

MRC SEA FOR HYDROPOWER ON THE MEKONG MAINSTREAM

Economics theme paper:
Avoidance, mitigation and enhancement

1. Recap of key strategic impacts in the economics theme

- **Macro economic impacts**
 - Investment (USD 18-25 bil.), gross revenue (USD 3.2-3.4 bil.) and associated stimulus effects
 - Booming hydropower sector affects (inflation, real exchange rate appreciation, adverse affects on tradable goods sectors)
 - Public debt sustainability (increased cost of debt service)
- **Impacts on development sectors**
 - Fisheries (net basin wide loss – *at least* USD 600 million/year + marine fisheries)
 - Agriculture (localized losses and gains, net loss USD 9.6 million/year + loss of nutrients to flood plains)
- **Distributional impacts**
 - Uneven distribution of costs and benefits between different groups, areas, nations

Contents

1. Recap of key mainstream hydropower impacts
2. Avoidance and delay-economic support packages
3. Mitigation and enhancement measures
4. Ensuring an equitable distribution of benefits: financing mitigation and enhancement measures
 - Sharing the benefits in principle
 - Benefit sharing arrangements
 - Source of funds
 - Use of funds
5. Institutional aspects

2. Avoidance and delay: economic support packages

- **Development of economy-wide structural adjustment packages in order to mitigate the opportunity cost of foregoing or delaying mainstream projects in Cambodia and Lao PDR**
- **Reorientation of SEDPs away from a dependence on mainstream hydropower**
- **Donor support packages to promote the investigation of alternative energy options**
 - Cambodia - investigation of possible fossil fuel reserves, support for thermal plants
 - Lao PDR - potential for accelerated tributary development
 - In both cases, support for the grid and decentralised RE production to address rural energy poverty.
 - Integration of these options into existing and planned regional programs
- **Donor support for development of key sectors in Cambodia and Lao PDR**
 - Sectoral support (for agriculture, mining and manufacturing industry)
 - Social development (health and education)

Avoidance and delay: supporting research

- **Investigation of the macro-economic implications of foregoing mainstream hydropower development**
 - Opportunity cost of foregoing these opportunities at the national and regional level
 - Incorporating realistic accounting for all direct and indirect costs and benefits
 - Dependant upon detailed studies undertaken in other sectors (fisheries and hydrology in particular)
 - Addressing uncertainty through comprehensive sensitivity analysis

Macro economic mitigation and enhancement measures

Investment stimulus maximization (enhancement)

- Local input requirements (labour and other inputs)
- Support for development of ancillary industries such as hydro-engineering (subsidies, training programs etc)

- **Training and skills programs, infrastructure, subsidies**
- **Boarder interventions aimed at improving national productivity (health, education , import of capital goods)**

Support for tradable goods sectors (mitigation)

- Support for improving productivity of agriculture and manufacturing
- Support for improving productivity to address service sector bottle-necks

2. Mitigation and enhancement measures: general comments

- **Scope:**
 - **Regional** (basin wide, trans-boundary)
 - **National** (macro economic, sectoral)
 - **Sub-national** (local administrative area)
 - **Local level measures** (e.g. targeted support – vulnerable groups and areas)
- **Timing:**
 - **Short term – transitional support/interventions** (e.g. resettlement, sovereign debt)
 - **Medium to long term – structural adjustment** (e.g. sectoral development, productivity improvement, livelihood diversification, social development)

Fisheries sector mitigation – long term basin wide structural adjustment program

- **Support for alternative fisheries production where possible**
 - Reservoir and aquaculture production – extension services, stock and equipment, re-training, concessional funding
- **Support for alternative livelihoods**
 - Livelihood diversification program, including skills training, extension services, micro finance and concession lending, support for rural SMEs
 - Emphasis on animal husbandry
- **Support for ancillary and processing industries**
 - Payments for retiring capital equipment
 - Soft loans and micro credit for SME and household production diversification
 - Re-training programs for households/employees
- **Broader social development programmes (education, health ,rural infrastructure) – integrated with national target programs**
- **Possible area focussed support for badly affected locations (e.g. Tonle Sap)**
- **Likely to require large scale trans-boundary reallocation of resources**

