

EIA and Monitoring



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Outline

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2 EIA and EMMP

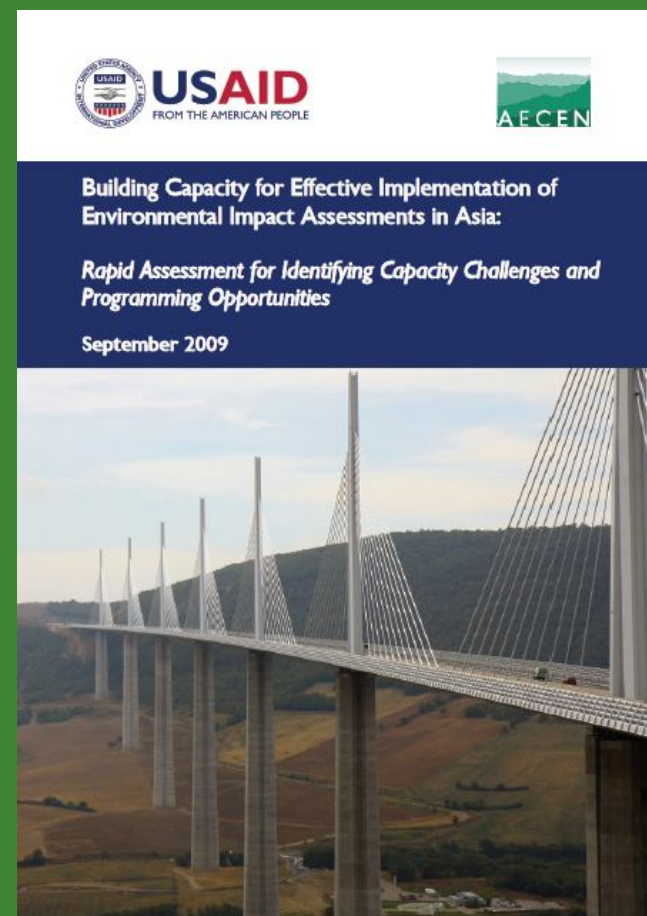
3 Community-based Monitoring

4 Monitoring and Project Design –
Don Sahong Example

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EIAs in International Context

- Virtually all countries in Asia (and elsewhere) require EIA and this is generally embedded in national laws, regulations, and mandated procedures;
- Over time, developing countries have experimented with various innovations, such as cumulative assessments, health impact assessments, social impact assessments, and incorporation of climate change, but these innovations have not been adopted widely.



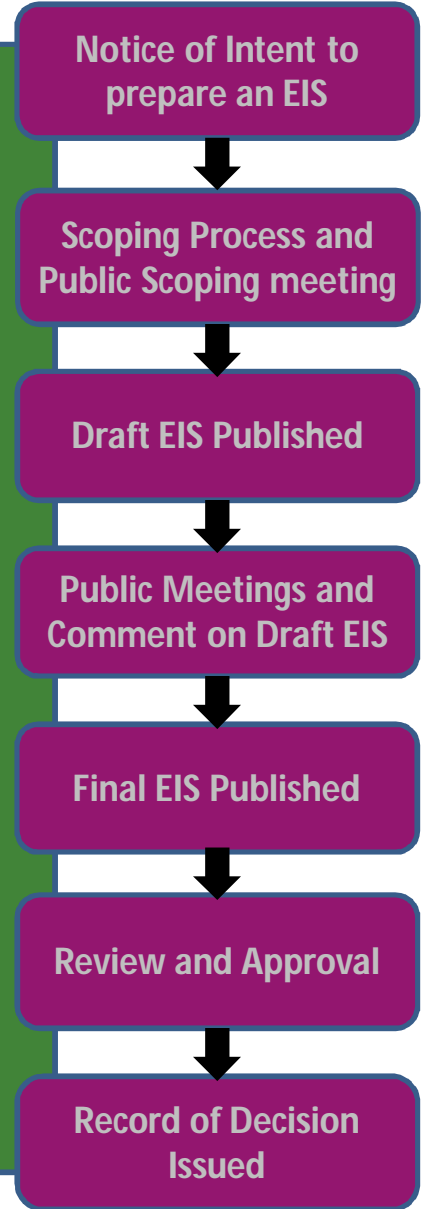
<http://www.aecen.org/eia-compendium>

Starting in the USA – 40+ years

1969 National Environmental Policy Act (NEPA):

- First legislation to provide a robust framework for addressing several environmental concerns simultaneously;
- EA/EIS process: The simpler EA usually has to be carried out within a 3-month time frame, and the more detailed EIS usually is required to complete within maximum 12 months (with exceptions).

