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 effects 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

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)
- Support for tradable goods sectors (mitigation)
  - Support for improving productivity of agriculture and manufacturing
  - Support for improving productivity to address service sector bottle-necks
- Training and skills programs, infrastructure, subsidies
- Boarder interventions aimed at improving national productivity (health, education, import of capital goods)

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)

Macro economic mitigation and enhancement measures

- 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 concessional 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

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 concessional 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

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 dependent upon natural systems (Cambodia, Vietnam)

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

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

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)

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

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