

Status of planning activities in LMB hydropower development

MRC
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IWRM, a hard task, a dream?

“...process which promotes the coordinated development and management of water, land and related resources, in order to maximise the resultant economic and social welfare in an equitable manner without compromising the sustainability of vital ecosystems” (GWP, 2000, 2003)

...full accordance with Mekong Agreement 1995 and MRC's vision statement

Milestones of IWRM

(Ref. Varis et al. 2008)

- **Confererations hidrograficas, Spain 1926**
- Mar de Plata 1977, UN Conferece on Water, first internationally coordinated approach to IWRM
- Rio de Janeiro 1992, UN Conference on Environment and Development, guidelines for sustainable and integrated water resources development
- The Hague 2000, Second World Water Forum
- Johannesburg 2002, The World Summit on Sustainable Development, develop IWRM plans for all major river basin of the world (endorsed by Kyoto 2003, Third World Water Forum)

Facets of IWRM (1)

Environment

- Hydrology
- Chemistry, sediments, nutrients
- Biology
- Ecology
- Erosion

Facets of IWRM (2)

Economy

- Traditional livelihoods
- Industry
- Modern agriculture, forestry and fisheries
- Tourism
- Informal sector (neither taxed nor monitored by government)

Facets of IWRM (3)

Society

- Equity
- Empowerment (make capable)
- Polarisation
- Marginalisation
- Poverty (vulnerability)

Facets of IWRM (4)

Governance

- Linking central government to local level
- Links between sectors
- International actors
- NGOs
- Legislation and conventions

Facets of IWRM (5)

Participation

- Education, capacity building (...provider and tools capacity, local experts, affected communities and people...language)
- Local actors, e.g. village surveys
- Stakeholder links, engagement
- Communication, dialogue

...Related MRCS activities

- Basin Development Plan (hydrological modelling/DSF, scenarios, expert statements, stakeholder workshops)
- Initiative for Sustainable Hydropower (design guidelines, protocols/IHA, stakeholder cooperation, SEA of mainstream dams, benefit sharing, Procedure for Notification, Prior Consultation and Agreement (PNPCA, MA 1995), China cooperation)
- Social Impact Monitoring and Vulnerability Assessment (SIMVA, MRCS/Environment Programme)
- Fisheries Ecology, Valuation and Mitigation (FENV/Fisheries Programme)
- IKMP/Integrated Modelling Toolbox (DSF extended)
- IWRM Programme

Other

- M-Power network on reaserch for governance and action
- Mekong Futures Programme
- Challenge Programme on Water and Food (Mekong Challenge)
- ...

Global success of IWRM?

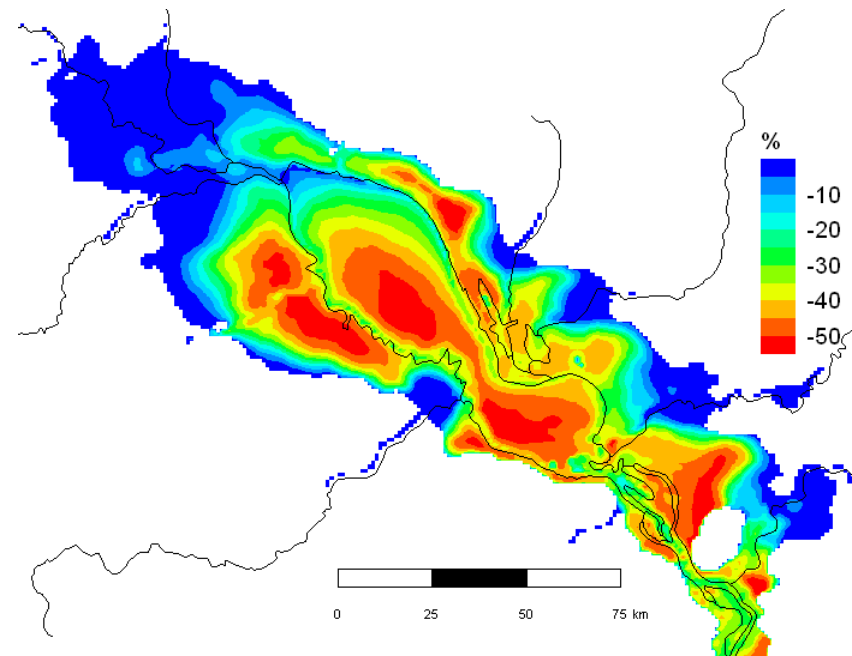
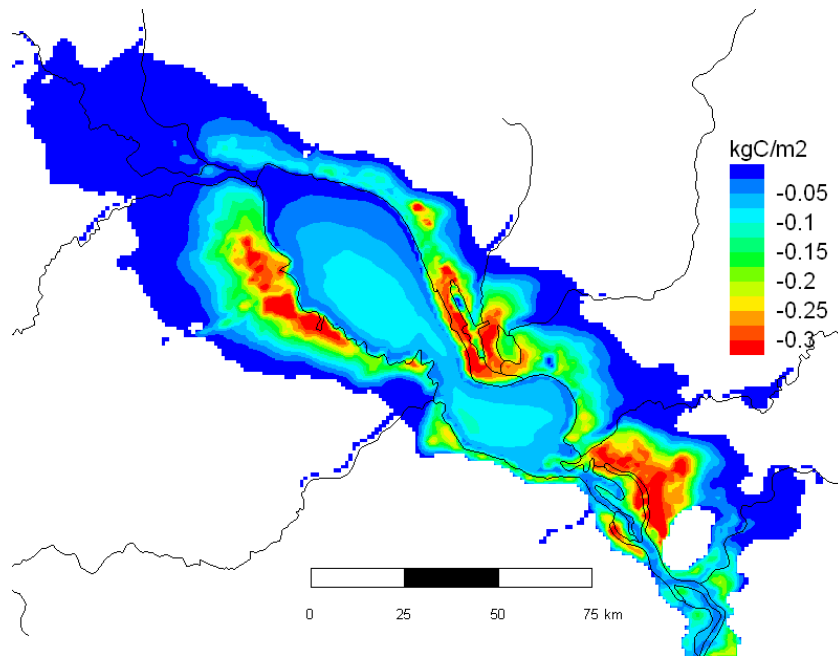
- Disappointments after Johannesburg Summit 2002 (target to develop IWRM plans for all major river basins of the world by 2005)
- Political, institutional, cultural, social, environmental, economic, financial constraints hampering the realisation of IWRM in practice

