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For sustainable development

Council Study

Summary Content of the Interim report - Navigation

6th RTWG Meeting
Phnom Penh, Cambodia
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Contents

- Background
- Current Status and forecasts of the Inland Waterway Transport Sector
- Development Trends and Scenarios
- Direct Impacts
- Conclusions

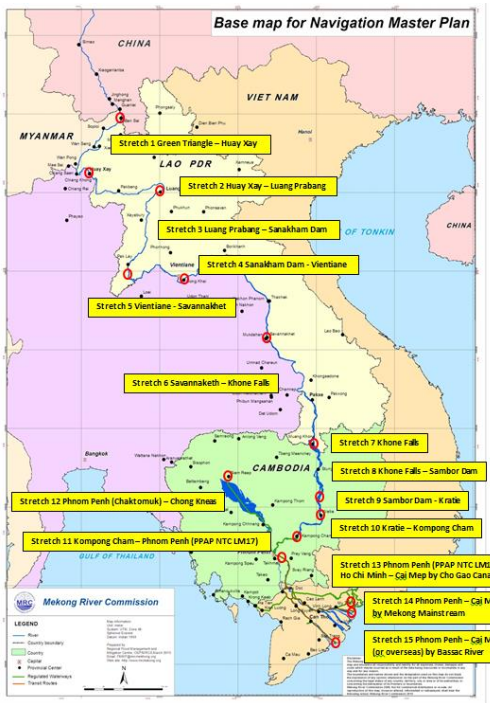
BACKGROUND

- This Chapter will include the role of Inland Waterway Transportation in the Mekong Basin
- It will describe the links with road and rail, and discuss the multimodal transport links
- Past achievements and projects
- The importance of navigation for rural communities
- Navigation and Climate Change, and how IWT contributes to CC Adaptation, and how to mitigate
- Transport and Trade
- From Transport Corridors to Economic Corridor

CURRENT STATUS AND FORECASTS OF INLAND WATERWAY TRANSPORT

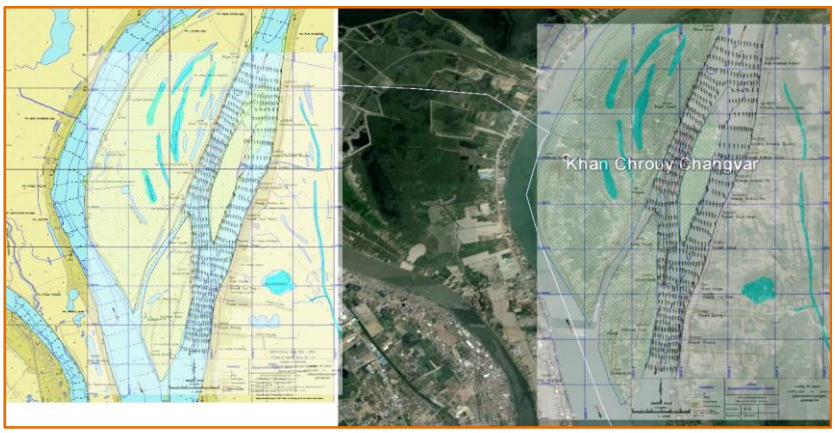
We have the current conditions for each of the 15 stretches

1. **Green Triangle to Huay Xay;**
2. **Huay Xay to Luang Prabang;**
3. **Luang Prabang to planned Sanakham dam;**
4. **Planned Sanakham dam to Vientiane;**
5. **Vientiane to Savannakhet;**
6. **Savannakhet to the Khone Falls;**
7. **Khone Falls**
8. **Khone Falls to planned Sambor dam;**
9. **Planned Sambor dam to Kratie;**
10. **Kratie to Kompong Cham;**
11. **Kompong Cham to PPAP NCT;**
12. **Phnom Penh to Chong Kneas;**
13. **PPAP NCT to Cai Mep over Cho Gao Canal;**
14. **PPAP NCT to Cai Mep over Mekong mouth;**
15. **PPAP NCT to Cai Mep over Bassac and Quan Chanh Bo Canal.**



