

**Cambodia Water Partnership (CamboWP)**

**Global Water Partnership Southeast Asia**

World Water Week  
Stockholm, Sweden  
August 26-31, 2012

**Session**  
**What Makes Managing Water in Deltas Different?**  
(29 August 2012)  
**Presentation:**

IWRM-based development:  
Water resources development opportunities and issues in the Cambodian Delta

by  
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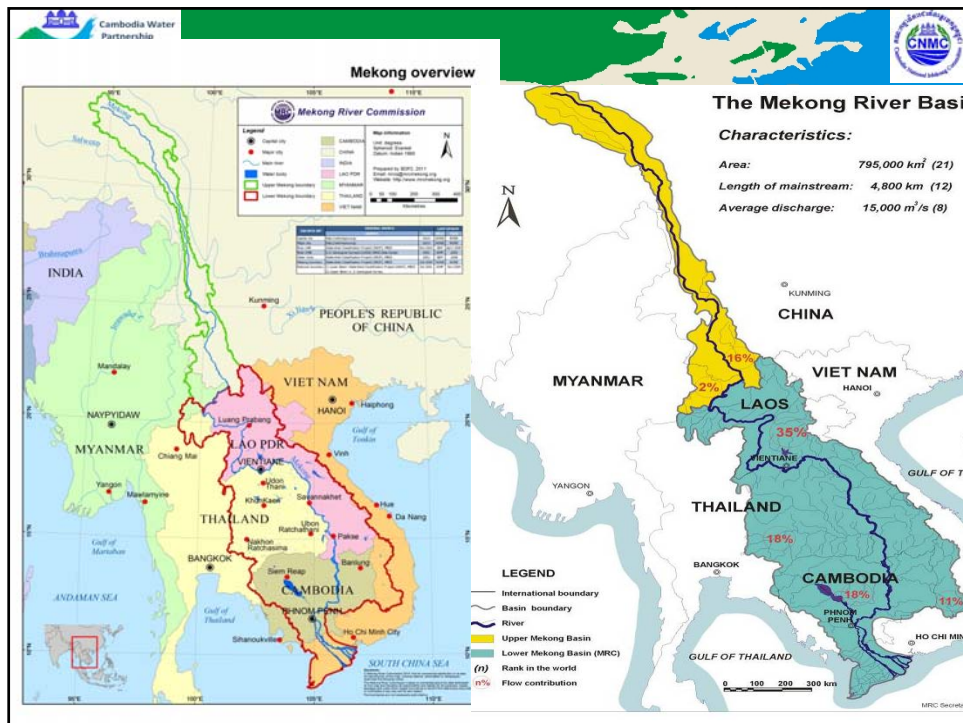
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**Objectives**

1. Cambodia locates in the Mekong Transboundary Delta
2. Overview of the Mekong Basin, its development and management issues
3. Key issues/opportunities and challenges and their addressing for Cambodia in the Mekong Delta
4. Summing-up, the role of IWRM, and designed planning zones for future development in Cambodian Delta.

