



# Time to Re-Assess Greater Mekong Subregion Energy Sector Investments

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Front Cover Photo: Families living along the Xekaman River will see their farmlands and homes inundated by a series of planned dams associated with the Lao PDR – Vietnam Power Transmission Interconnection. Women are among the hardest hit when faced with the insecurities of possible and actual dispossession, as they are usually directly relied upon as caregivers to children, the elderly and the sick.

Back Cover Photo: Sekong River, Kaleum District, Lao PDR

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## Greater Mekong Subregion Energy Sector Investments

### WHAT IS THE ROLE OF THE ADB AND WORLD BANK IN THE MEKONG REGIONAL ENERGY SECTOR?

Through the Greater Mekong Subregion (GMS) Program, the World Bank and Asian Development Bank (ADB) are financing regional energy infrastructure projects and technical studies in the region's energy sector. Investments are guided by the GMS Energy Roadmap, which prioritizes the development of a regional electricity grid that is proposed to be powered predominantly by large hydropower dams along the tributaries and mainstream of the Lower Mekong River Basin. As a result, the ADB and World Bank funding is directly helping to develop the high voltage gridlines needed for this system of interconnections and to commission consultancies to analyze power sector development options.

### WHAT ARE THE PROBLEMS?

- **A significant mismatch exists between energy investments in the GMS and recommendations from research commissioned** by international financial institutions, including the ADB.
  - While consultants hired by the ADB recommend scaling up financing of energy efficiency programs and renewable energy (excluding large hydro) for the GMS, sectoral investments tend to be concentrated in promoting large hydropower dams and associated infrastructure.
- **Energy investments in the GMS lack transparency and accountability.**
  - Meaningful consultations and decision-making processes involving non-governmental organizations (NGOs), civil society organizations (CSOs), and affected communities are absent at the local, national, and

regional levels. Without participatory processes for energy sector planning in place at the regional, national or local levels, decision-makers can remain unaccountable.

- **Social and environmental costs of GMS energy investments are not assessed** cumulatively, on a transboundary basis, or integrated into cost-benefit schemes and insurance bonds. In addition, associated decommissioning costs remain externalized.

### WHAT CAN THE ADB AND WORLD BANK MANAGEMENT DO?

- Update respective institutional policies on energy to exclude large-scale hydropower as a renewable energy option;
- Incorporate all energy options available into decision-making before project approval, including consideration of the recommendations outlined in GMS energy sector studies commissioned by the ADB;
- Conduct meaningful community consultations, including engagement on options assessments about energy sources and needs;
- Seek meaningful input from civil society groups, networks and community based organizations;
- Require comprehensive human rights and participatory gender impact assessments with actionable implications are undertaken for all energy sector projects;
- Recognize the track record of safeguard violations associated with large hydropower projects and withdraw from financing large dams and associated facilities; and
- Approve projects through more transparent processes that are accountable to – and meet the needs of – the people of the region.

# Case Studies of Energy Projects in Lao PDR Promoted by the GMS Program

## PROJECT 41450-012: LAO PDR – VIETNAM POWER TRANSMISSION INTERCONNECTION (HATXAN – PLEIKU)

**Status: Not Approved**  
**Construction Ongoing (Vietnamese Companies)**

The **Lao PDR – Vietnam Power Transmission Interconnection** involves the building of more than 150 kilometers of transmission lines and a substation in Hatxan, Lao PDR to transmit power from eight associated hydropower dams in southern Laos to Vietnam. All associated hydropower projects for this transmission line project are planned in the transboundary Sekong River Basin in Laos, including the Xekaman 1, Xekaman 4 and Sekong 3 (Upper and Lower) hydropower projects. Damming the Sekong and Sekaman rivers at multiple sites will not only affect the livelihoods of tens of thousands of people who live along the riverbanks in Laos and Cambodia, but also cause a significant loss of fish biomass (estimated 4% loss) and biodiversity throughout the entire Mekong Basin due to the high numbers of migratory species that inhabit the region.<sup>1</sup>

Since the project's inception, International Rivers has called on the ADB to define the dams as associated facilities<sup>2</sup> as per the ADB's safeguard policy statement, in line with recommendations of technical advisory reports undertaken as part of this project (2012). Due to the fact that the Xekaman 1 Dam – the only project under construction to be associated with the transmission lines – significantly violates the ADB's safeguard policies, financing from the ADB for the Hatxan – Pleiku Transmission Interconnection is on hold.

