

KINGDOM OF CAMBODIA
NATION-RELIGION-KING



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Progress of Water Environmental Management and Future Challenges in Cambodia

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1. State of Water Quality

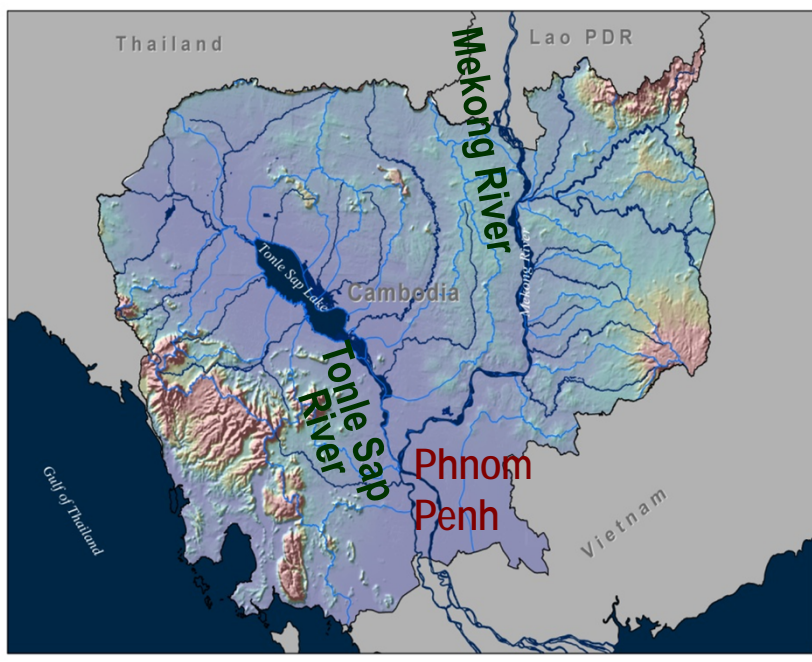


- ❑ Cambodia approximately 5/6 is land and 1/6 is coastal.
- ❑ 86% of Cambodia's land is located in the catchment of the Lower Mekong basin.
- ❑ Mekong River – the world's 12th longest river system. It lengths across Cambodia for 468 km.
- ❑ Tonle Sap Great Lake is expanded from 2,500 km² in dry season to 13,000 km² in the wet season.

1. State of Water Quality (cont.)

□ Three important transboundary tributaries of the Mekong River are:

- Sekong River – total drainage is 7,773 km²
- Se San River – total drainage is 514 km²
- Srepork River – total drainage is 12,762 km²



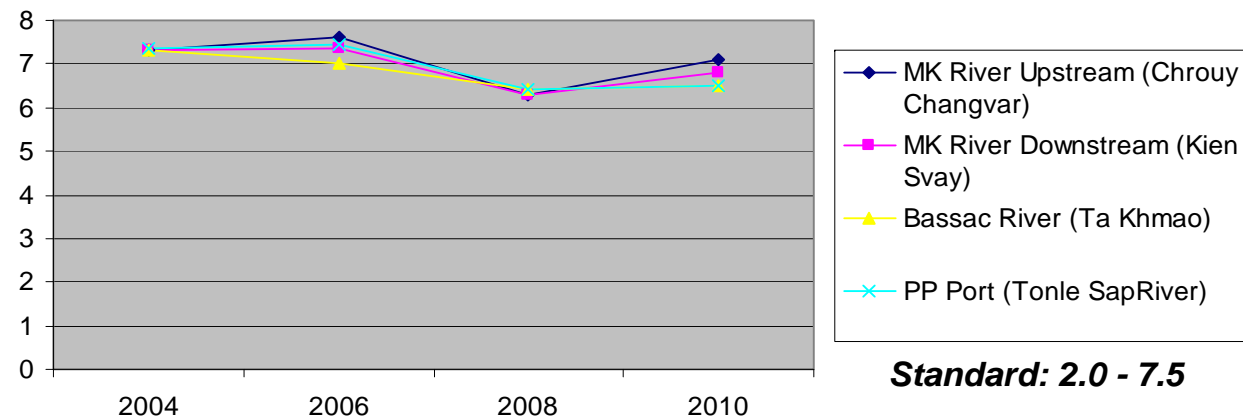
1. State of Water Quality (cont.)



