The ADB/ World Bank/ MRC 'Mekong Water Resources Assistance Strategy' (MWRAS): Justifying large water infrastructure with transboundary impacts

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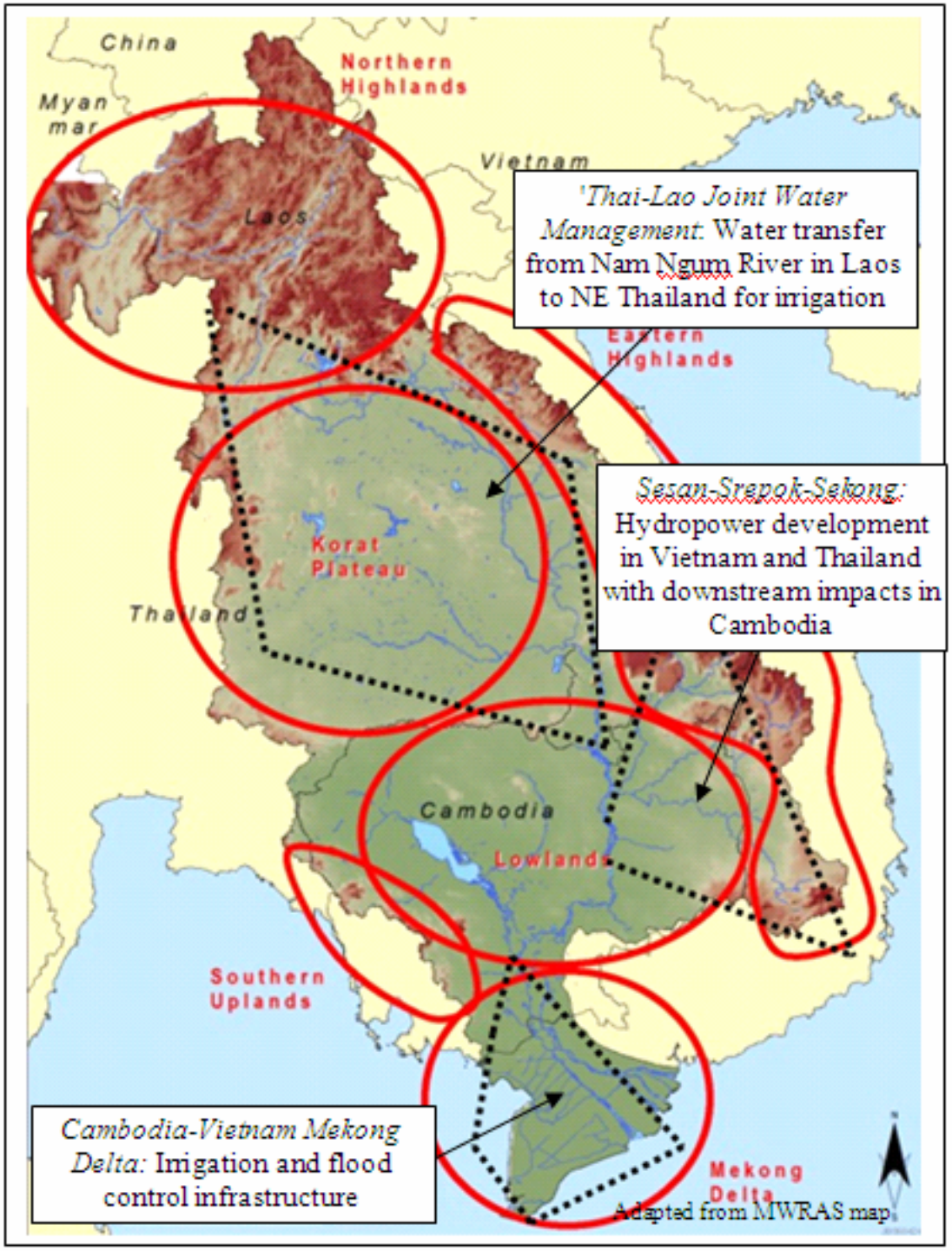
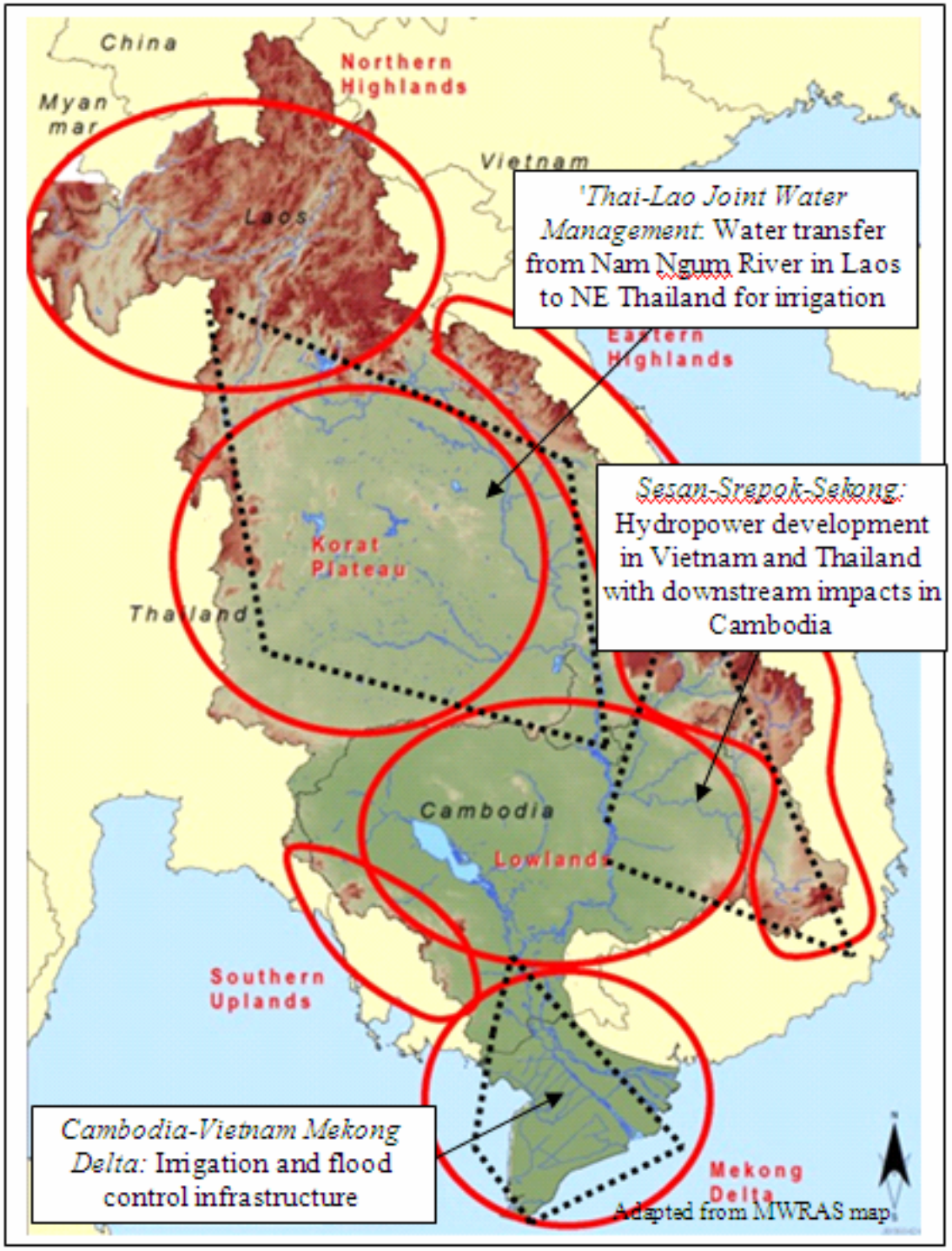
Aim and outline

- Aim of paper is to evaluate central tenets of the ‘Mekong Water Resources Assistance Strategy’ (MWRAS)
- Outline
  - What is the MWRAS?
  - Use of hydrological modeling to justify infrastructure
  - The new role of the Mekong River Commission
  - Stakeholder participation to date
  - Promotion of ‘Integrated Water Resources Management’
  - The MWRAS target areas: Case study on the Sesan – Srepok - Sekong (3S) Basin



What is the MWRAS?

