



Water and Wastewater Management Cambodia

Mr. Vorng Say

**Technical Officer of Department of Water Quality
Management**

Ministry of Environment

CONTENTS

- Cambodia's overview
- Cambodia's water use
- Common effluent standard
- MoE'S Structure and Responsibility
- Water quality monitoring
- Challenges
- The Way Forward

Cambodia overview



- Cambodia is located in Southeast Asia.
- West and Northwest: Thailand
- Northeast: Laos
- East: Vietnam
- Southwest: the Gulf of Thailand
- Area: 181,035 km².
- Population: 15 millions
- Capital city: Phnom Penh

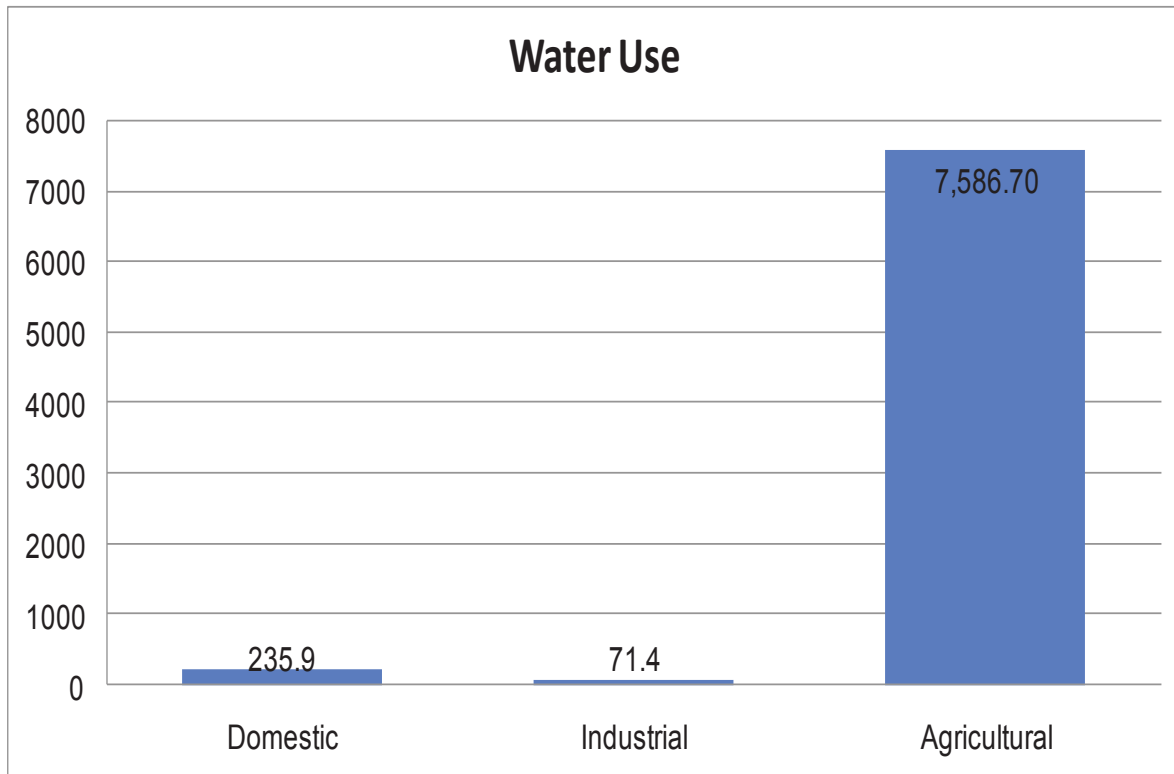
2

Cambodia's Economy

- Agriculture: 40%
- Industry: 25%
- Services: 35%
- Industry now employs approximately 250,000 people
- The number of garment factories registered in Cambodia reached 1,200 at the end of June, 2014, an 8 % increase source from Ministry of Industry and Handicraft, 2014)