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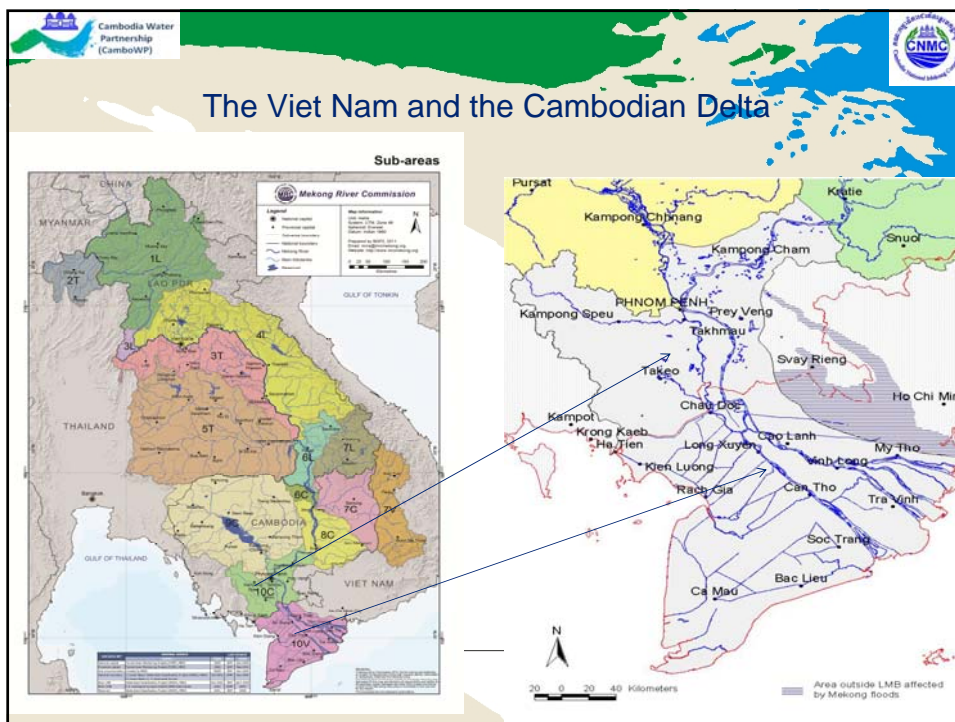
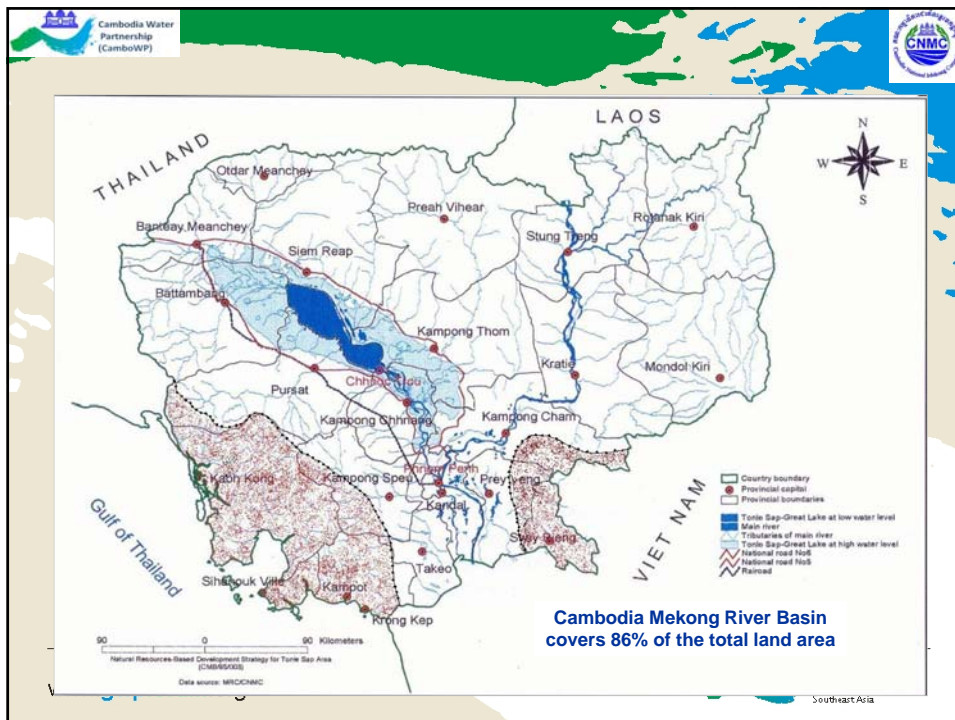