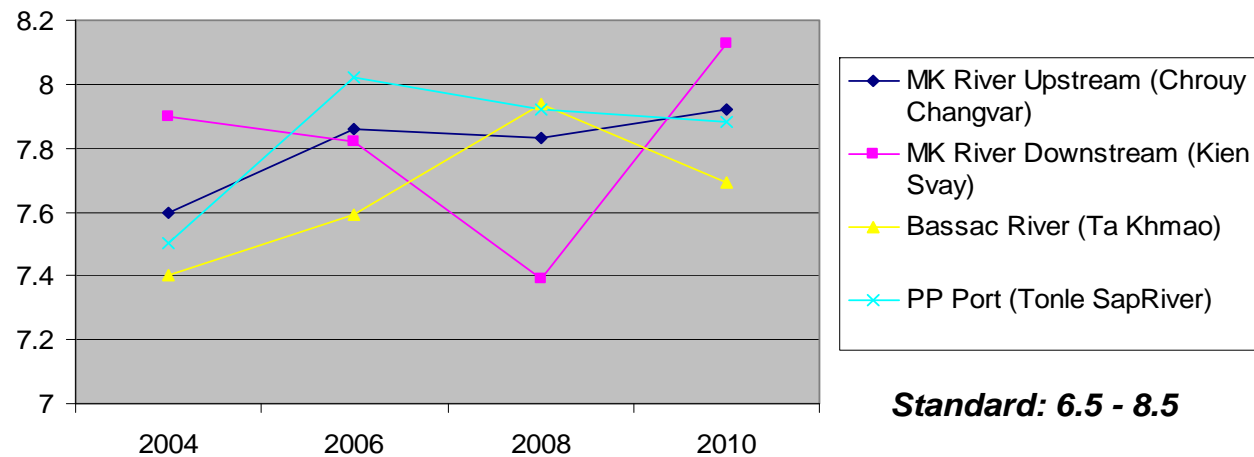
Water use in Cambodia (million m³/Year)

1. State of Water Quality (cont.)

DO (mg/l)