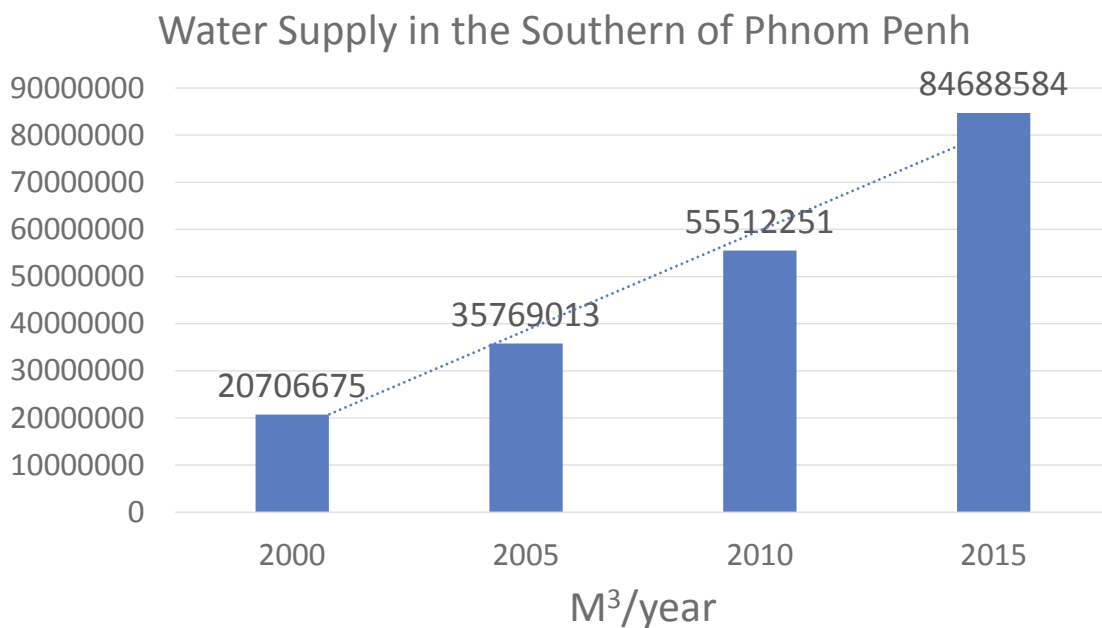
3

Water usage Million m³/y



4

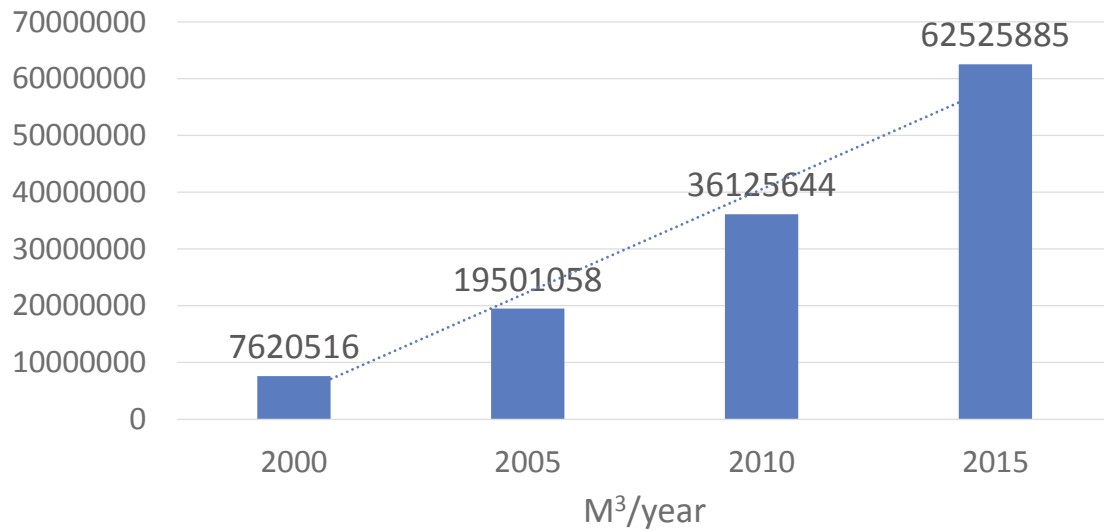
Water Used in Phnom Penh



5

Water Used in Phnom Penh

Water Supply in the Northern Phnom Penh



6

Quantity of wastewater discharging

N ^o	Wastewater Received Sources	Wastewater Quantity (Ton/Day)			%
		Sewage	Wastewater	Sub Total	
1	Sewerage system	9411	18709	28120	87.93
2	River	200	2323	2523	7.88
3	Lake or Pond	113	1055	1168	3.66
4	Sea	10	160	170	0.53
	Total	9734	22247	31981	100