- ADB/ WB/ MRC initiative
- Cambodia, Laos, Thailand and Vietnam will participate
- Three target areas, where infrastructure development plans will have *transboundary* impacts
- Proposes to identify 'win:win' solutions

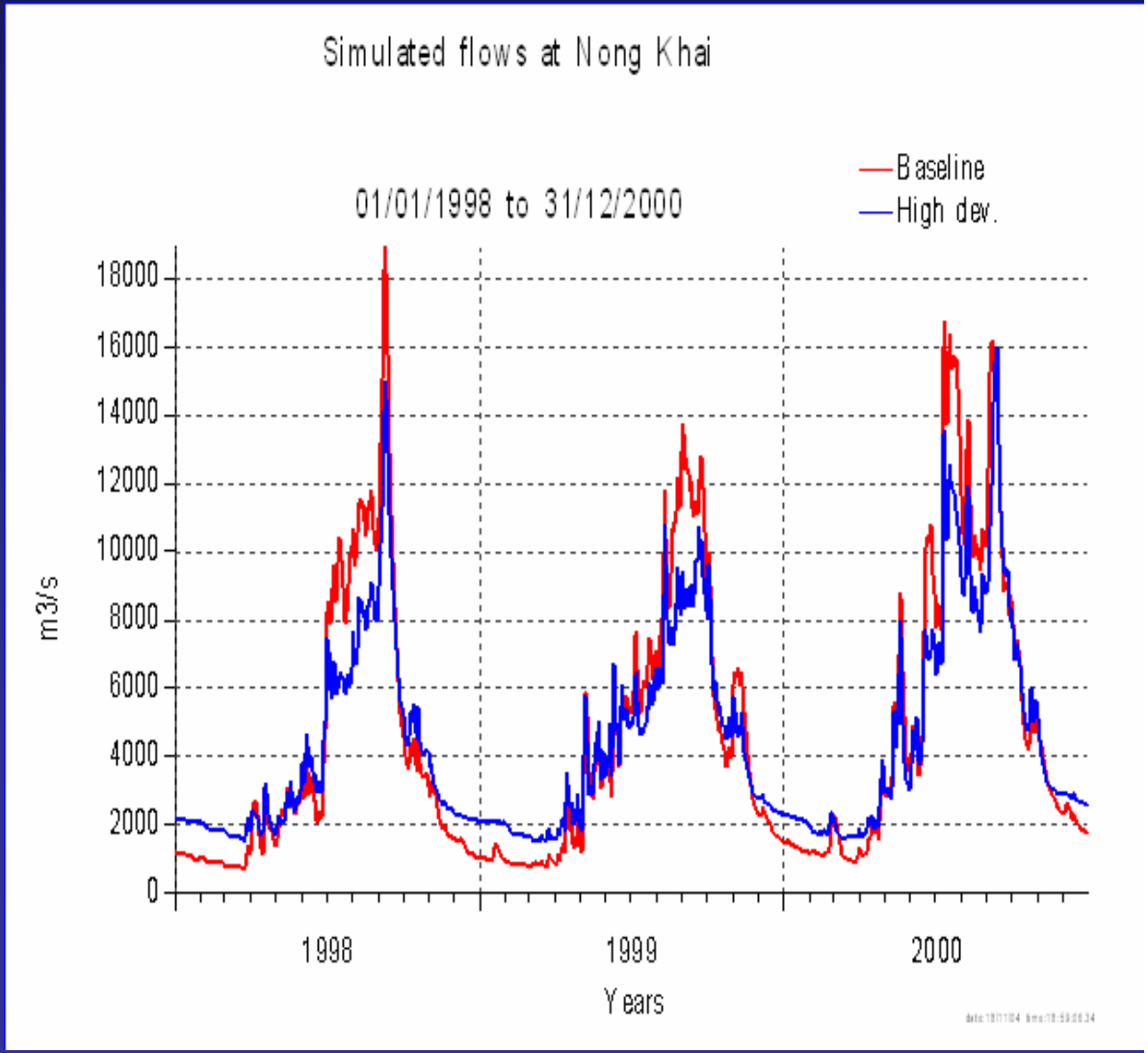


What is the MWRAS?

- MWRAS claims
  - It is inevitable that infrastructure will go ahead
  - Development in the past has been to cautionary
  - The Mekong River has significant potential for development
- MWRAS promotes 'Balanced Development' in which trade-offs between economic, social and environmental values must be made

Hydrological modeling to justify infrastructure development

- Applied the Decision Support Framework (DSF) model developed by MRC
- Six scenarios ranging from ‘low’ to ‘high’
- Model simulates water flow changes in Mekong mainstream (hydrology)
- Does not simulate ecological and socio-economic impacts