The problems at the Xekaman 1 Dam site documented by International Rivers and the ADB's own consultants include:

- No public disclosure of environmental impact assessments and resettlement plans;

<sup>1</sup> Ziv et al. "Trading-off fish biodiversity, food security, and hydropower in the Mekong River Basin," Proceedings of the National Academy of Sciences of the United States of America (Vol. 109, No. 15), 2012.

<sup>2</sup> If projects are dependent on 'associated facilities' to function (e.g. transmission lines and hydropower projects), then any identified 'associated facility' must also comply with the environmental and social standards outlined in the ADB's safeguards before financing for the project is approved.



When the construction activities of the Xekaman 1 dam began more than a decade ago, this family moved to a temporary resettlement site without basic infrastructural amenities, including running water. Since the conditions at the makeshift site have not improved over the years and they have not yet received any resettlement compensation, they decided to self-relocate to land they identified as suitable for farming and harvesting non-timber forest products. However, because they have no title to the land at this new site, they live in constant fear of being evicted.

- No meaningful information provided to the project-affected villagers about the project, all of whom are Alak and Jeh indigenous peoples;
- Villagers have lived for over a decade in limbo in makeshift 'temporary resettlement sites' near the construction zone without basic amenities or information about when they will move;
- No suitable resettlement sites identified, as the area proposed by the project proponent is located adjacent to a rubber plantation, where there would be limited livelihood options other than plantation-related jobs;
- No evidence of having carried out a transboundary environmental or cumulative impact assessment; and
- No mitigation measures for biodiversity losses.

For more information see: <http://www.internationalrivers.org/node/7730>

## PROJECT 41924-014: NAM NGIEP 1 HYDROPOWER PROJECT



People living along the Nam Ngiep depend upon the river for sustenance and transportation.

### Status: Approval in 2014 Construction Ongoing

The 290 MW **Nam Ngiep 1 Hydropower Project** in Laos is under construction by the Nam Ngiep 1 Power Company, a consortium that includes Japan's Kansai Electric Power Company (45%), Thailand's EGAT International Company (30%) and the Lao Holding State Enterprise (25%). Over 220 million USD is being provided in loans from the ADB, along with close to 200 million USD from Japan Bank for International Cooperation (JBIC). Over 90% of the power generated will be exported to Thailand. More than 3,000 people, largely in Hmong and Khmu indigenous households, have to be resettled to make way for the project. Given the current political restrictions within Laos, the affected population has no way to report any grievances without facing the possibility of being reprimanded for questioning or criticizing development decisions made by the government, especially regarding whether to agree with the construction of the project.

Violations of ADB safeguards at the Nam Ngiep 1 Dam include:

- Lack of understandable, accessible information about the dam's social and environmental impacts, resettlement plans and timelines provided to affected people;

- Lack of confirmed compensation rates and no agreement on what would qualify as replacement value for losses despite project preparatory works being underway;
- Lack of meaningful consultation and freely given consent from affected people to relocate or relinquish land;
- Lack of appropriate land in designated resettlement areas (70% of which is protected forest area); and
- No thorough comprehensive cumulative impact assessment, major hazards assessment and mitigation plan or updated assessment of appropriate downstream measures that account for upstream dam construction.

In addition, appropriate "biodiversity offsets" for Nam Ngiep 1 have yet to be identified. Based on documentation and research conducted by a range of international environmental groups, including the International Union for Conservation of Nature (IUCN), it is questionable how designated biodiversity sites could possibly achieve 'no net loss' (as suggested by the project proponent) to make up for the project-induced losses of critical wildlife habitats and forest areas. In the particular case of Nam Ngiep 1, baseline studies prior to preparatory work were not completed, leading to inaccurate/non-existent calculations of pre-project biodiversity values.

For more information see: <http://www.internationalrivers.org/node/8372>

## PROJECT 37734-032: NAM THEUN 2 HYDROELECTRIC PROJECT



Downstream of Nam Theun 2, along the Xe Bang Fai, the riverbanks continue to erode, causing people to lose valuable land previously used for farming. The water continues to be turbid, making it difficult to catch fish and other aquatic species once relied upon as a key source of dietary protein.