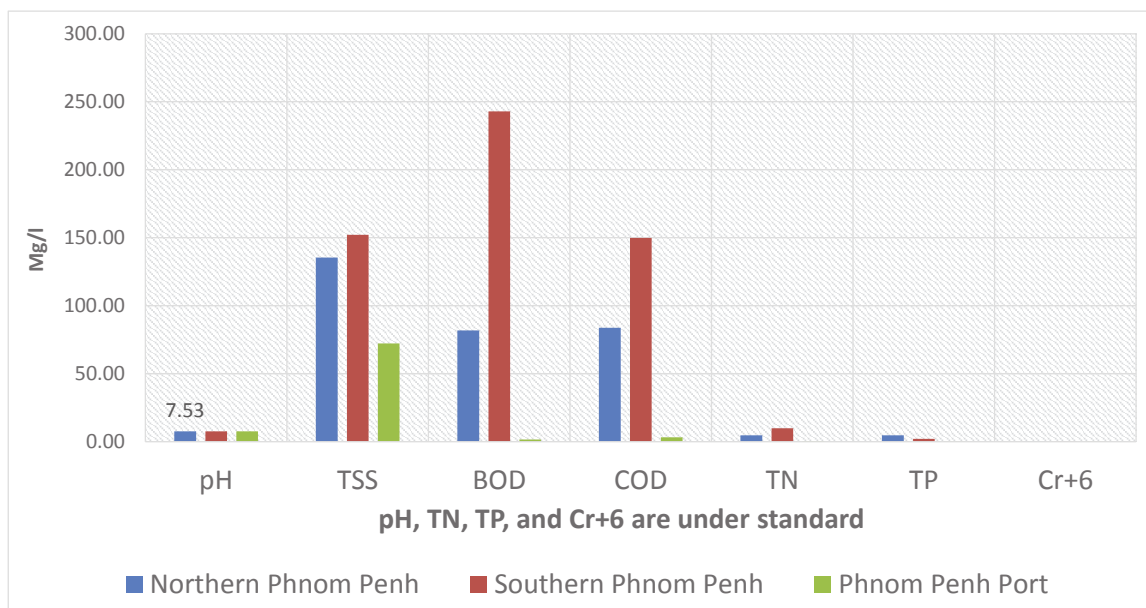
7

Common Effluent standard

No	Parameters	Unit	Protected public water area	Public water area and sewer
1	pH		6.5-8.5	6-9
2	BOD5	mg/l	<10	<80
3	COD	mg/l	<8	<100
4	TSS	mg/l	<50	<80
5	TN	mg/l	<0.6	<20
6	TP	mg/l	<0.05	<6.0
7	Cr+6	mg/l	<0.05	<5

