

**ENVIRONMENTAL IMPACT ASSESSMENT:  
Managing Hydropower, Mining and Infrastructure  
Development Impacts on Natural Capital**

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# Regional Context: Greater Mekong Subregion

- Subregion of **exceptional biodiversity** – GMS is home to numerous endangered species; Mekong River Basin is among richest globally in terms of fish stocks, which are essential to people's livelihoods
- Recognizing importance of the subregion's natural capital, the six countries of the GMS – Cambodia, China, Laos, Myanmar, Thailand and Viet Nam – entered into a **regional collaboration** on the environment and established the Core Environment Program (CEP)
- Among key actions being taken through the CEP to safeguard natural capital is **mainstreaming environment** into planning and decision-making processes, in part through conduct of strategic environmental assessment (SEA) and environmental impact assessments (EIAs)

# Threats to Natural Capital Posed by Rapid Economic Development

- **Key sectors** of energy (hydropower), transport (infrastructure), and mining are experiencing massive investment, nationally and subregion-wide
- These sectors **pose** potentially significant site-specific, cumulative and trans-boundary **impacts on natural capital**, and people



# Planning and safeguard approaches to preserving natural capital

- **SEA coupled with project-level EIA** helps ensure that environmental and social risks are understood and addressed, and opportunities for green growth are captured within planning and decision making processes
- In the GMS, SEA and related spatial planning and assessment tools have been applied to consider **green growth options and integrate environmental** and social considerations into economic corridor, and sector development planning
- An SEA completed for Viet Nam's current Power Development Plan is a good example of successful application, identifying potential impacts such as ecosystem fragmentation and economic and social costs associated with different development scenarios, and providing recommendations to **conserve natural capital**  
*inter alia*

# Project-Level or Activity-Specific Environmental Impact Assessment

- EIA is a structured process to **anticipate, analyze and disclose** environmental and social consequences of proposed projects or activities
- EIA seeks to ensure that potential problems are foreseen and addressed, such that **projects can proceed without causing** serious environmental degradation or social harm
- Overarching objectives of ADB safeguards policy statement for example is to:
  - **Avoid** adverse impacts of projects on the environment and affected people, where possible;
  - **Minimize, mitigate, and/or compensate** for adverse project impacts on the environment and affected people when avoidance is not possible; and
  - Help borrowers/clients to **strengthen their safeguard systems** and develop the capacity to manage environmental and social risks

# Environment Impact Assessment Good Practice

- Projects are required to conduct an EIA to **identify potential impacts** on physical, biological, socioeconomic, physical cultural resources in the project's area of influence
- For projects with potential significant impacts, EIA will examine **alternatives** to the project's location, design, and technology; document the rationale for selecting the particular project location, design, and technology, and consider the 'no project' alternative
- **Environmental Management Plan** will be prepared to avoid, minimize and mitigate adverse impacts; if some residual impacts are likely to remain significant after mitigation, EMP will also include appropriate offset measures
- Projects need to monitor and report on EMP implementation, **describing progress and corrective actions**

# EIA Good Practice Relevant to Natural Capital

- **Biodiversity protection and sustainable natural resource management**
  - Requires projects to identify measures to avoid, minimize, or mitigate potentially adverse impacts and, as a last resort, propose compensatory measures/ biodiversity offsets, to achieve no net loss or a net gain of the affected biodiversity
  - Sets out specific requirements on habitat/biodiversity protection and requires the borrower/client to demonstrate the sustainable management of natural resources
- **Pollution prevention and abatement**
  - Projects should apply pollution prevention and control technologies/practices consistent with those reflected in the World Bank Group's Environmental, Health and Safety guidelines (i.e. air emissions and effluent discharges)

# EIA Good Practice Relevant to Natural Capital (Cont'd)

- **Cumulative impact assessment**
  - Assessments should consider the incremental impact of the project when combined with impacts from other projects and activities already completed, recently commenced, or that will be carried out in the foreseeable future (e.g. multiple hydropower schemes in the same river basin, mining projects in a biodiversity landscape, biodiversity landscape fragmentation due to road construction)
- **Financial incentives and mechanisms** to support investments in natural capital
  - Payment for Ecosystem Services schemes, for example, where local communities are involved in managing or protecting ecosystems that provide ecosystem services, such as forest in a hydropower reservoir catchment



# EIA Good Practice Relevant to Natural Capital (Cont'd)

- Incorporation of **climate change considerations** and project carbon footprints (i.e. calculation of greenhouse gas emissions)
  - ADB sourcebook on Environmental Safeguards provides for consideration of climate change impacts early in project scoping
  - Climate change adaptation is increasingly reflected in climate-resilient project designs (e.g. road design and construction)
  - Promote technically and financially feasible alternatives to reduce or offset project GHG emissions (e.g. enhancement of energy efficiency, increased use of renewable forms of energy, emissions recovery and/or limitation, biodiversity offsets)

# Contract and Permitting

- **EMP requirements should be incorporated into** bid documents, procurement contracts, and permits to operate; separate construction and operation phase environmental management and monitoring plans should be prepared for complex projects, specifying mitigation and monitoring commitments and responsibilities
- Once construction is completed, a **permit to operate** may be required; in this permit, the measures to deal with residual environmental impacts and for monitoring during operation should be elaborated
- **Standard environmental and social obligations** might additionally be attached to concession agreements of development and infrastructure projects; setting out contractually agreed/binding commitments
- **Enforcement** should be strengthened through setting realistic fines and penalties for non-compliance, and providing opportunities to come back into compliance