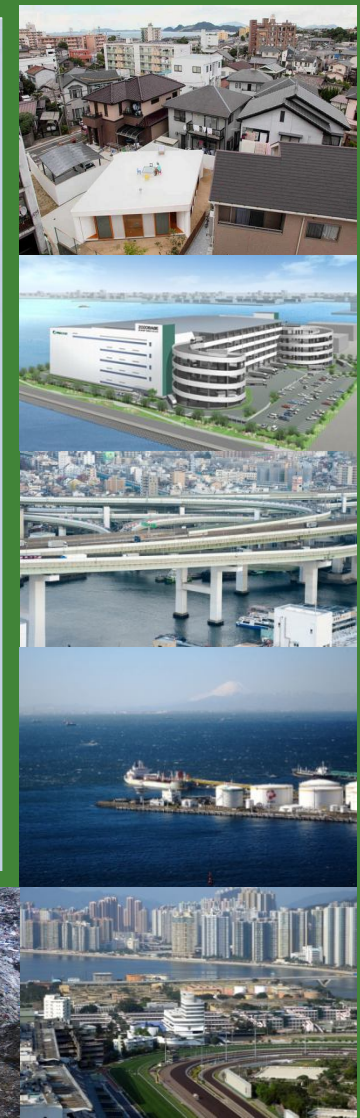
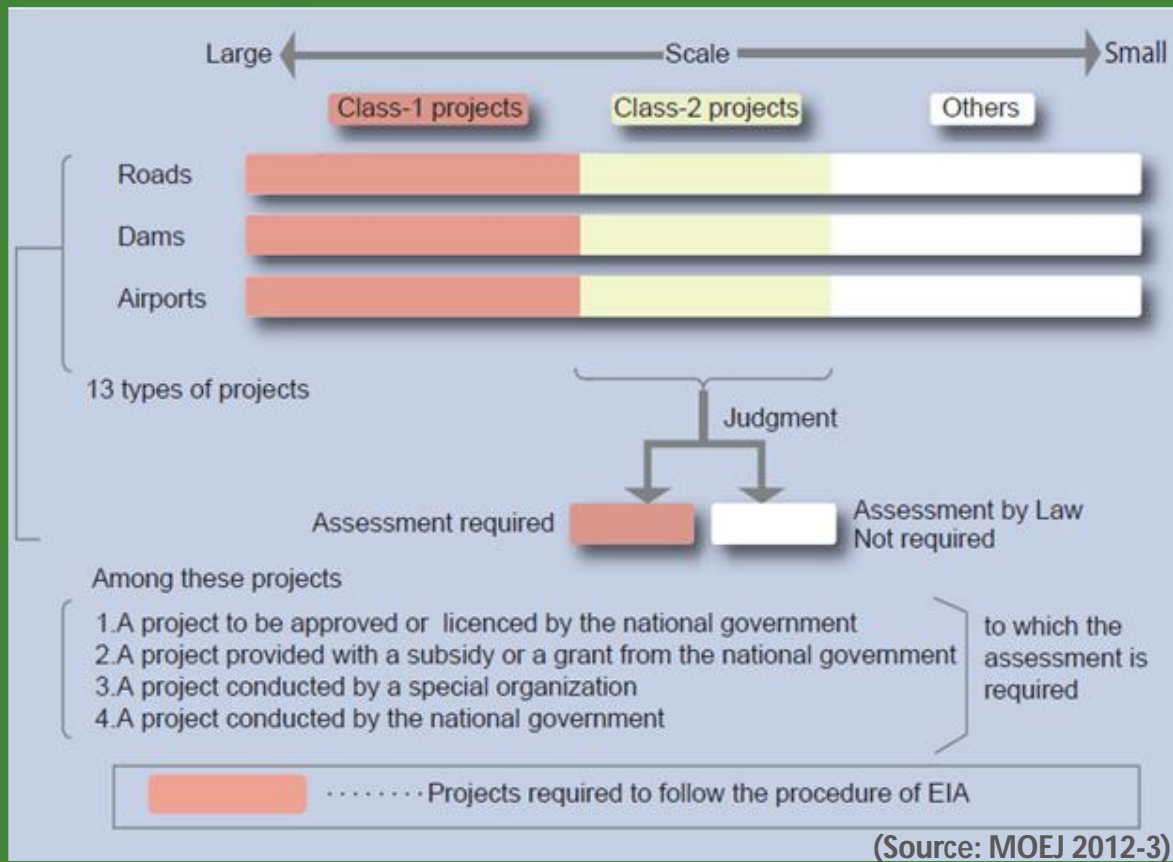
The EIS Process



EIA Process in the United States (Source: Stampe 2009)

Japan - EIA Law

EIA is required for 13 types of projects



Japan –EIA continued

- For class 1 projects, an EIA is mandatory, class 2 projects are optional, and the category “others” does not require EIA.
- Proposed projects are screened to determine whether EIA is required, and normally scale plays a large role in deciding on necessity of EIA. For class 2 projects, other factors such as location and proximity to environmentally and socially sensitive areas also play a role and decisions are made on a case-by-case basis (MOEJ 2012).