‘The bottom line message of this Mekong Water Resources Assistance Strategy is that the analytical work on development scenarios has, for the first time, provided evidence that there remains considerable potential for development of the Mekong water resources…’

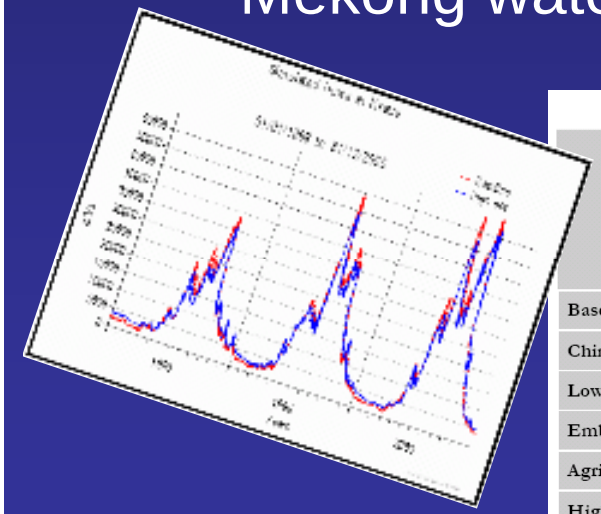
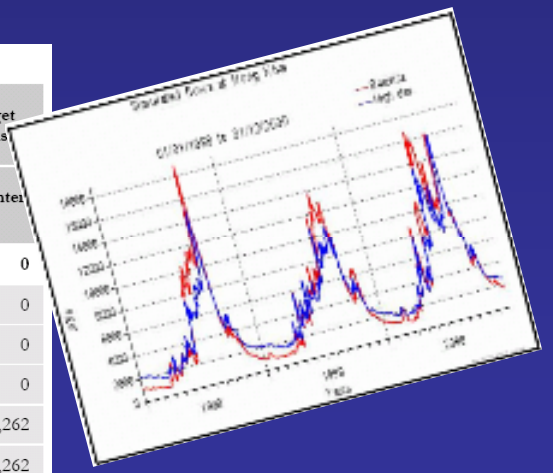


Table 5.1. Baseline scenario summary

Scenario	Domestic and Industrial demand (mcm)	Irrigated areas (‘000 ha)	Hydropower dams active storage volume (mcm)		Embankment area (‘000 ha)	Basin target diversions (mcm)	
			LMB	China		Intra	Inter
Baseline	1,620	7,422	6,185	-	0	0	0
Chinese Dams	1,620	7,422	6,185	22,700	0	0	0
Low Development	3,109	8,316	12,443	10,300	0	0	0
Embankments	3,109	8,316	12,443	10,300	130	0	0
Agriculture	4,194	11,349	12,443	10,300	0	2,200	3,262
High Development	4,194	11,349	26,778	22,700	0	2,200	3,262