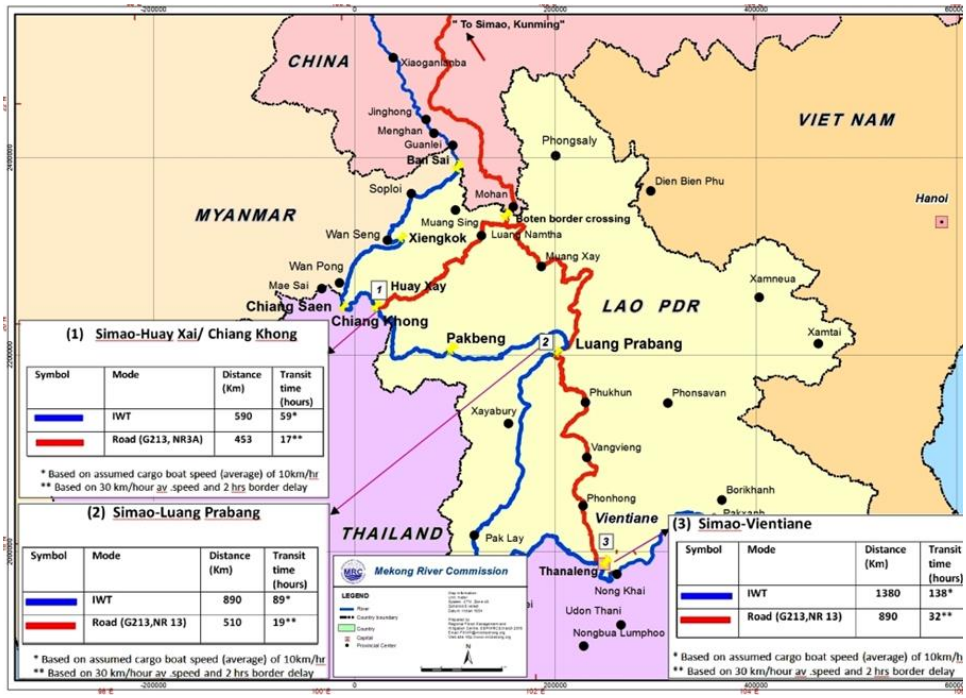
2,129.9		LB: High rise intrusion in the channel right in a left bend of the channel. After that: straight or slightly bended and good channel up to Km 2,115	
2,115		From here on and for about 8 km there are sharp bends in the river. The river banks are steep but flow is gentle and no turbulences.	
2,114	Many ships are anchored at the RB in front of the village		Ban Khok Ek
2,113	Huge sandy-rock plateau at the RB with low vegetation. River mouth of the Nam Koi Sing		Koi Sing tributary at the RB.
2,109.2	The channel splits in two. There is a shortcut channel at the RB which is narrow and with lot of turbulences and strong current. The LB channel is the official channel: deeper better and safer. Almost all boats take the shortcut-channel at the RB despite the French channel markers on the island (white) and on the LB (Green). The latter is somewhat hidden between the green vegetation behind the marker...		Keng Phouan: the place of an accident some years ago.

This is a silent proof that river training works might be a better solution, albeit more costly in investment but cheaper in maintenance.

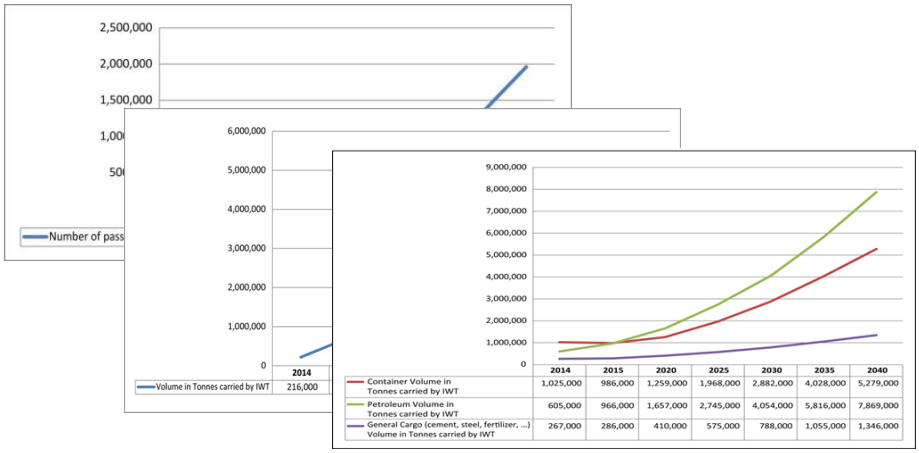


Further downstream (Km 365), the River splits again in two branches from which the western branch (right bank) is the main channel. However, boats with less draught can us the Eastern channel as well. The LAD is according to the UHA atlas 1.5 m. This is confirmed by the latest hydrographic survey of 09 and 10 November 2008.