8

Effluent Emission load From Municipal Wastewater



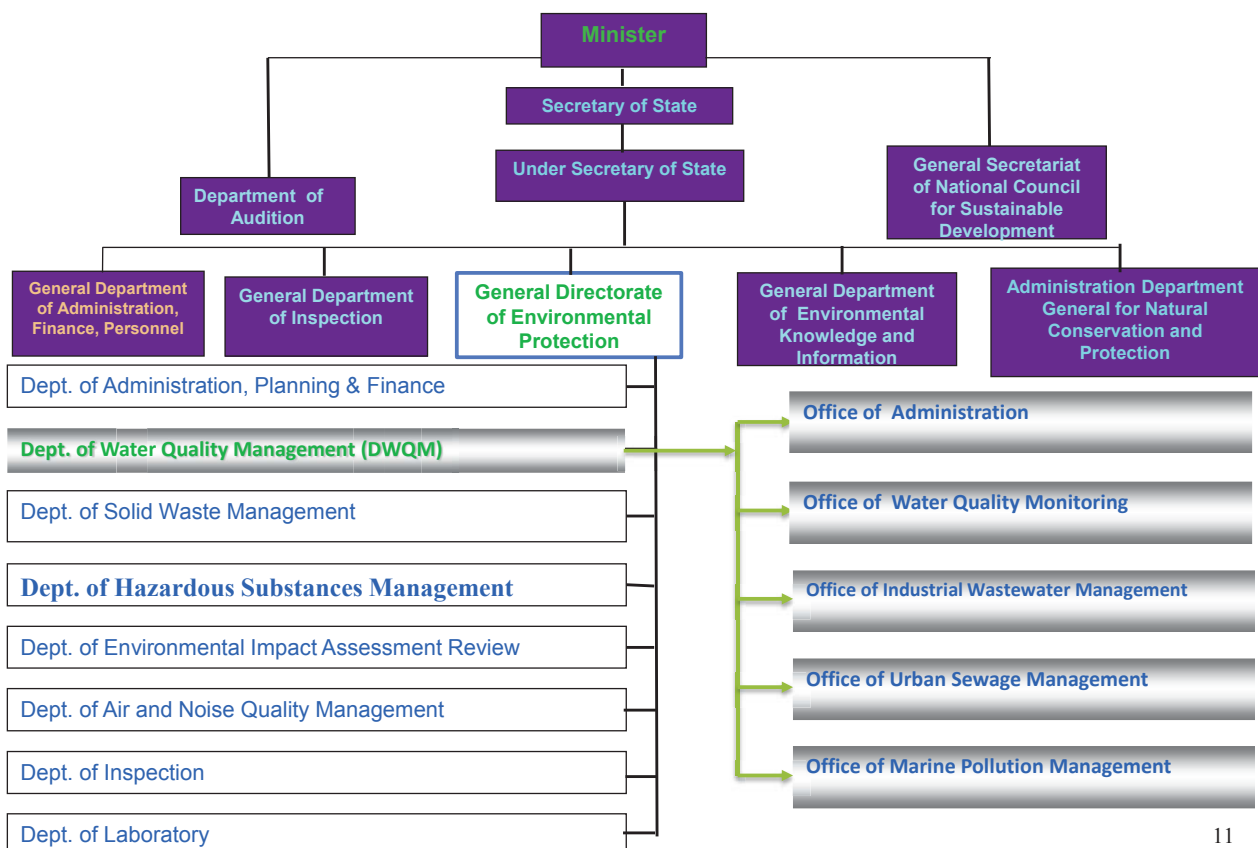
9

MoE's Structure and Responsibility

- MoE was established by a Royal Decree in 1993, with play a major role and responsibilities for :
 - Protecting and upgrading the environmental quality and public health.
 - MoE has implemented international conventions, protocols and agreements related to environment and natural resources sectors.