Some recent amendments of Japanese EIA Law:

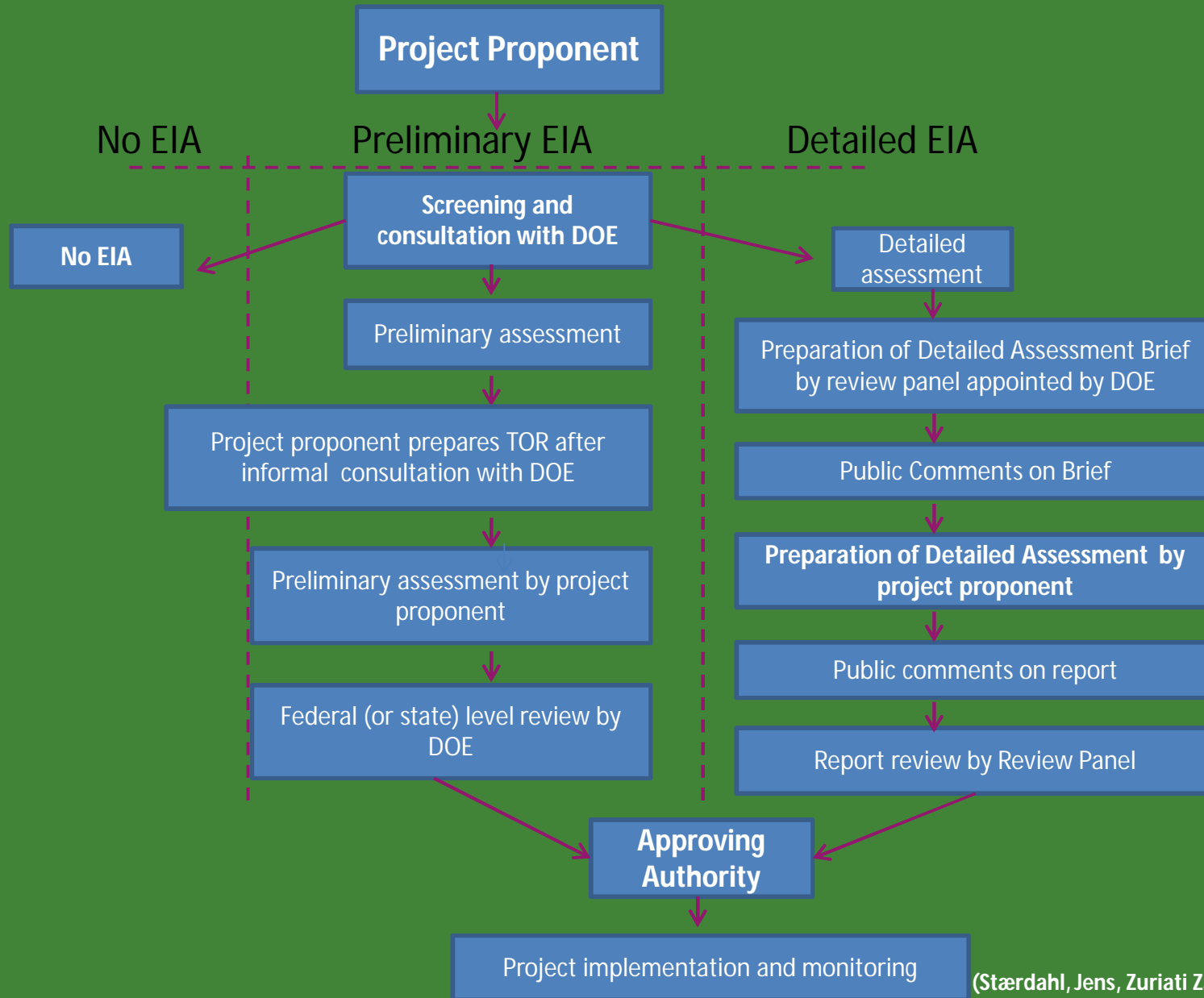
- Obligation to hold a public session at the stage of the assessment method determination; (earlier stage) as well as access to information on internet;
- Stipulation of the procedure to have opinions from Minister of the Environment in the selection of evaluation items;
- Stipulation of the procedure to gain advice from the Minister of the Environment when a prefectural governor etc. is the issuer of the license etc.;
- Enabling direct submission of opinion from the designated cities to the project proponent;
- **Establishment of Primary Environmental Impact Consideration (PEIC) and Impact Mitigation Reporting (IMR);**

Key enforcement issue - moving from target clearance type of assessment to “best effort” type of assessment (for increased environmental performance).