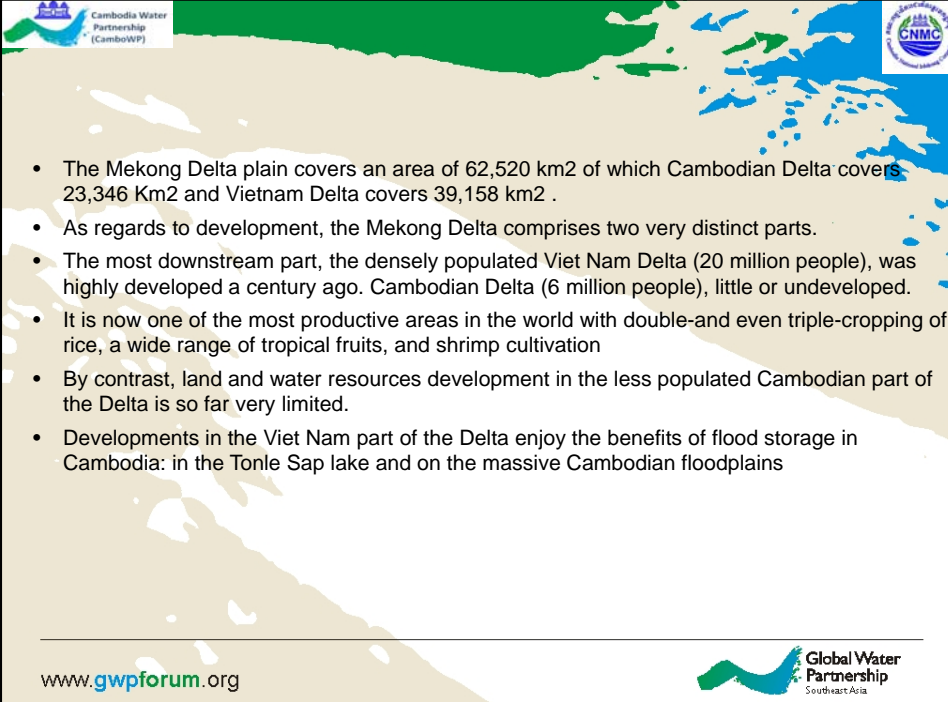
**The Mekong Basin Overview**

- Large international river basin shared by 6 countries and recently about 75 million people (incl. the Upper Mekong basin)
- Many planning reports were produced since the 1950s but little water infrastructure got built in the Lower Mekong basin compared to other river basins
- The flow regime of the Mekong is still close to its natural state
- Unique biodiversity and large fisheries
- Much of the Mekong Basin remains among the poorest regions - malnutrition poses great challenges

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- The Mekong Delta plain covers an area of 62,520 km<sup>2</sup> of which Cambodian Delta covers 23,346 Km<sup>2</sup> and Vietnam Delta covers 39,158 km<sup>2</sup> .
- As regards to development, the Mekong Delta comprises two very distinct parts.
- The most downstream part, the densely populated Viet Nam Delta (20 million people), was highly developed a century ago. Cambodian Delta (6 million people), little or undeveloped.
- It is now one of the most productive areas in the world with double-and even triple-cropping of rice, a wide range of tropical fruits, and shrimp cultivation
- By contrast, land and water resources development in the less populated Cambodian part of the Delta is so far very limited.
- Developments in the Viet Nam part of the Delta enjoy the benefits of flood storage in Cambodia: in the Tonle Sap lake and on the massive Cambodian floodplains

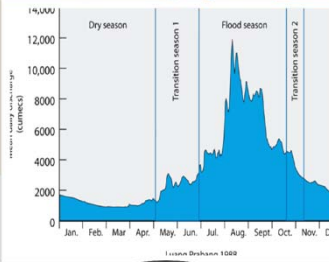

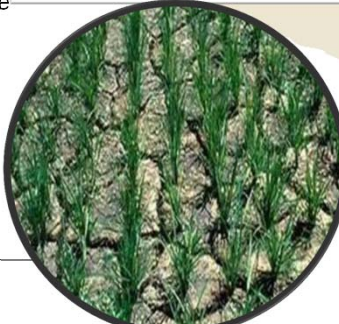
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## Water availability and use

- Rich in water: 6,950 m<sup>3</sup>/person/year. But very large seasonal flow variability
- Small natural and man-made storage compared to other large river basins
- As a result: periodic devastating floods and droughts, with high costs and loss of live in the Delta
- A small portion of the irrigation, hydropower and navigation potential has been realized
- Most water is used in the most downstream end of the Mekong Basin: the Viet Nam Delta
- On-going and planned hydropower power developments in China and Laos tributaries will alter the flow regime of the Mekong then Mekong Delta




## Opportunities and challenges in the Cambodian Delta


- Pressure from governments and foreign (state) companies to develop the Cambodian Delta to improve **food security and reduce poverty**
- **However, large-scale development** (as in the neighboring provinces in Viet Nam) would come with a number of challenges, including:
  - Social problems as land has to be acquired for major works
  - potential transboundary conflicts related to:
    - Water availability during the dry season
    - Increased flood levels in both countries due to reduction in floodplain storage






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## Addressing the issue of water availability in the dry season (1)




