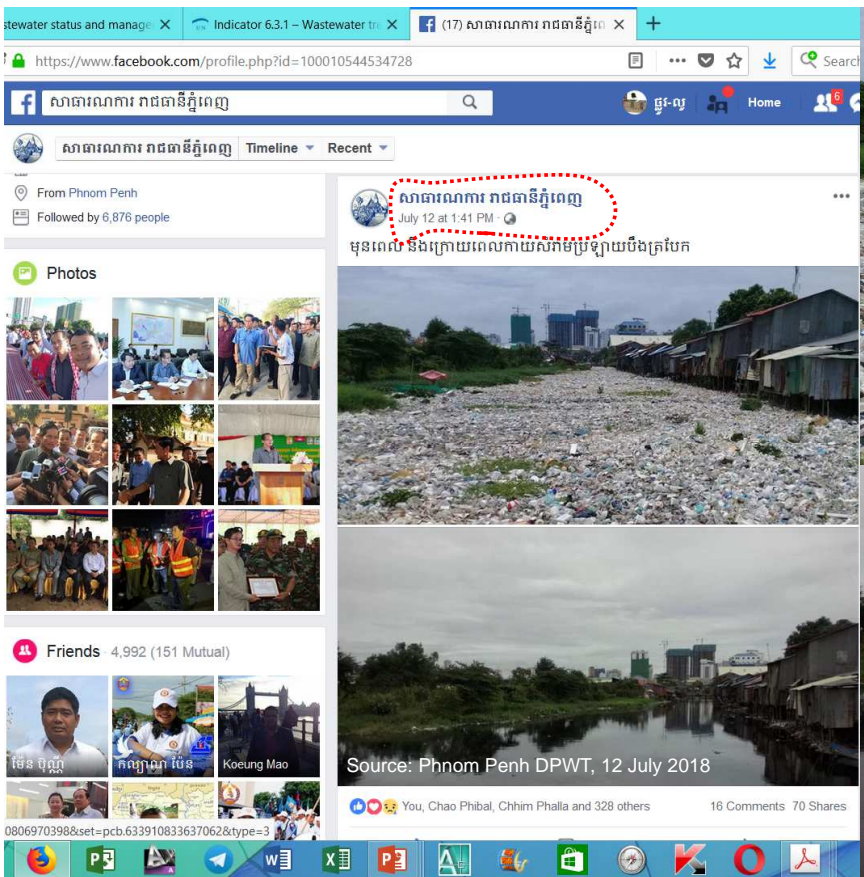
On behalf of the Royal Government and people of Cambodia, I would like to convey my heartfelt condolences to Your Excellency and the people of Japan, particularly the bereaved families at this moment of profound grief and immense loss.

Please accept, Your Excellency, the assurances of my highest consideration and my deep sentiment of solidarity.