### **Status: Approval in 2005 Construction Completed (2010)**

**Nam Theun 2** is a 1,070 MW hydropower dam financially backed by the ADB, World Bank and European Investment Bank. The project began operations in 2010, displacing over 6,300 indigenous peoples to make way for the 450 km<sup>2</sup> reservoir and affecting more than 110,000 people downstream. Although it was identified as a flagship project by international financial institutions and was supposed to demonstrate that large hydropower dams can offer sustainable energy, promised benefits remain elusive. A range of negative impacts have been recorded by the ADB and the World Bank–financed Panel of Experts (POE), the Lenders’ Technical Advisory (LTA) Review, as well as during field visits carried out by International Rivers and Mekong Watch. These impacts include:

- Lack of sustainable employment and access to resources for the resettled populations;
- Poor quality of land allotments and limited possibilities for food or cash crop cultivation in the resettlement areas;<sup>3</sup>
- Heavy reliance of local people displaced by the project on the lucrative trading of illegal wildlife and timber in protected areas to pay for daily necessities;

- Income and livelihood restoration for downstream communities not accomplished as required in the Concession Agreement (assessed by LTA Review in December 2014);
- A dramatic loss in economic security for downstream populations due to the decimation of wild fish stocks (company monitoring demonstrates a long-term decreasing fisheries population), flooding of low-lying rice fields, and inundation of riverbank gardens used for food cultivation; and
- A lack of access to livelihood programming for 67 affected villages located downstream, which were instead only compensated with one-time cash handouts.

Mainly due to these insufficient outcomes of the mitigation programs, the World Bank’s overall rating of the project remains “moderately unsatisfactory.” In addition, a recent study conducted for Nam Theun 2 and published in the academic journal *Biogeosciences* (August 2014) concluded that greenhouse gas emissions from the reservoir have been widely underestimated and deserve greater attention over the project’s life cycle, contrary to the assumption that hydropower projects are a source of green energy.

For more information see: <http://www.internationalrivers.org/node/2337>

3 According to NTPC (as quoted in the LTA Review report [December 2014]), as of May 2014, 82% of resettlers do not use their allocated land.

# The GMS Roadmap and Strategic Framework

The GMS Program, launched in 1992, prioritizes the building of a regional electricity grid that can bring hydropower-generated electricity from dammed rivers in rural areas of one country to urban hubs and manufacturing centers in another. However, the vast majority of the region’s 326 million people lack basic information about how the plans for the GMS are being made, what is contained in these plans, which decision-makers are in charge, how to hold them accountable, and mechanisms for seeking redress for grievances. Options assessments, feasibility studies and environmental and social impact assessments of GMS energy investments are generally not accessible to locally affected people.

Government representatives from each of the Mekong countries have agreed upon a regional Energy Roadmap and Strategic Framework that calls for large-scale energy production projects, particularly hydroelectric dams, to be developed to provide energy security via an interconnected grid system. As a result of these plans, large dams are proposed to be built on the rivers of Laos, Myanmar and Cambodia to supply electricity to urban centers in Thailand, Vietnam and China via high voltage transmission lines.

This model is supposed to:

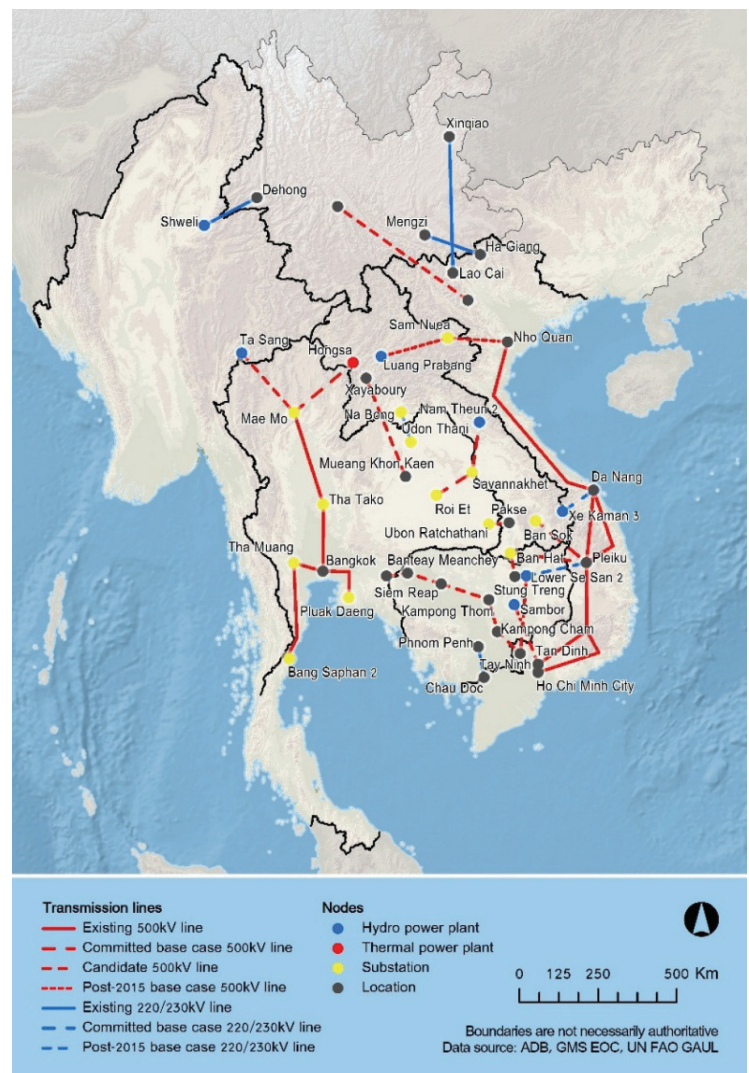
- Be *cost-effective* so countries with high power demands can have greater access to low cost electricity;
- Bring power *from ‘hydro-resource-rich’* countries to other countries with relatively higher power demands;
- *Exploit differences* in peak load timings and/or seasonal peak load variations;
- Bring *improved reliability* of electricity and lower electricity costs for consumers; and
- Bring *foreign currency* into the region, in particular in more under-developed areas, through royalties and foreign direct investment.