Structural adjustment package for agriculture I

Increases in irrigable areas (enhancement)

- New irrigation pumps/machinery and O&M support
- Extension services to support sustainable and efficient use of improved irrigation infrastructure coordination with hydro power uses

Localized loss of land (mitigation)

- Suitable replacement land (including provision for loss of river bank gardens)
- Provision of extension services
- Livelihood diversification support (training, provision of capital for small business, small scale local infrastructure and amenity provision etc)
- Transitional income support packages

Structural adjustment package for agriculture II

- **Large scale loss of sediment and associated nutrients is likely to require mitigation in the medium term**
 - On-going monitoring of nutrient levels (soil and water testing) and production levels in affected areas
 - If and when required support for purchase of replacement fertilizers
 - Extension support in use of fertilizers
- **[Given the emerging world wide shortage of rock phosphates the cost of any such provision is likely increase significantly in the future]**
- **Structural adjustment packages (for all sectors) need to be fully integrated with sectoral development planning and broader SEDPs**

3. Distribution of costs and benefits

- **The risk of costs and opportunities for benefits relating to mainstream hydropower developments in the LMB are likely to be unevenly distributed**
- **Opportunities**
 - Power consumers (urban dwellers, industry)
 - Host country governments (Cambodia and Lao PDR)
 - Private sector developers and financiers
- **Risks**
 - Poor and vulnerable communities (riparian areas and basin wide)
 - Local administrative areas (provinces, districts etc), particularly near dam sites
 - Country economies that are more dependant upon natural systems (Cambodia, Vietnam)

Equitably financing mitigation and enhancement

- Hydropower development is likely to imply the generation of significant economic rents, including economic benefits (for power consumers), profits (for developers) and revenues (for host governments)
- These benefit streams will last the life-time of the projects
- In principle, all mitigation and enhancement measures should be financed through these benefit streams
- Benefits sharing may be used to redistribute some of the benefit of hydropower for mitigation and enhancement measures

Benefit sharing

- **Compensation**
 - Compensation focused on well defined, direct and often localized impacts
 - Often for physical assets
 - Usually short term during construction period
 - E.g. compensation payments for land, housing
- **Benefit sharing**
 - Focused on enhancement and mitigation
 - Provides a stream of resources for the lifetime of the project (long term)
 - Can address broader impacts
 - E.g. livelihood support programs

Use of funds

- **Types of intervention**
 - Sectoral structural adjustment programs
 - Area focused support for affected communities
 - Broader social development programs
 - Trans-boundary transfers
- **Fund use should be part of an integrated development planning approach**

Source of funds

- **The source of funds for benefit sharing activities in the case of mainstream projects could come from:**
 - Directly from revenues (either on power tariff or water charges)
 - Direct equity sharing (using return on project equity as an income stream)
 - Host government budget transfers to affected areas/sectors/countries
 - Levying property taxes on land of power facilities and reservoir
- **Benefits in-kind (power, water) to affected communities (limited applicability for basin wide and trans-boundary impacts)**

Benefit sharing arrangements

- **Basin – wide benefit sharing fund**
 - Agreed principles for use of funds between all LMB countries
 - Project basis v's direct budget support (targeted at national or local administrative level)
 - Monitoring system for allocation and use of funds
 - Under a basin-wide authority with adequate technical capacity to manage funds properly

4. Institutional considerations I

- **In terms of both maximizing the benefits from the mainstream projects and mitigating the costs institutional capacity will be essential, for example:**
 - Negotiation of favorable PPAs, concession and financing agreements
 - Enforcing these agreements
 - Utilizing revenues effectively
 - Implementing mitigation and enhancement measures effectively

Institutional considerations II

- Institutional reform and capacity development could help enhance these efforts
- Institutions
 - Public disclosure of PPAs, concession and financing agreements
 - Due diligence on developers
 - M&E system for operations
 - Effective system of sanctions in place
 - Benefit-sharing legislation
- Capacity development programs at all levels of government
- Any river basin fund should support institutional and capacity development measures

THANK YOU FOR YOUR
ATTENTION