Japan - PEIC and IMR

Primary Environmental Impact Consideration	Impact Mitigation Reporting
<ul style="list-style-type: none">➤ Alternative plans on a project location, scale and others are compared, and opinions of citizens, experts, local governments and others are considered in regard to possible impacts on living environment, natural environment and others caused by the project (class 1 mandatory/class 2 voluntary)	<ul style="list-style-type: none">➤ After a project has been implemented, the proponent compiles and publishes a follow-up survey, along with the measures for protecting the environment to cope with the conditions identified during the survey and the progress of the measures taken.
<ul style="list-style-type: none">▪ Enables more earnest consideration of alternative plans before project is commenced, reducing subsequent compliance needs;	<ul style="list-style-type: none">▪ Discloses progress of the measures taken to the citizens who are interested, and complements the substance of measures taken by having opinions provided from the Minister of the Environment

EIA in Malaysia: Process and Institutions

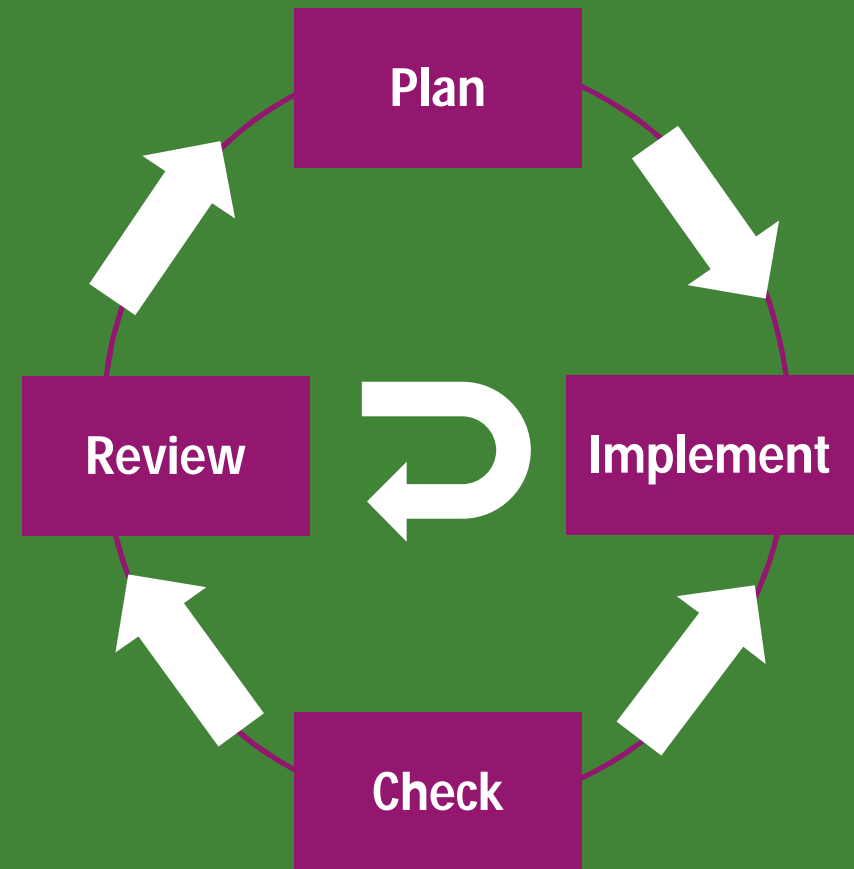


Standard Steps of EIA process

1. Screening	- determines whether the proposed project requires an EIA and, if it does, then the level of assessment required;
2. Scoping	- identifies the key issues and impacts that should be further investigated. This stage also defines the boundaries and time limit of the study;
3. Impact Analysis	- gathering of baseline information, and identifies and predicts the likely environmental and social impact of the proposed project and evaluates the significance;
4. Mitigation	- recommends the actions to reduce and avoid the potential adverse environmental consequences of development activities;
5. Reporting	- presents the result of EIA in a form of a report to the environment agency;
6. Review of EIA/Project Appraisal	- examines the adequacy and effectiveness of the EIA report and provides the information necessary for decision-making;
7. Project Implementation and Monitoring	- this stage comes into play once the project is commissioned. It checks to ensure that the impacts of the project do not exceed the legal standards and implementation of the mitigation measures are in the manner as described in the EIA report.