Socio-Economic baseline and forecasts



Forecasts were prepared up to 2040



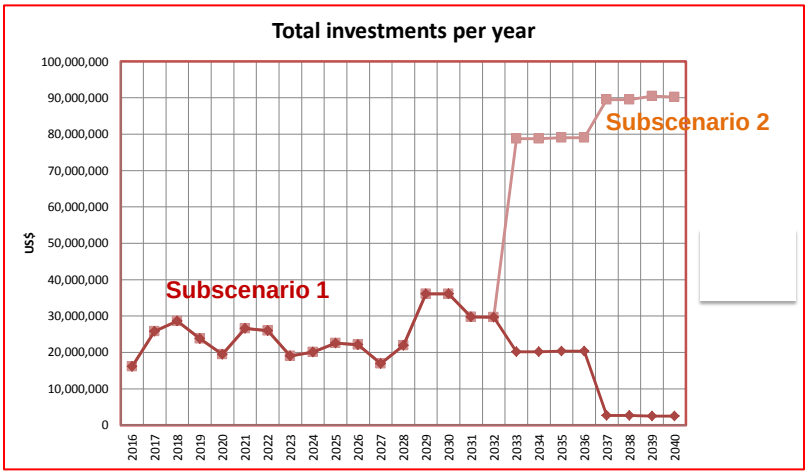
DEVELOPMENT TRENDS

- **That in the Short Term (2020), the Xayaburi Dam and the Don Sahong Dam will be operational;**

- **For the Long Term (2040) there are 2 possible subscenarios:**

  Long Term Subscenario 1: all planned dams in the PR China and four dams in the Huay Xay - Vientiane stretch of the River are built.

  Long Term Subscenario 2, all planned dams in the PR China and four dams in the Huay Xay - Vientiane stretch of the River are built AND ALL four dams between Savannakhet and Kratie are built


Total investments per year
US$
100,000,000
90,000,000
80,000,000
70,000,000
60,000,000
50,000,000
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30,000,000
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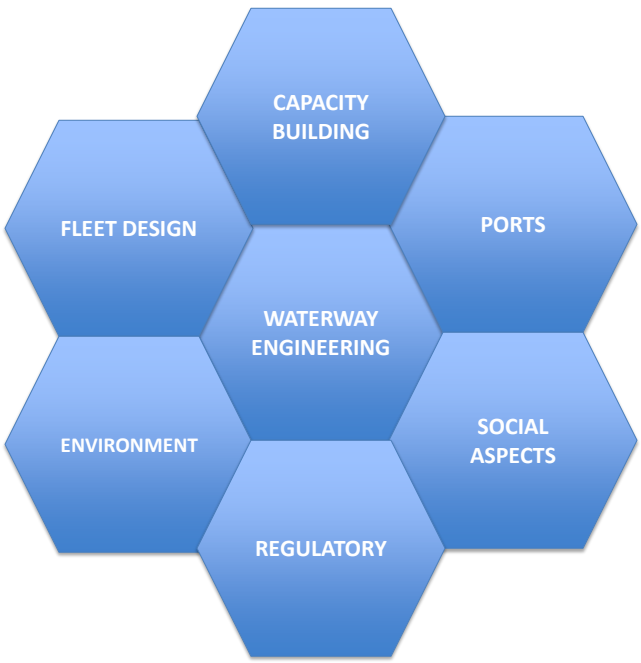
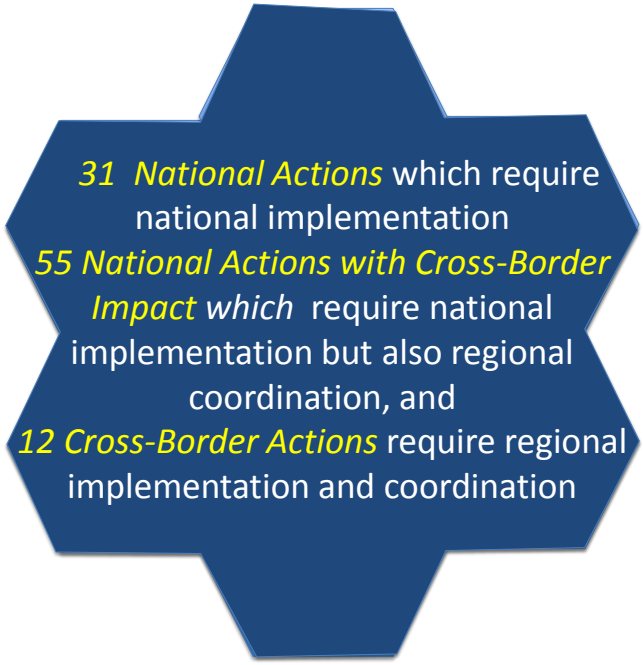
Subscenario 1
Subscenario 2