The Mekong River is a flood-pulse ecosystem

The flood plains of the Tonle Sap Lake, Cambodia – highly productive fish spawning grounds

Kai production in the dry season in Chiang Khong, Thailand

Livelihoods dependant on the River's flood cycle

Fishing communities on the Tonle Sap Lake

Riverside gardens grown during the dry season

Localized impacts from infrastructure not recognized by MWRAS

- Evaluating the river from a macroscopic perspective ignores important negative local impacts
- Daily water level changes disrupts ecosystems
- For example, the Sesan River in Cambodia has seen the destruction of its fisheries, rapid changes in river flow, and river bank erosion impacting communities' livelihoods

Riverbank erosion on the Hinboun River, Laos as a result of Theun-Hinboun hydropower project

The role of hydrological modeling

- Hydrological modeling is an important element of integrated water management
- Evaluating changes in ecosystems and impacts on peoples' livelihoods is, however, the key question that needs to be answered
- DSF cannot determine the ecological and socio-economic impacts of changes in sediment flow, water quality, timing of the flood pulse, and the blockage of fish migrations

MWRAS must broaden its analysis to account for environmental, social, and cultural values of the River

The role of the Mekong River Commission

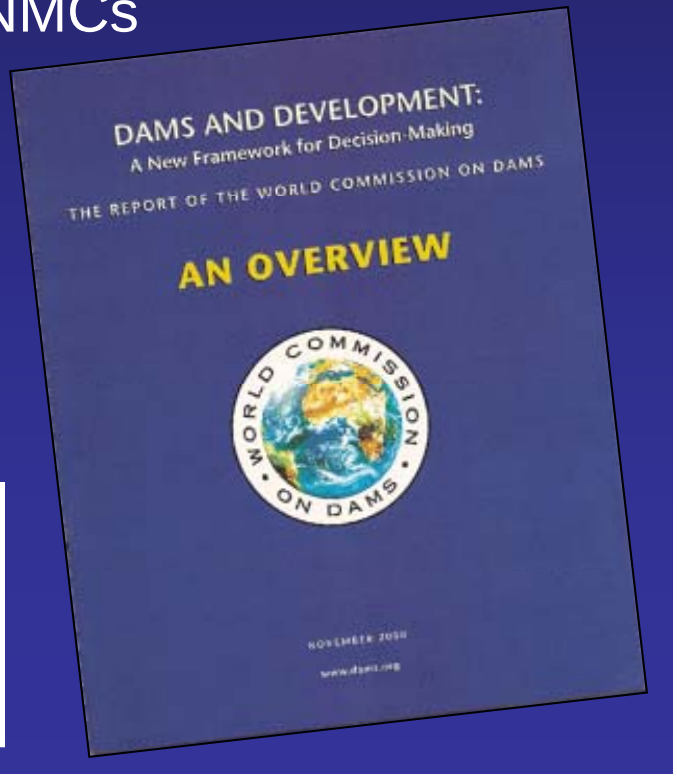
- Reorientation from a Basin *Management* organization to a Basin *Development* organization
- In the past have avoided controversial infrastructure projects, such as Nam Theun 2

Should the MRC focus on enabling infrastructure development, or work towards securing a ‘triple bottom line’ – the economic, environmental, and social/cultural needs of stakeholders

Should donors continue to support the MRC if it is perceived to emphasize infrastructure development?