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- Development of water resources in Cambodia could, unless carefully planned, reduce the dry season flow downstream into the Vietnam Delta
- The MRC BDP Programme conducted a basin-wide cumulative impact assessment of the basin countries' national plans (with and without consideration of climate change impacts)
- The scenario assessment demonstrates the **transboundary nexus between water, energy, food, environmental and climate security**
- And how, through coordinated national planning, synergies between these five development goals can be exploited, trade-offs resolved, and potential downsides avoided or mitigated by adhering to IWRM principles and addressing knowledge gaps




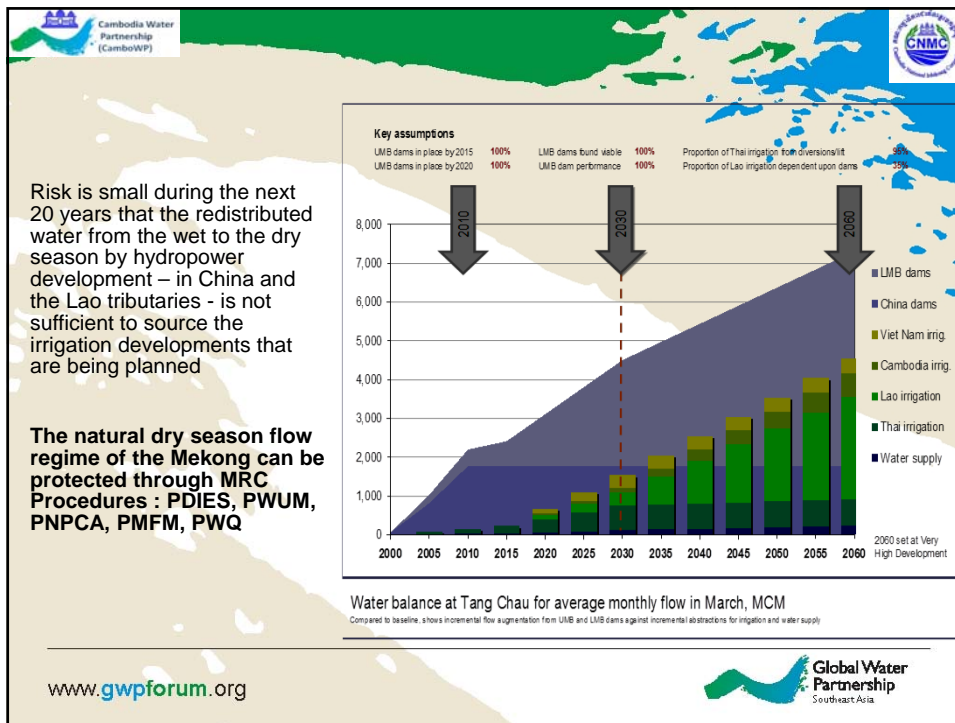
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**ADDRESSING THE ISSUE OF WATER AVAILABILITY IN THE DRY SEASON  
(2)**

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**ADDRESSING THE ISSUE OF INCREASED FLOOD LEVELS (1)**

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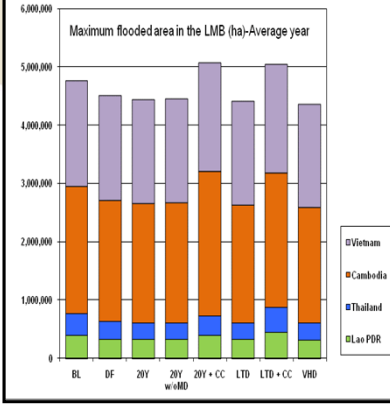
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However, the reservoirs in China and Lao PDR have limited flood storage capacity and they will do little to solve the occasional severe flooding problems in the Mekong Delta.


The flooding problems (and associated destruction and loss of live) will increase in the Mekong Delta:

- > **Development of the floodplains** in the Mekong Delta and elsewhere for irrigated agriculture, urbanization, and other land uses, will reduce the land available for storage of water during the different stages of the floods
- > **Effects of climate change** and sea level rise




Options to store or divert waters in the Mekong Delta are limited.