CAPACITY BUILDING
FLEET DESIGN
PORTS
WATERWAY ENGINEERING
ENVIRONMENT
SOCIAL ASPECTS
REGULATORY

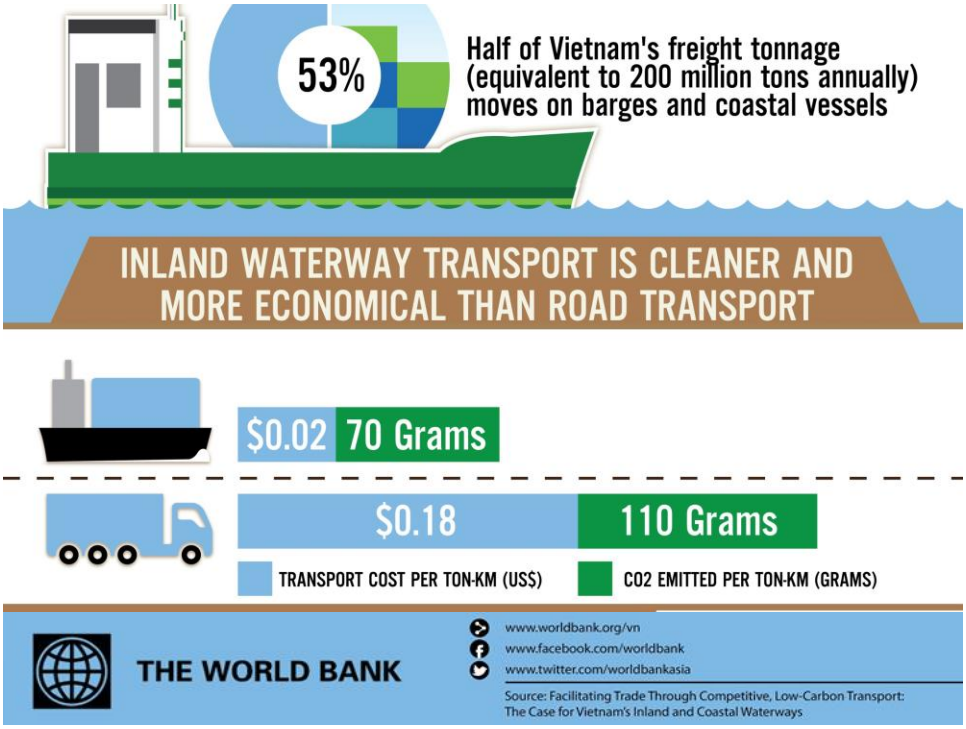


The overview of the Development Scenarios of 2020 and 2040 were presented yesterday. A summary will be included in the report

DIRECT IMPACTS

The report will define the existing environmental and social impacts in the IWT sectors.

In the Master Plan we also describe how these impacts can be managed and mitigated in the Mekong Basin **but the impacts should also be further assessed by the Council Study**.



Section 1.1: 'IWT and the Environment'

Potential impacts are derived from the following activities:

1. Construction of navigation infrastructure;

2. Operational: oil spills, air emissions, waste management, transport of DG; and

3. Modification and maintenance of waterways: reef/rock blasting, dredging for navigation channel, and hydromorphological impacts.

Section 1.2: 'Environmental and socio-economic conditions in the Mekong'

Water quality monitoring has detected elevated values of phenol, oil and grease and heavy metals that indicate possible leakage of petroleum products and wastes close to navigation routes and cities.

Water quality monitoring is required to ensure the operational impacts of IWT are effectively monitored

Climate change threat and vulnerability assessments should consider the impacts of flooding and rising sea levels on existing and planned IWT infrastructure.

(e.g. ports, landing facilities and terminals) and navigation clearance (e.g. bridges and power lines).

Section 1.3 Impacts on, and opportunities for Local and Rural Inland Navigation

Overview of the results of surveys of local waterway users conducted by the NSEs to determine the current use, the impacts, and how IWT can be improved.
Rural transportation provides access to markets, employment, tourism and social interaction (i.e. visiting friends and family). Safety, efficiency and environmental protection would further enhance IWT for local communities.

DATA GAPS

- Detailed plans on dredging works and river regulating works for the future
- Exact information on the High, Medium and Low Operating Levels of the planned hydropower schemes so we can calculate the exact rock removal/dredging volumes of the free flowing stretches
- Planned bridges and powerlines

OUTSTANDING

- As requested in the past, the Navigation Thematic Area needs the inputs from a Transport Economist to provide a full valuation of the Navigation Development Scenarios, on a regional level but also country per country

The RTWG is kindly requested to

- take note of the contents of the navigation thematic report;

- take note of the data gaps that will be described in the report

- consider hiring a short term transport economist

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Thank You

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