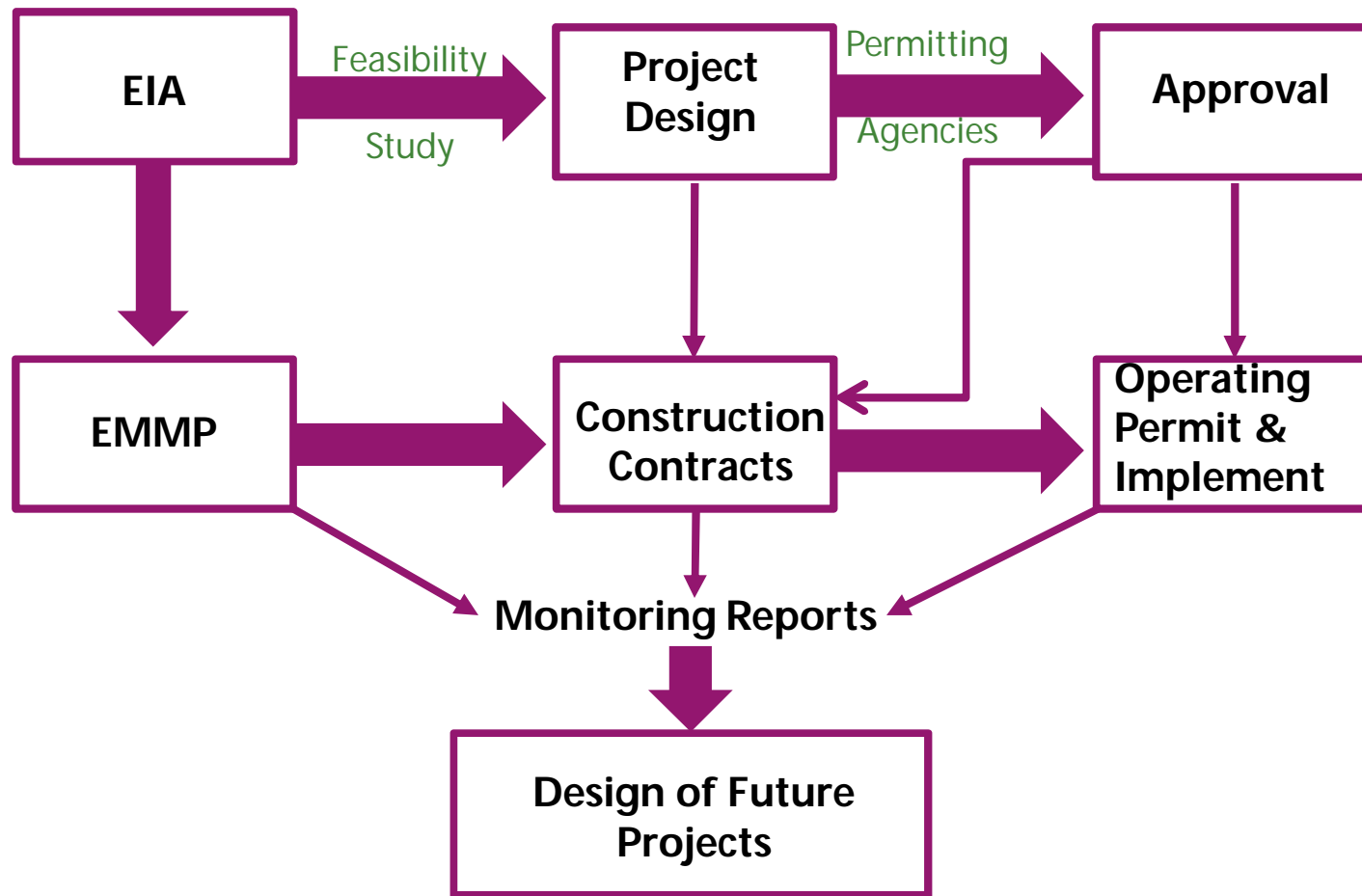
EIA and EMMP

- While a lot of emphasis is placed on the EIA/EIS (as project approval relies on the EIA being approved), less attention is paid to the Environmental Monitoring and Management Plan (EMMP).
- The EMMP is critical, however, as this provides the information that goes into construction contracts, “should” be instrumental in issuing an operating permit, once construction is completed, and ensures monitoring continues to the decommissioning stage.



Importance of EMMP

Project Cycle



Common Challenges in EIA Practice

- (i) Loopholes in the list of prescribed projects
- (ii) Late timing – decision has already been made to proceed
- (iii) Inadequate consideration of alternatives
- (iv) Incremental rather than cumulative impacts
- (v) Conflicting interests - public sector projects are often the worst offenders for non-compliance
- (vi) Inadequate qualifications and certification
- (vii) Lack of data – especially cause-effect or dose-response data
- (viii) Systematic under-estimation of costs
- (ix) Inadequate management and monitoring plans**

Obstacles for EMMP Implementation

Based on your experience, what are the key obstacles for the effective implementation and monitoring of EMMPs? Please select the three most important reasons.

	Response Percent	Response Count
Lack of ownership/commitment for EMMPs by project owner	53.8%	7
High transaction cost and inadequate funding in preparing the EIA	30.8%	4
Inadequate financing for monitoring EMMPs	61.5%	8
Insufficient procedural guidance	30.8%	4
Lack of baseline data and no funding for data collection	23.1%	3
No sound basis/ expertise for proposed mitigation measures	23.1%	3
Proposed EMMPs are not cost-effective	23.1%	3
Inadequate sanctions (e.g. level of financial penalty is too low)	46.2%	6

Community-based Monitoring

➤ **Community-based environmental monitoring should be considered where feasible for the following reasons:**

1. Economically sound – people will often volunteer their services;
2. Builds community partnership with the project proponent;
3. Ensures that local concerns are adequately monitored; and
4. Provides an educational resource in the local community and builds stronger communities



Photos: DSPC

Barriers to Community-based Monitoring

- Lack of technical knowledge in the community
- Negative attitudes of government officials and/or the project proponent
- Lack of monitoring equipment and/or operational budget
- Restricted access to construction sites for occupational health and safety reasons
- Conflict in the community over the desirability of the project
- **None of these are insurmountable but they do need to be addressed from the outset**