A framework that prioritizes large hydropower projects to provide the electricity for cross-border transmission lines has been proposed, which:

- Does not take into account energy trajectories that are based on a realistic bottom-up load forecast methodology that tracks actual trends in energy consumption;<sup>4</sup>

4 It is widely acknowledged that power development plans in the region are systematically overestimated by state-owned electricity companies. For example, in Thailand, power development plans are based on an assumption of exponential growth, rather than historical patterns of linear growth, and propose responding to increases in energy demand by building new large-scale power plants. International best practice demonstrates there are other options that would be cheaper, less risky and minimize health and environmental impacts. See, for ex.: “Proposed Power Development Plan 2012 and a Framework for Improving Accountability and Performance of Power Sector Planning” <[http://www.internationalrivers.org/files/attached-files/pdp2012-eng\\_1.pdf](http://www.internationalrivers.org/files/attached-files/pdp2012-eng_1.pdf)>.

- Has not considered the full scope of options for environmentally sustainable renewable technologies, including small-scale and decentralized power production;
- Fails to incorporate assessments of cumulative social and environmental impacts;



Map of GMS Planned and Current Transmission Line Interconnections. Credit: GMS Atlas of the Environment, October 2013 <[www.gms-eoc.org](http://www.gms-eoc.org)>

- Is not based on true least cost scenarios that incorporate social and environmental costs. These risks are instead being borne by the people of the region, whose livelihoods are largely dependent on wild catch fisheries and paddy rice cultivation, both of which are negatively affected by large-scale dam projects;<sup>5</sup> and
- Locks the region into dependency on large hydropower dams, at a time when climate resilience requires a more flexible approach that integrates a greater range of options to meet peoples' needs.

### **LEADING INSTITUTIONS PROMOTING THE GMS ENERGY PLANS**

Leadership to carry the GMS energy sector plans forward and specify rules for governing regional power trade is provided by a committee representing each country's respective energy ministry (Regional Power Trade Coordination Committee) that is convened and facilitated by the ADB.

Energy projects that have been selected as high-level priorities for investment between 2014 and 2018 include the development of:

- The Lao PDR – Vietnam Power Transmission Interconnection (Hatxan – Pleiku) to transmit 1,013 megawatts (MW) of electricity produced by a series of dams in the Sekong Basin of Lao PDR to Vietnam (Project REG-ENG-01), and
- The Nabong 500 kV Substation Transmission Facility to export energy from Nam Ngiep 1, Nam Theun 1 and Nam Ngum 2 in Laos to Thailand (Project REG-ENG-02).

In addition, studies will be conducted to:

- Establish a Regional Power Coordination Center to promote harmonized performance standards, grid codes and market rules.

### **ADB COMMISSIONED STUDIES: RECOMMENDATIONS SHELVED?**

Key technical assistance studies carried out for the GMS Program underscore the need to shift towards a future with greater emphasis on energy efficiency and renewable energy options, and provide clear recommendations to avoid heavy reliance on large-scale hydropower. Despite the research findings, the energy sector priorities of the GMS Program remain unchanged.