 HUN SEN



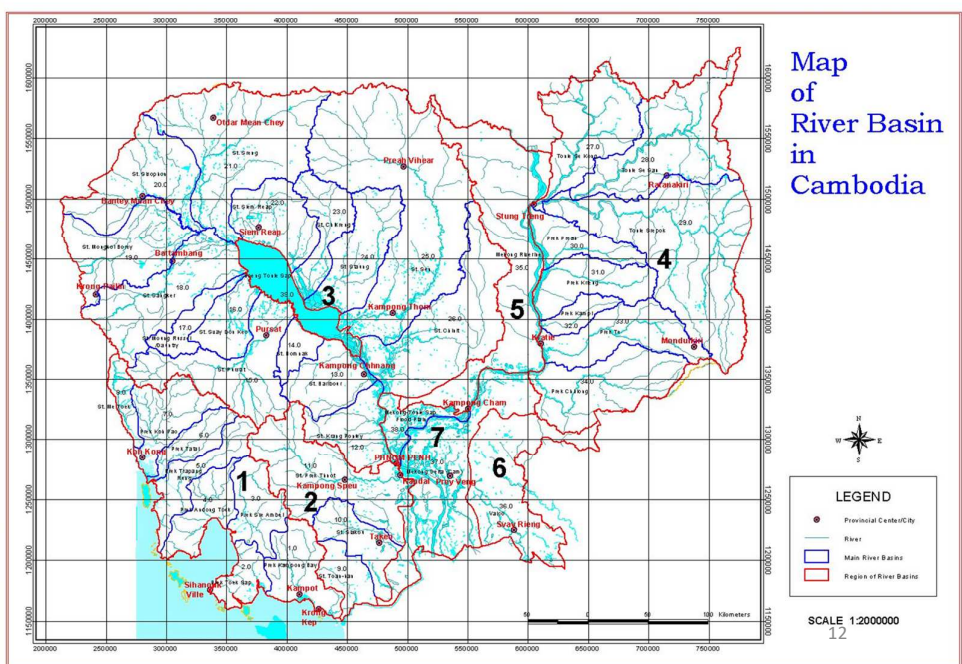
Flooding and Wastewater

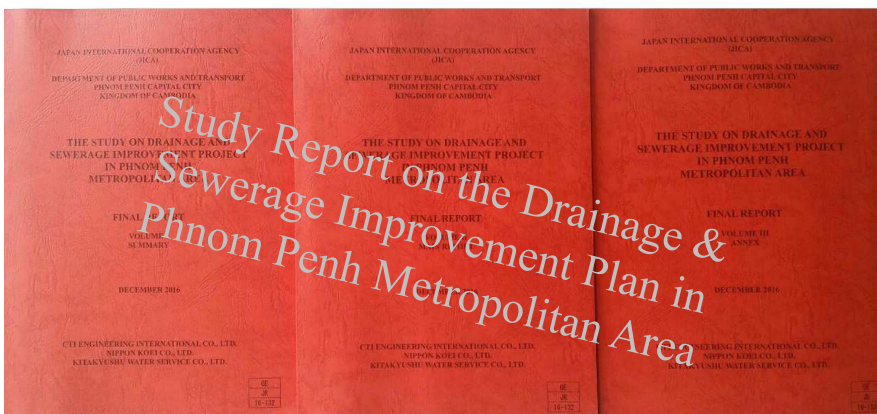
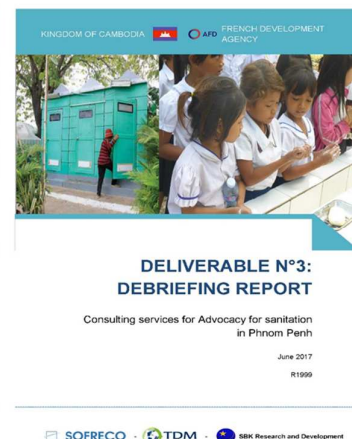
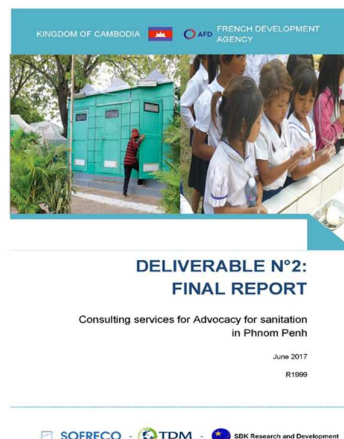
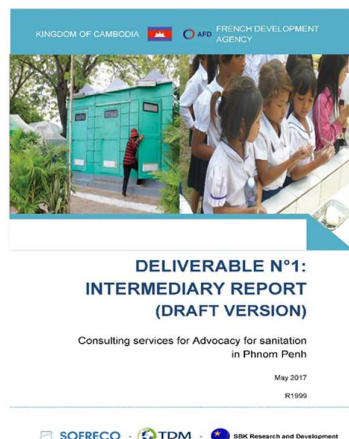
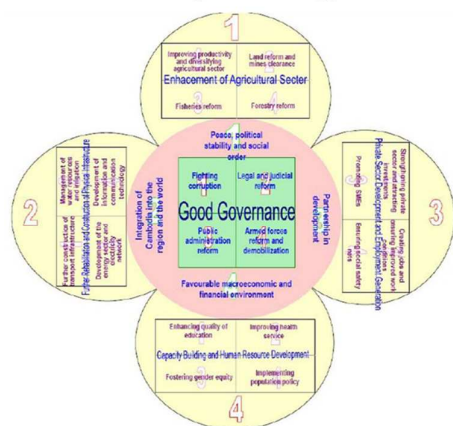