Monitoring and Project Design – Don Sahong Hydropower Project



Photos: DSPC

Don Sahong EMMP (2013)

- Introduction and Background
- Policy, Legal and Institutional Framework
- Project Description
- Impact Analysis and Mitigation Measures
- Management Arrangements and Staffing
- Public Involvement/Corrective Action
- EMMP Implementation costs
- Annex A – Fisheries Monitoring and Action Plan
- Annex B – Required Information on Environmental Management Measures
- Annex C – Environmental and Social Clauses for Civil Works Contracts

**DON SAHONG HYDROPOWER
PROJECT, LAO PDR
(DSHPP)**

**ENVIRONMENTAL MANAGEMENT and
MONITORING PLAN**

FINAL

January 2013

Prepared for:

MEGA FIRST CORPORATION BERHAD

Prepared By:

**National Consulting Company
Vientiane, Lao PDR**

Impact Matrix – from EIA Report

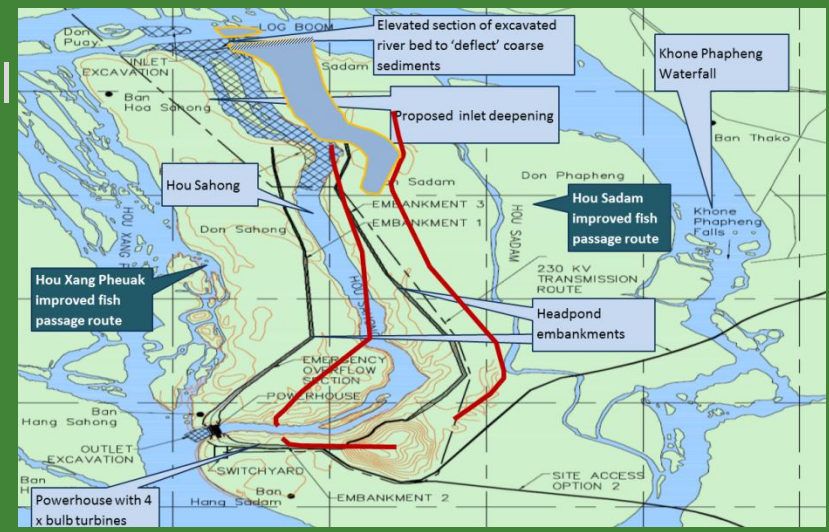
- Potential Impact
- Impact Areas
- Impact Duration and Period
- Impact Significance
- Required Mitigation/Management Measures
- Measurement
- Potential Residual Impacts

Provided for Construction, Operations and Decommissioning Phases of the project.



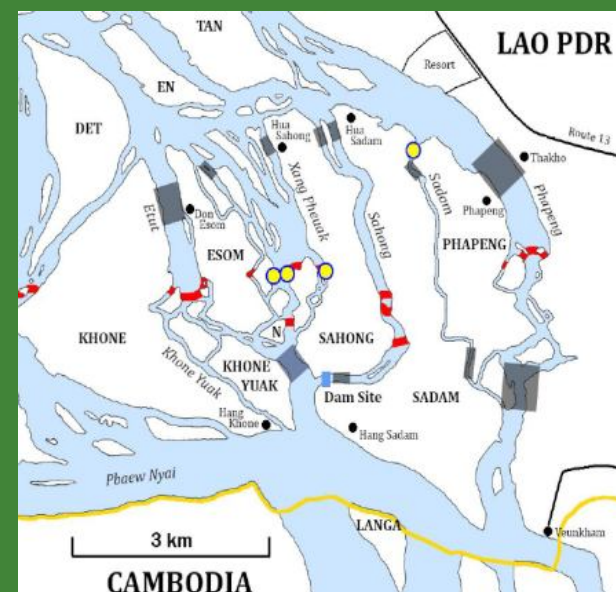
Monitoring Plan

- Details are provided on the type of monitoring (ambient, validation, effectiveness and compliance), sampling parameters, locations, frequency and timing of monitoring and reporting schedules for each monitoring task.
- This includes whether they are physical, biological or social aspects.
- Reporting is a major requirement of all monitoring and requires that recipients be identified in the EMMP and there are provisions for additional monitoring requirements if needed.
- Details on monitoring and reporting requirements are found in an Annex.



Typical Monitoring Measures

- Monitor (pre-channel modification) daily **fish catch rates** in fixed traps in the Hou Xang Pheuak, Sahong and Sadam channels as a measure of migration intensity and localized area density of migratory fish.
- Monitor **household fishing effort**, fish-catch and subsistence or commercial production activities in the Siphandone area, and the three main channels in the Project area.
- Assess **success of fish passage** improvements in Hou Xang Pheuak during the wet season by monitoring daily fish catch rates in fixed traps and compare with pre-modification intensity and localized area density of migratory fish in both upstream and downstream areas of the channel.