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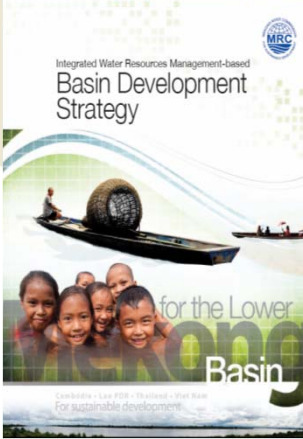
**ADDRESSING THE ISSUE OF INCREASED FLOOD LEVELS (2)**

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- The implementation of several donor supported studies during the last ten years have so far not resulted in any plausible solutions for the protection of over 25 million people in the Delta against increasing floods
- These past studies focussed on infrastructure solutions for specific project identification and fell short of developing a holistic and long-term strategy for management of the floodplains of the Mekong delta
- A major multi-sector and Mekong basin-wide study of long-term flood management options has been prioritized in the IWRM-based Basin Development Strategy of the MRC
- This major study has just started earlier this year with inputs from several MRC Programmes




Integrated Water Resources Management-based  
Basin Development Strategy  
for the Lower Mekong Basin  
Cambodia - Laos PDR - Thailand - Viet Nam  
For sustainable development

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## Implication for the development of the Cambodian Delta

- A cautious approach to large scale development is required whilst a basin-wide floodplain strategy is being developed
- Meanwhile opportunities can be leveraged from increased dry season flows by **small scale projects** that can be prepared and implemented at the provincial level in the near term
- Such projects would support the farmers to increase their recession rice in the dry season and reduce drought risks during the wet season
- A recent assessment indicates that such projects could build upon some of the many large canals that were constructed during the Pol Pot regime (see photo)




There are considerable market opportunities for increased agricultural production

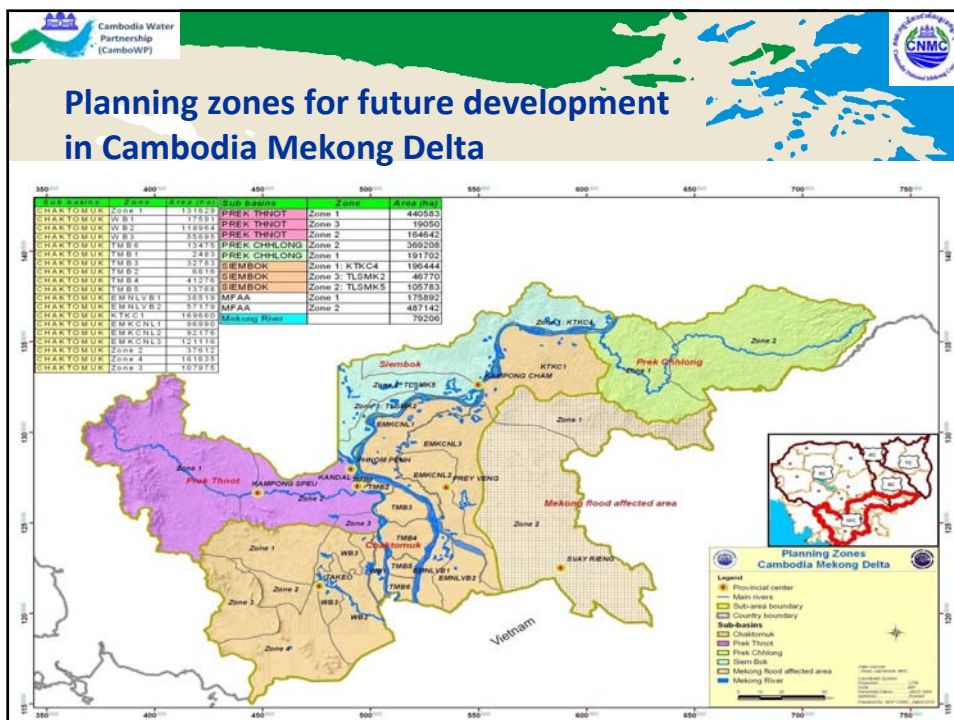
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## Role of IWRM

- The preparation of an overall strategy for long-term flood plain management which balances environment, economic and social development pressures, and those of climate change, on a basin-wide scale
- **The formulation of a strategic master plan** that identifies and ranks small scale investments in irrigated agriculture in the Cambodian part of the Delta
- A well designed plan in close consultation with the communities and provinces would provide a practical way to begin implementing IWRM in the Cambodian Delta:
  - Similar to the river basin plans prepared by MOWRAM for tributaries elsewhere in Cambodia
  - Building on MRC's scenario, sub-area and strategy work
  - Also stakeholders from Viet Nam could be engaged to learn from their experiences with developing the Viet Nam Delta
  - MRC/NMCs/GWP/CWPs-facilitate the implementing this role

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*Thank you very much for  
your kind attention.*



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