Something to improve?

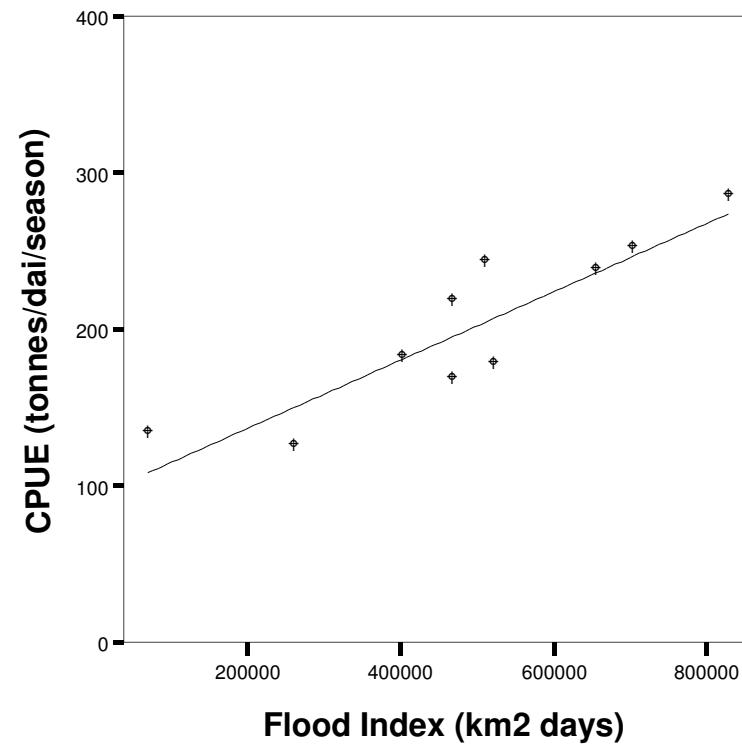
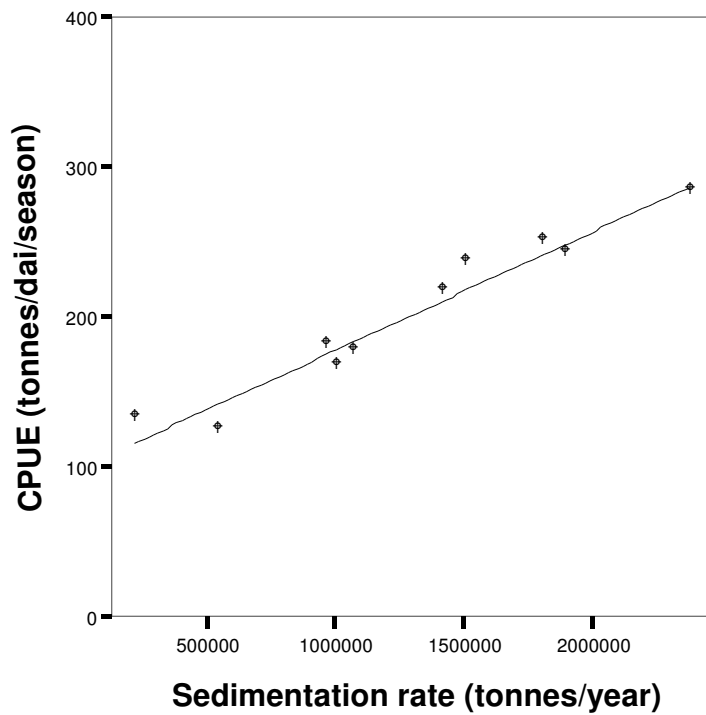
- Spirit and will for integration
- Communication skills and wills
- Social responsibility
- Personal integrity and openness
- Multidisciplinary team work, integrated modelling to support impact assessment
- Applying comprehensive IWRM modelling tools
- True involvement of affected people, SIMVA, bottom-up approach
- MultiCriteria Decision Analysis (MCDA)

Absolute (left) and relative (right) reduction of primary productivity caused by hydropower development.

MRC/IKMP DMS model.



Correlation between fish biomass (Dai fisheries in Tonle Sap River) and sedimentation/flooding in Tonle Sap 1999-2009 (Halls et al. 2010)



SIMVA (Social Impact Monitoring and Vulnerability Assessment..bottom up approach)

- The logic of SIMVA, carried out by the EP (Mr. Lilao Bouapao) and the national research teams, studies people's vulnerability to change in river-sustained resources, following the sequence of four key questions:
 - how many people live within the reach of the Mekong River resources?
 - what proportion of this population makes use of the resources?
 - to what extent do the users depend on the resources, as opposed to other livelihood strategies?
 - how resilient to change are resource users likely to be, given the socio-economic and environmental contexts they live in?

Quantitative pilot survey of 1360 households carried out in LMB in 2008-2009