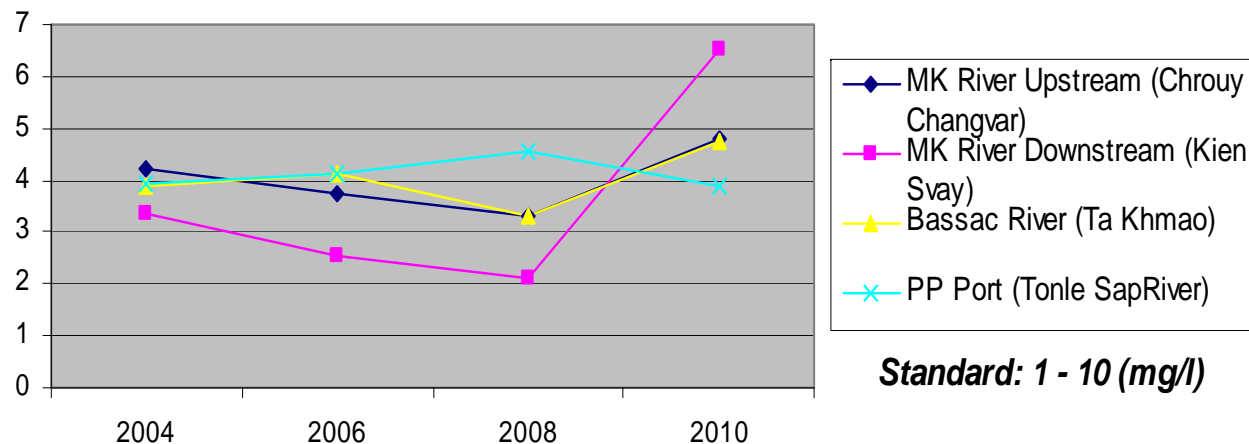


pH

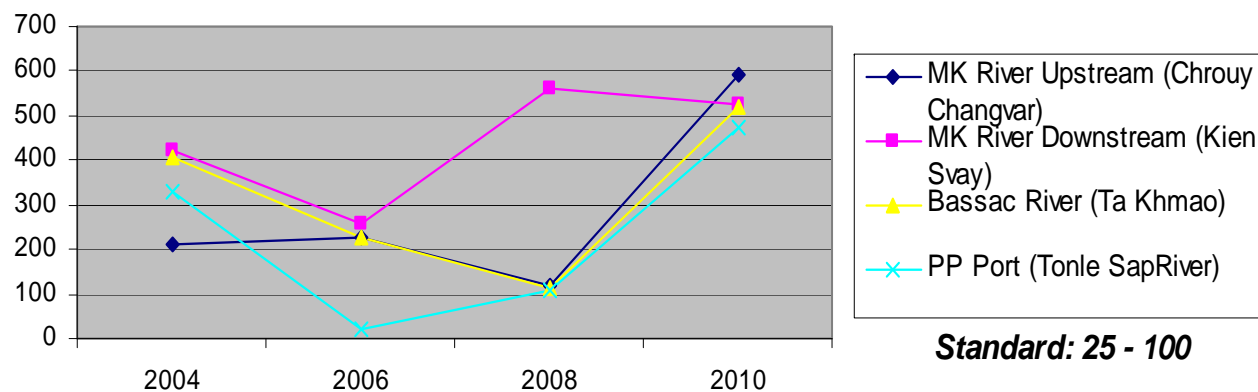


1. State of Water Quality (cont.)

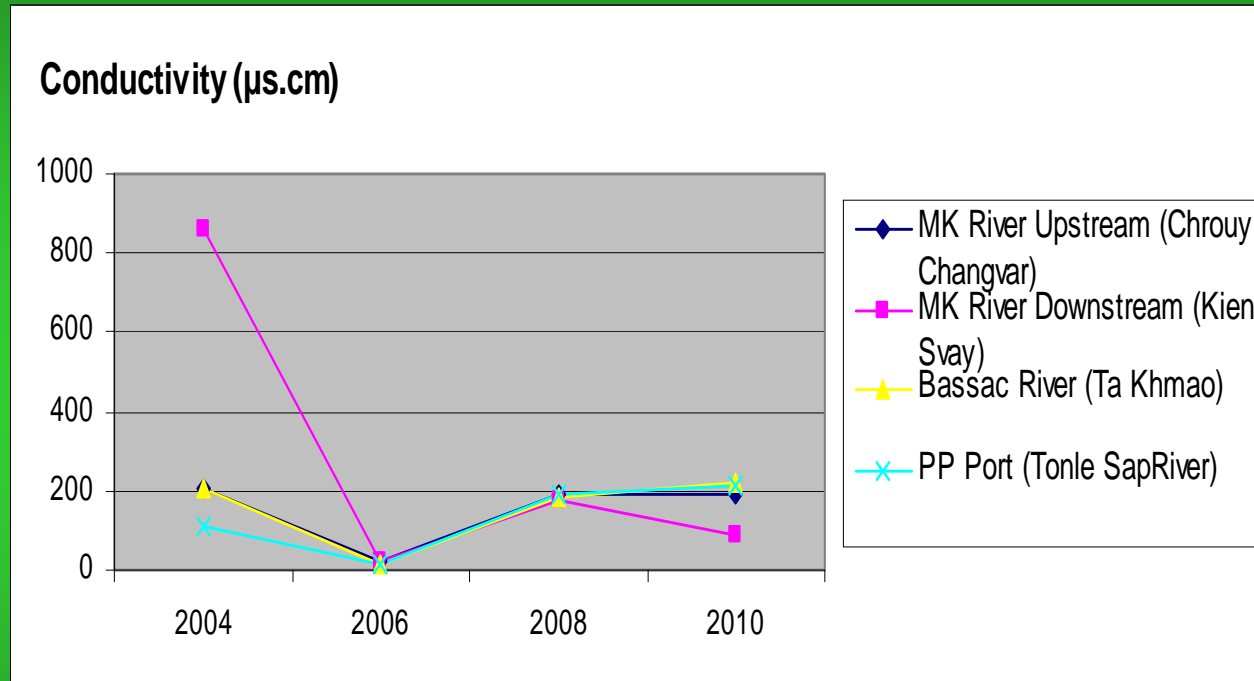
BOD (mg/l)



TSS (mg/l)



1. State of Water Quality (cont.)





2. *Organizations Related to Water Quality Management*

- ☞ ***The Ministry of Environment*** (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.



2. Organizations Related to Water Quality Management (cont.)

- Setting up doable mechanisms (including dissemination and education to line agencies at local level) to manage aquatic environment and related matters in closed cooperation with concerned institutions.
- Monitoring and inspecting effluents discharging from point and non-point sources of pollution, especially industrial premises.