<sup>5</sup> Although livelihood programs for the affected populations often include fish breeding and irrigated rice projects, systematic long term monitoring of communities in Laos affected by the Theun-Hinboun Dam and Expansion Project, Nam Theun 2 and earlier dams supported by the ADB, such as Nam Leak and Nam Song Diversion projects, shows that this mitigation programming fails to restore family incomes to the economic security existing prior to project construction. Both fish breeding and irrigated rice projects require costly inputs which often cannot be sustained by the families, and may end up causing them to fall into cycles of debt as they try to cope with the extra burdens (maintain the ponds with feed, fingerlings and structural materials and the fields with fertilizer, functioning pump mechanisms and sufficient water).

For instance, in mid-2013, the ADB published an Assessment of the Greater Mekong Subregion Energy Sector Development: Progress, Prospects, and Regional Investment Priorities that analyzes national power development plans and regional investment.<sup>6</sup> The report warns that the impacts of power plants and transmission lines on the environment and communities are severe, and that these concerns require “a degree of attention that may not be forthcoming” on the part of governments or project proponents. It recommends that countries should be advancing time-bound targets for energy efficiency improvements and for renewable energy.

In addition, in December 2013, a strategic environmental assessment (SEA) commissioned by the ADB, entitled Ensuring Sustainability of the GMS Regional Power Development,<sup>7</sup> was completed. The report evaluates models of the current national power development plans (PDPs) of Cambodia, Laos, Thailand and Vietnam, in comparison to two alternative scenarios – a renewable energy plan and an energy efficiency power plan. It identifies significant problems with current PDPs in place, including that:

- The Lao and Cambodian PDPs include a number of hydropower projects identified as generating an over-optimistic volume of energy for export that are not matched by corresponding import projects in the PDPs for Thailand and Vietnam;
- National projections of capacity needed and demand growth are unrealistically high, leading to an overestimation of the number and scale of power projects needed; and
- Several new energy power plants (nuclear and hydropower) being proposed do not need to be built if energy efficiency measures are implemented, more sustainable renewable energy projects are prioritized and demand-side energy trajectories are used.

The report concludes that power sector planning processes in the GMS do not adequately take into account national or cross-border environmental and social impacts, rational estimations of demands, or a cost-benefit analysis of alternative options. It recommends several ways to improve power planning processes, including the integration of environmental and social concerns as well as costs, and improvement in the quality of public consultations.

The recommendations of these two reports, along with new studies completed in June 2015 on renewable energy and energy efficiency in the region (Project 43301-012) provide critical information that can – and should – guide the World Bank and ADB's operations and management decisions for energy infrastructure investments.

<sup>6</sup> Accessed at: <http://www.adb.org/documents/assessment-greater-mekong-subregion-energy-sector-development>

<sup>7</sup> ADB TA 7764. Impact Assessment Report: Ensuring Sustainability of the GMS Regional Power Development, December 2013. [Not available online.]



## RECOMMENDATIONS FOR GMS ENERGY INVESTMENT DECISIONS

In summary, we recommend the World Bank and ADB put a hold on all planned and future GMS energy sector investments until there are verifications that:

- **National as well as regional energy forecasts are duly examined** to ensure the need for proposed projects;
- **All options to meet projected energy demands are prioritized and given full consideration;**
- **Comprehensive options assessment for proposed projects** are evaluated in a transparent manner and made publicly accessible;
- **Thorough cumulative and transboundary impact assessments are undertaken,** made publicly accessible, and shared with affected populations;
- **Full social and environmental costs for the project life-cycle have been incorporated** into a publicly accessible project cost-benefit analysis;

- **Proposed project sites do not destroy or submerge critical places** of social, ecological, cultural and/or economic value;
- **Affected populations have been meaningfully consulted** and given their free, prior and informed consent for the project to advance; and
- **Affected populations have access to effective remedies and complaints/grievance mechanisms** that are identified from the outset and function throughout the project cycle.

In addition, for approved projects where repeated safeguard violations are noted by affected people and/or civil society groups, we recommend that undisbursed funding be put on hold while these concerns are investigated and until comprehensive mitigation measures are in place to fully address the situation.



**International Rivers** is an international non-governmental organization working around the world to protect rivers and defend the rights of communities that depend upon them. International Rivers works to stop destructive dams and promote water and energy solutions for a just and sustainable world.



**Mekong Watch**

**Mekong Watch** is a Tokyo-based environmental non-governmental organization which monitors large-scale development projects in the Mekong River basin, especially those involving Japanese public and private funds. Mekong Watch works closely with local communities and civil society organizations to avoid and mitigate environmental, social and human rights impacts of large-scale development.