Public participation in the MWRAS

- Public consultation on the MWRAS to date has been inadequate – there has been only one regional consultation in December 2004
- The MWRAS proposes that an important avenue of participation will be through the NMCs – yet experience to date means trust will need to be built between civil society and NMCs
- Meaningful participation would bring numerous benefits – and as customary users of the River's resources, riparian communities should be entitled to participate



MWRAS should adopt a Rights and Risk approach to develop a multi-stakeholder participation process

MWRAS and IWRM

- ‘IWRM is a process which promotes the coordinated development and management of water, land and related resources, in order to maximize the resultant economic and social welfare in an equitable manner without compromising the sustainability of vital ecosystems.’
- Achieved through integrated management of water usage by natural and human systems
- IWRM criteria are: economic efficiency in water use; equity; and environmental and ecological sustainability

Whilst IWRM is an appealing concept, is it possible to achieve in practice? – Prof. Biswas

River Basin Organizations (RBOs)

- Under IWRM, River Basin Organizations are promoted to decentralize decision making to the lowest appropriate level (through River Basin Committees)
- RBOs have already been established in Thailand and Vietnam, and are planned for Cambodia and Laos
- A recent assessment by the Integrated Water Management Institute found that RBOs in the Mekong Regin in practice were struggling to meaningful ensure decentralized, participatory decision making.
- Study also questioned whether the rhetoric of IWRM was being applied on the ground in the Mekong Region

The MWRAS has not assessed the challenges/ risks of IWRM, especially under transboundary circumstances.

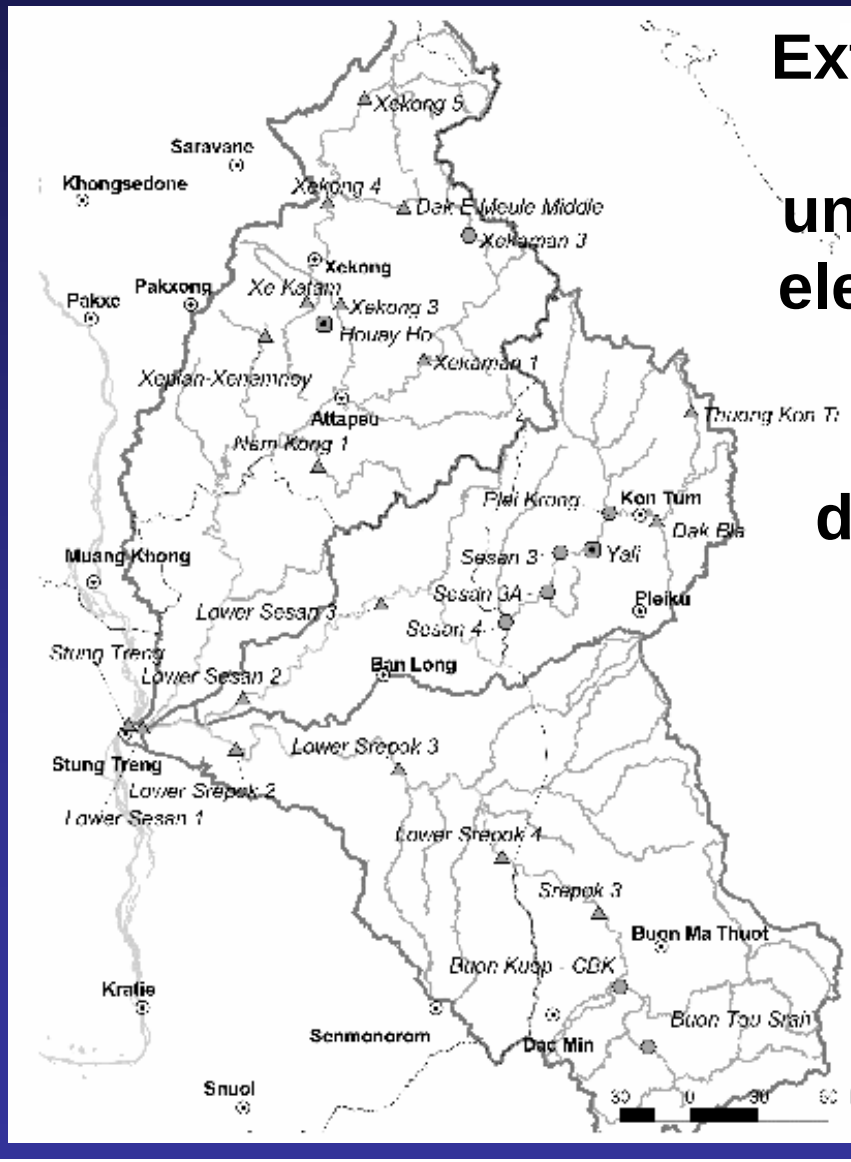
MWRAS joins a controversy: The Sesan – Srepok – Sekong River Basin