Photos: DSPC

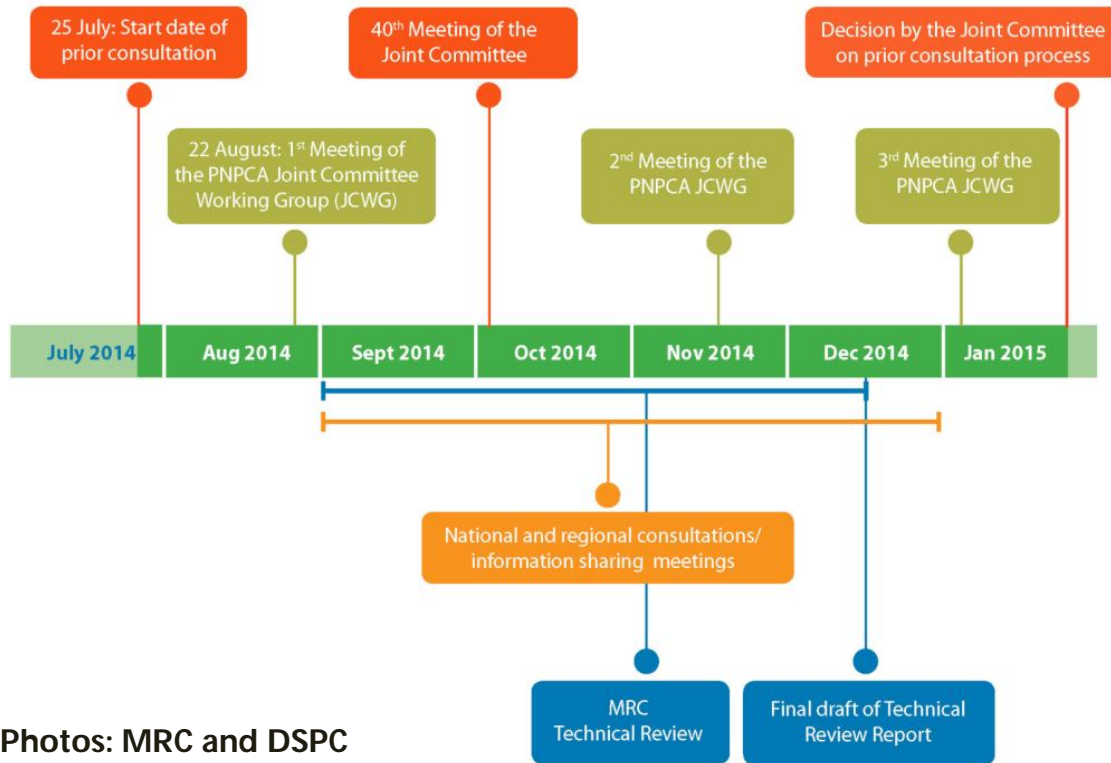
Staffing Arrangements

- Full time Environmental Manager, junior environmental specialist, and support staff reporting to the overall Project Manager.
- Contractors are required to prepare Contractor EMMPs consistent with the project level EMMP, and specific provisions are required for incorporation in construction contracts.
- Given importance of impacts on fish - Long-term fisheries monitoring team to gather fisheries baseline dataset for use as a benchmark during construction and operational phases to evaluate impact mitigation and alternative livelihood development program success.



Photos: DSPC

Community Involvement



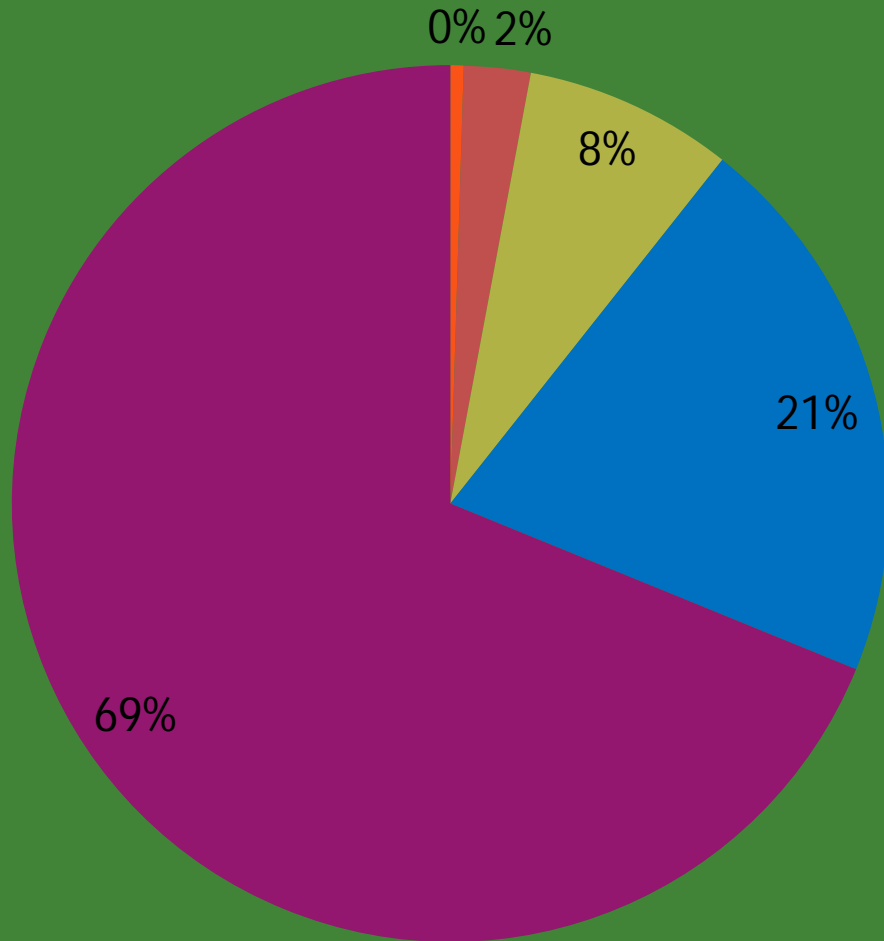
- No provision for community-based monitoring, although not specifically excluded
- EMMP states that “public involvement” is to include:
- All stakeholders, including directly and indirectly affected persons;
- Information on the proposed activities and consultation with stakeholders;
- Any changes proposed to the EMMP and stakeholders’ opinions on these; and
- Reporting requirements for the EMMP.