2. Organizations Related to Water Quality Management (cont.)

- Licensing to factories/enterprises and the like where their treated effluents abided by the national effluent standards for discharging into receiving water.



2. Organizations Related to Water Quality Management (cont.)

- ☞ The Law on Water Resources Management authorizes ***the Ministry of Water Resources and Meteorology (MoWRM)*** to be responsible for managing and monitoring water quantity and quality at all kinds of watercourses in Cambodia.
 - Water samplings are being taken monthly at primary and secondary stations in parallel with the Water Quality Monitoring Network (the MRC supporting programme), and done at the MoWRM's LAB.



2. Organizations Related to Water Quality Management (cont.)

- Takes lead the technical working group to monitor and control various activities, which might be caused serious pressures to water environment and related resources along and/or in the watercourses (in terms of freshwater and marine water), e.g. sand-mining.



2. Organizations Related to Water Quality Management (cont.)

- Some key Government institutions (national level) are recognized to engage in the consumption and management of water and its natural resources (ref. to their mandate), e.g. Cambodia National Mekong Committee (CNMC); Ministry of Industry, Mine and Energy (MIME); Ministry of Agriculture, Forestry and Fishery (MAFF); Ministry of Public Works and Transport (MPWT); and so on.



2. Organizations Related to Water Quality Management (cont.)

- ➔ To comply with the Government policy toward the implementation of decentralization procedure, some key ministries have delegated a self-responsibility to department and/or institution at sub-national level, e.g. the MoE, MoWRAM as well.



3. Water Quality Management Policy

- The National Water Resources Policy for the Kingdom of Cambodia was adopted by the Councils Minister in 2004.
 - It covers both surface and ground waters.
 - Key areas focusing by the Policy are: agriculture, energy, industry, small manufacturing enterprises and services, domestic use, navigation and tourism. Legal and institutional frameworks also mentioned.



3. Water Quality Management Policy (cont.)

- A part of the policy is highlighted about the better water quality for consumers and aquatic environment – a key tool to contribute poverty alleviation.
- Public participation and awareness raising is one major component of the Policy to provide opportunity to communities and relevant stakeholders to engaging the protection, conservation, management and/or use of water resources reflecting to the real demand.



4. *Changes in Laws, Regulations, Standards (cont.)*

- ☞ The environmental legislations are still entered into forces through out the country.
 - The MoE is currently developing the draft environmental quality management law (air, land and water).
 - At least one or two sub-decrees will be amended



4. *Changes in Laws, Regulations, Standards (cont.)*

- ☞ The Law on Water Resources Management was enacted in 2007.
 - The Article 22 and Article 23 addressing on various aspects which impacted and polluted to water environment.
 - Sub-decrees will be developed under the Law including such as:
 - River Basin Management
 - Water Allocation and Licensing
 - Water Quality (Technical standard for discharged wastewater)
 - Farmer Water User Community



5. Goals of Water Quality Management Policy

- The National Water Resources Policy for the Kingdom of Cambodia has with the specific goals to ensure the effective, sustainable, wise and equitable use of water resources for further the next 20 years to improve standards of living and alleviate the people poverty.



5. Goals of Water Quality Management Policy (cont.)

- ☞ The specific Goals are follows by key versions to:
 - Access for all to safe, adequate, and affordable drinking water, hygiene and appropriate price.
 - Provide sufficient water for agriculture, industry and economic activities.
 - Tackle and minimize for all from the threat of loss of life and livelihood as a result of water related hazards.
 - Manage the water environment with un polluted.



6. *Future Challenges*

- Several key challenges are expected to be occurred in the future (based on existing experiences).
- Such key challenges are identified:
 - Gaps in managing water environment (at both national and sub-national levels)
 - ✓ institutional framework (e.g. lacking of financial and technical support, expertise officers, LAB and reagents, transparent action plan, etc.)
 - ✓ legal framework (e.g. lacking of specific standard and the like, weak implementing legal tools, etc.)



6. *Future Challenges (cont.)*

- Gaps of low awareness, less participation and cooperation towards the protection of water environment and related resources, including the application of related legislations
 - ✓ industrial and private sectors, and relevant stakeholders
- Gaps of some specific legal tools to solve transboundary issues, and their application.



Thanks for your kind attention