- Many infrastructure projects within the MWRAS target areas are controversial
- The MWRAS tries to rationalize these projects through scientific modeling and IWRM
- Starting March 2007, ADB will initiate a 21 month study in the 3S Basin, moving the MWRAS forward

The 3S River Basin

- Total area is 78,650 km^2
- Contributes 17% of the Mekong River's total flow
- Also coincides with the 'Economic Development Triangle' master plan
- 10'000s of people depend on the Rivers for their livelihoods

Hydropower development in the 3S basin



Extensive hydropower development is underway to generate electricity for Vietnam

The dams' development process has been poor

-No options assessment

-Poor quality EIAs, often not released

No consultation

Yali Falls Dam, Sesan River and civil society response

- 720 MW dam built 80 km from the border in Vietnam. Full operation in 2001
- Operation has affected 50,000 people downstream in Cambodia.
- 39 deaths are documented caused by flooding. Impacts also include loss of fisheries, erratic water changes, poor water quality, loss of property and river bank gardens.
- Sesan Protection Network first established to campaign for compensation and better development process
- As a result, a ‘Sesan Committee’ was formed to address transboundary impacts, although still awaiting compensation.

MWRAS and the 3S Basin

- ADB will examine the potential for many sectors within the 3S Basin (Forestry, Agriculture, Tourism, Hydropower) as part of its IWRM assessment

- Will aim for joint sub-basin institutional arrangements through National Mekong Committees
  - Experience with the Sesan Committee mean this will be a challenge
  - Difficult issues to deal with, such as dam re-operation
  - Are NMCs able to influence National Government policy and mainstream roadmaps produced by the MWRAS?
  - Do NMCs have the capacity to ensure meaningful stakeholder participation

MWRAS and the 3S Basin

- At the Srepok transboundary EIA meeting (12.1.07) held in Phnom Penh, Cambodia, VNMC suggested that ADB grants and loans could support mitigation programs in Cambodia necessary because of hydropower construction upstream in Vietnam.
- MWRAS removes the responsibility of hydropower developers to address downstream impacts, possibly including financial responsibility, despite obligations under International Law

The MWRAS will justify its involvement by re-packaging mitigation programs as development projects identified as 'win:win' scenarios through application of the planning principles of IWRM.

Is it possible to apply IWRM with extensive hydropower construction already a certainty? If not, should ADB/ WB be involved?

Main conclusions

- The target areas identified by MWRAS are comparatively poor and do require assistance, yet investment in large water infrastructure is not necessarily the most economic, equitable or sustainable solution.
- Use of hydrological modeling in itself cannot justify infrastructure development
- A comprehensive assessment of all options must be made for each MWRAS target area, including a ‘no large infrastructure’ option. Honest valuation of all functions of the river basins, not just economic values, is required.
- In line with the principles of IWRM, meaningful multi-stakeholder participation must be a priority. The MWRAS must not assume the main stakeholder to be only the National Governments.

Main conclusions

- The MWRAS aspires to improve trans-boundary cooperation on the shared water resources of the Mekong River.
- IWRM is an attractive set of principles by which to manage water resources yet its effective implementation remains unproven, especially on international rivers (national interests can be prioritized over transboundary cooperation).
- The MWRAS calls for the 'Balanced Development' of the Mekong Basin, involving tradeoffs between economic, social and environmental values - realized through the application of IWRM principles

There is a risk that, under MWRAS, a distorted form of IWRM could be adopted that would justify high-risk large water infrastructure projects resulting in development that is neither sustainable nor equitable.

Thank you