Photos: MRC and DSPC



Budget

Total Project Cost \$680,000,000



Description	Amount
Environmental Management Office	\$165,000
Design phase and pre-impoundment environmental measures	\$854,000
Measures in construction phase	\$2,654,000
Measures in operation phase (10 yrs)	\$7,078,000
Total mitigation cost (3.5%)	\$23,724,500

Conclusions and Recommendations

- ✓ Documented EIAs/EMMPs alone do not suffice. Environmental protection standards and other regulations plus effective compliance and enforcement can increase environmental effectiveness when implemented alongside EIAs.
- ✓ EMMPs must be fully incorporated into construction contracts, operational permits, and decommissioning plans, and fully budgeted, with appropriate staffing.
- ✓ Community-based monitoring should be considered where feasible, to build partnerships with project owners.
- ✓ Results of monitoring should be made available to the affected community and other stakeholders.
- ✓ Monitoring results should feed into the design of future projects of a similar nature or in the same area.



EIA Compendium: www.aecen.org

Environmental Impact Assessment Compendium in Asia



Click on the map to the left or the list below to access each country's EIA laws and regulations, news, and links to other resources on the web.

Cambodia	Mongolia
China	Myanmar
India	Nepal
Indonesia	Pakistan
Japan	Philippines
Korea	Singapore
Laos	Sri Lanka
Malaysia	Thailand
Maldives	Vietnam

EIA News

- Selangor government to finally meet anti-SUKE lobby to hear grouses**
Jan 18 2016 [Malaysia]
- Gov't approves environmental impact rules for investments**
Jan 18 2016 [Myanmar]
- At the borders of ecological destruction**
Jan 18 2016 [Thailand]
- Under fire, Pahang MB says couldn't catch any illegal bauxite miners because they ran**
Jan 18 2016 [Malaysia]
- Highway project causes diversity loss for forest**
Jan 18 2016 [Vietnam]
- Conduct study before opening coal mines: NPCB**
Jan 18 2016 [India]
- Penang mulls avenues to fund LRT ops under TMP**
Jan 18 2016 [Malaysia]
- Govt told to prioritise construction of Nijgadh International Airport**
Jan 18 2016 [India]
- US\$ 1.4 bn Sri Lankan port project back on track**
Jan 18 2016 [Sri Lanka]
- Mumbai: BMC submits report on coastal road project to state authority**
Jan 16 2016 [India]

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EIA Documents and Case Studies

- [Laos] Evaluation of the Environmental Impacts Assessment (EIA) System in Lao PDR
- [Malaysia] EIA System in Sabah
- [Cambodia] Environmental Impact Assessment on the Cambodian Side of the Srepok River due to Hydropower Development in Vietnam
- [Thailand] Pak Mun Dam Mekong River Basin
- [Nepal] A Guide to Streamlining of Environmental Impact Assessment Approval Process
- [Vietnam] Support to Harmonization of Environmental Impact Assessment (EIA) under the Hanoi Core Statement on Aid Effectiveness
- [Vietnam] EIA: Thanh Hoa Pulp and Paper Mill Project
- [India] Summary EIA: LPG Pipeline Project in India
- [Indonesia] EIA: Exploration Drilling Program at Karama Block
- [Sri Lanka] Draft EIA: Dry Zone Urban Water Supply and Sanitation Project
- [Laos] Building Capacity in EIA: Selected Case Studies in Attapeu Province
- [China] IEE: Heilongjiang Energy Efficient District Heating Project

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Thank you!