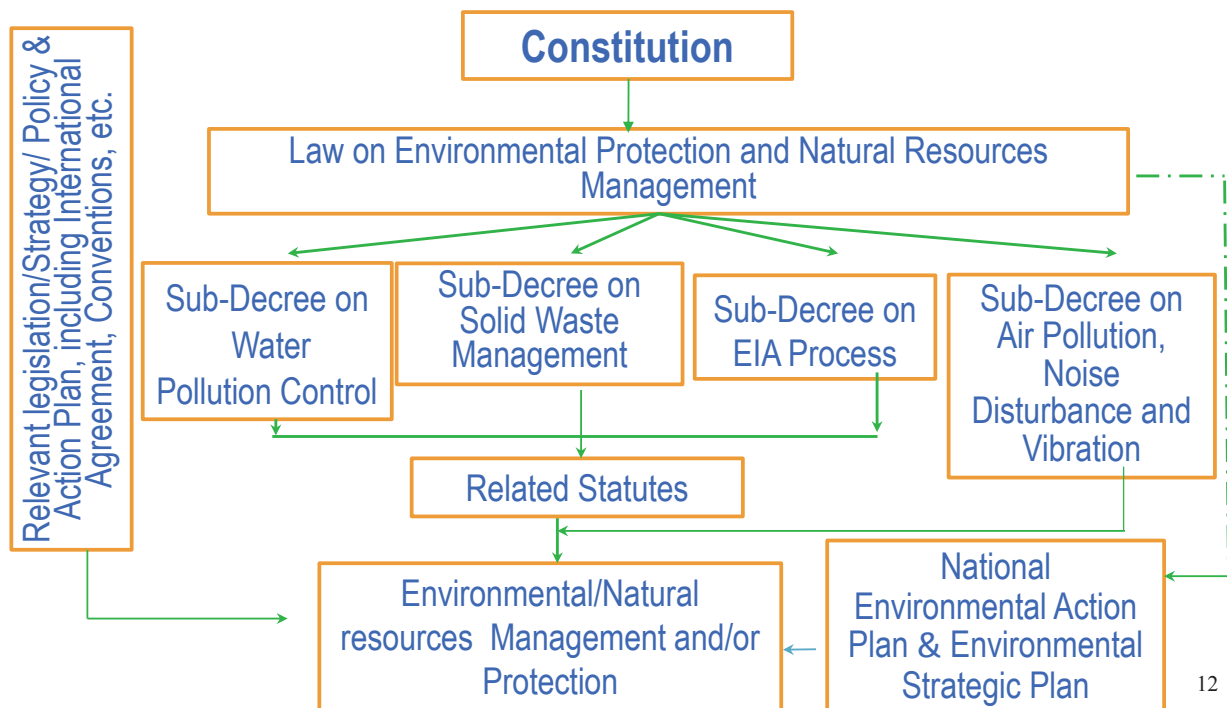
10

Structure of Ministry of Environment



11

Policy & Relevant Legislation for Environmental Management



12

Water Quality Monitoring

A. Water Quality monitoring at Public Water Areas:

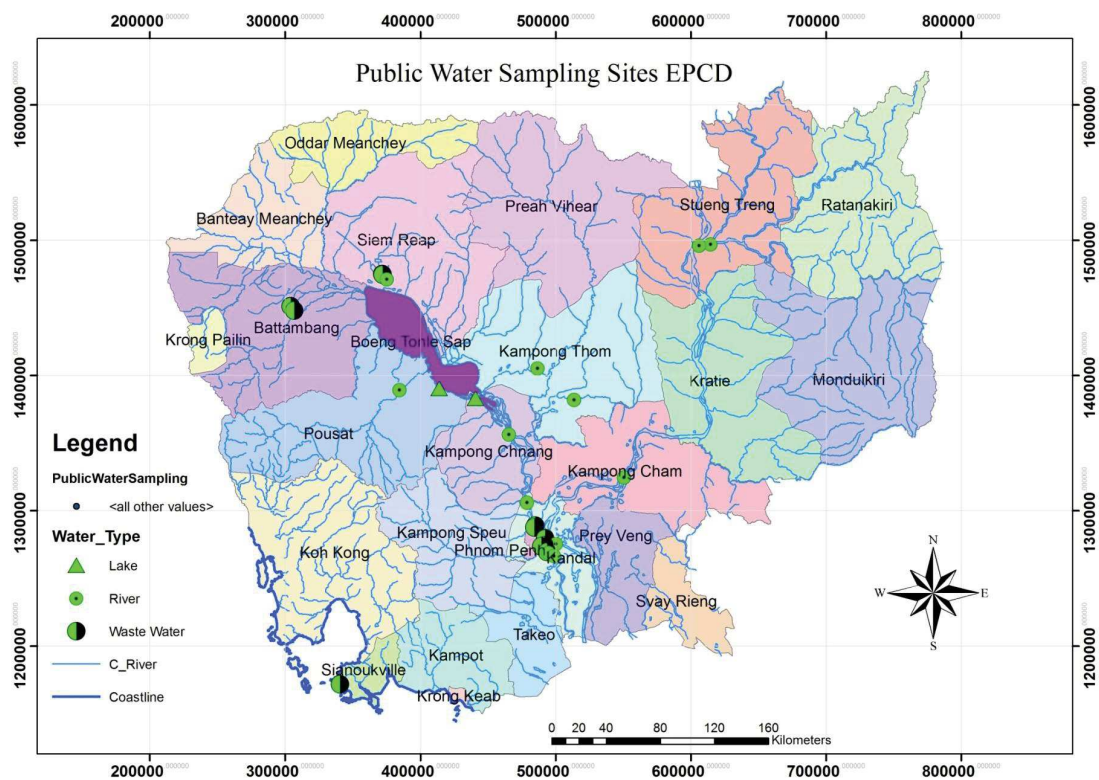
- The DWQM's staffs, based on the existing environmental legal instruments, are paying more attention and following up to monthly freshwater monitoring at designated water bodies 23 points.

B. Monitoring at Water Pollution Sources:

- To conduct routine control and monitor the management of wastewater at various pollution sources in complying the sub-decrees on water Pollution Control.

13

Map of Water Sampling Point



14

Challenges

- Lacking of monitoring equipment
- Overlapping responsibility
- Raising awareness, public and private participation especially EIA is limited.
- Lacking of WWTP and the use of combined sewer system
- Local and international networking, for instance, data and information dissemination and exchange is limited.
- Lacking of human resources, especially expertise staffs
- Lacking of fund

15

The Way Forward

- To promote these constraints, Cambodia, especially, the Ministry of the Environment step-by-step efforts as possible for capacity building and institutional strengthening, including public awareness promotion for all stakeholders.
- To promote and strengthen the cooperation among riparian countries and countries in the region/world.

16

The Way Forward

- Cambodia, however, still requires :
 - Expanding monitoring activities and educational programme throughout main cities and urban areas.
 - Technological transfer and LAB/concerned staffs' capacity strengthening.
 - Experience exchange and closed cooperation among GMS countries, and especially, with adjacent countries.
 - Promoting public and other stakeholder awareness, including academic sector in the context of green-growth application.

17



Thanks you for your attention...