IV. Concepts of Wastewater Management in Cambodia

- | | |
|------------------------------------|---------------------|
| 1) Geographical Relief | 4) The Coastal Zone |
| 2) Treats to Wetland in Cambodia | 5) Development Plan |
| 3) The Tonle Sap Biosphere Reserve | 6) Target Plan |





TOOLS to Achieve the Wastewater Management

- 1) National Strategic Development Plan, NSDP 2014-2018
- 2) City Development Strategy, CDS
- 3) Rectangular Strategy Phase-III, the 5th Mandate of Govt, 2013-2018
- 4) Encourage PPP Scheme for Public Investment 2016-2020
- 5) Sub-decree on Sewerage System and Wastewater Treatment Plant Management
- 6) Work Programs/Plans with DPs
- 7) Master Plan, and Guidelines

ROLE AND FINANCIAL RESPONSIBILITIES OF PLANNING DEVELOPMENT AND MANAGEMENT OF MUNICIPAL WASTEWATER TREATMENT

Key Ministries

Ministry of Economic and Finance, MEF

Ministry of Environment, MOE

Ministry of Public Works and Transport, MPWT

Ministry of Interior and Municipalities, MOI

Multilaterals Involved in Sanitation, Wastewater in Cambodia

Key Schemes

- Allocating budgets

- Environmental planning ; monitoring of effluent discharged to waterways / water drains
- Involve in Master plans

- Developing scientific national policy concerning all Public Works construction
- Master plan.

- Involve in Master plans.
- Operation and maintenance wastewater treatment system

CROSS-COOPERATION AND PARTNERSHIP





The Proposed to Establish the “Sub-TWG on Urban Wastewater and Sanitation” has been strongly supported and approved by the members of IRITWG during the meeting on 27 June 2018



IRITWGs Meeting
27 June 2018

Infrastructure and Regional Integration Technical Working Group, IRITWG: Its Sub-TWGs

- 1) Land Transport and Railway
- 2) Road Related Infrastructure
- 3) Marine / Waterway Transport Infrastructure (Ports)
- 4) Air Transport

- 5) Urban Water Supply
- 6) Electricity and Energy
- 7) Telecom Infrastructure

Urban Wastewater and Sanitation (UWS)
➤ Approved During the IRITWG Meeting on 27 June 2018



MEMORANDUM OF COOPERATION BETWEEN MPWT AND MLIT SIGNED ON 15 FEB 2017 IN TOKYO, Japan



MEMORANDUM OF COOPERATION

between
THE MINISTRY OF PUBLIC WORKS AND TRANSPORT OF THE KINGDOM OF CAMBODIA
and
THE MINISTRY OF LAND, INFRASTRUCTURE, TRANSPORT AND TOURISM OF JAPAN

1- Objective

The objective of this Memorandum of Cooperation (hereinafter referred to as “this MoC”) is to enhance cooperation between both sides in order to improve the quality of life and accelerate the sustainable economic growth for both countries.

Signed in duplicate as a non-legally binding document at Tokyo on this 15 day of February in the year 2017 in two original texts in the English language.

2- Areas of Cooperation

The areas of the cooperation between both sides will include the following:

- (1) Policy, planning, construction, operation and maintenance regarding sewerage/drainage works.
- (2) Legal and institutional system for sewerage/drainage works.
- (3) Technologies and technical standards for sewerage/drainage works.
- (4) Human resources development for implementation of sewerage/drainage works.
- (5) Promoting public awareness of sewerage/drainage works.
- (6) Promoting and supporting technical cooperation activities among cities/companies of Cambodia and Japan.

- ❑ Policy, planning, construction, operation and maintenance regarding sewerage/drainage works
- ❑ Legal and institutional system for sewerage/drainage works

ON BEHALF OF

THE MINISTRY OF PUBLIC WORKS AND TRANSPORT OF THE KINGDOM OF CAMBODIA

Mr. Tauch Chankosal
Secretary of State, Ministry of Public Works and Transport, Kingdom of Cambodia

ON BEHALF OF

THE MINISTRY OF LAND, INFRASTRUCTURE, TRANSPORT AND TOURISM OF JAPAN

Mr. Shinsuke SUEMATSU
State Minister of Land, Infrastructure, Transport and Tourism, Japan

3- Methods of Cooperation

The methods of cooperation will include the following:



