

Realizing sustainable hydropower development opportunity in the Basin Development Strategy

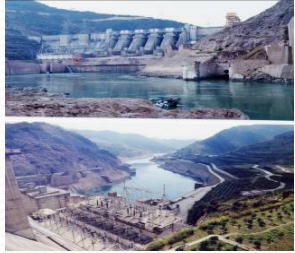
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Understanding the needs of Lao PDR

- Lao PDR is rich in natural resources, especially water resources
- We contribute 35% of the flow into the Mekong river (more than any other countries)
- Despite economic growth over the last decade, Laos is still the least developed country in the Mekong
- Lao people living in poverty is 28% (highest in the Mekong) and much higher in rural areas
- Therefore, it is the national policy and priority of the Lao government to lift its people out of poverty and graduate from LDC status by 2020



Development context of the Mekong



- Development in the Mekong basin started long ago
- Thailand developed hydropower and irrigation dams over the last fifty years
- Viet Nam benefited from hydropower development in the central highlands (upstream of Cambodia) as well as aquaculture and irrigation expansion in the Delta over the last century
- There were Mekong basin development plans in 1970s and 1980s but not much was implemented in Laos and Cambodia due to unstabilities
- With peace and stability in the region, development in less developed parts of the basin are now taking off



1995 Mekong Agreement supports



- **Cooperation** in all fields of sustainable development
- **Sovereign equality and territorial integrity:**
 - the right of riparian countries to sustainably develop its water resources
- **Reasonable and equitable development:**
 - Already developed parts of the basin cannot prevent or foreclose the opportunities of other less developed parts of the basin to develop

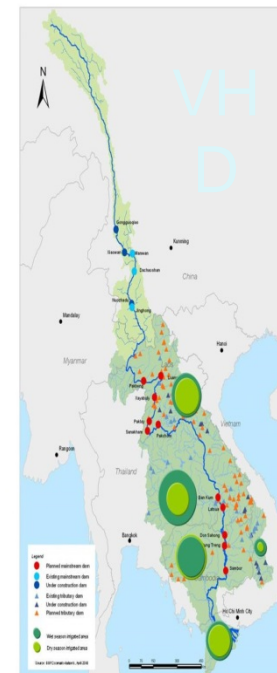


Cumulative impact assessment

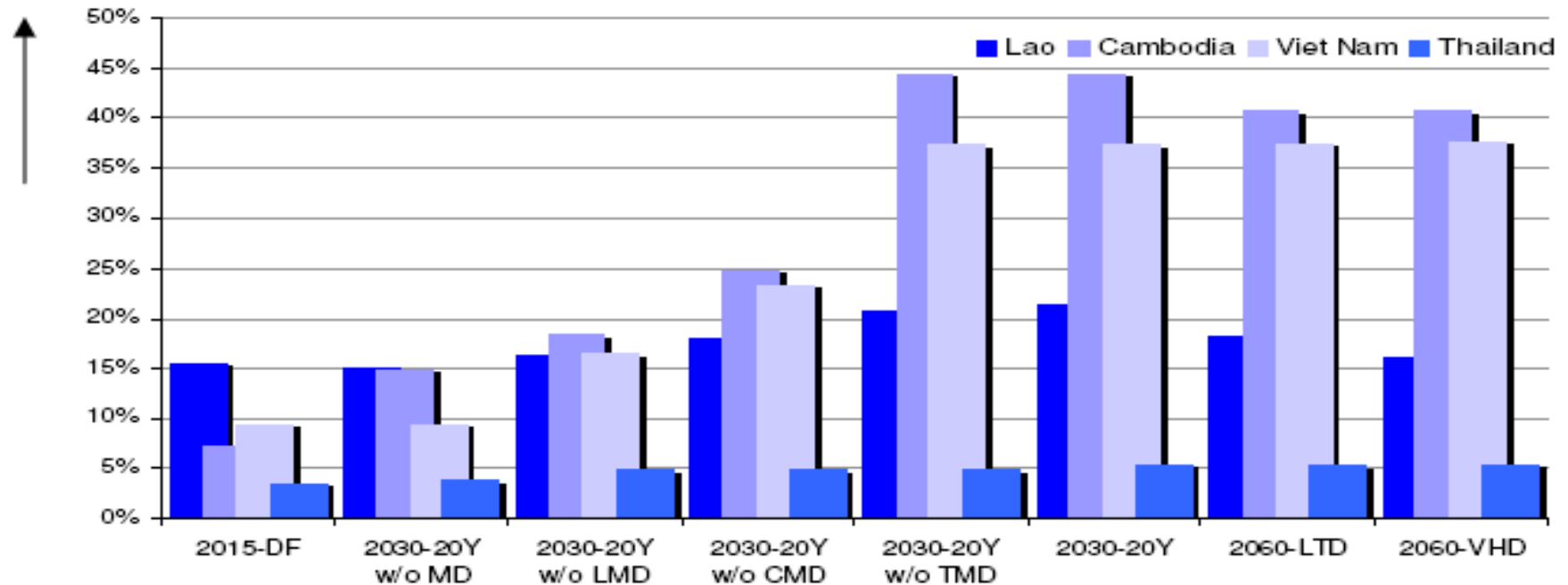
Lao PDR participated with other member countries in conducting MRC Assessment of basin-wide development scenarios in 2008-2009

From the assessment we know:

- There is scope for further basin development
- Hydropower developments Lao PDR and China will provide additional water during the dry season
- Other countries can use the additional water to develop their planned water use (diversion, irrigation expansion, etc)

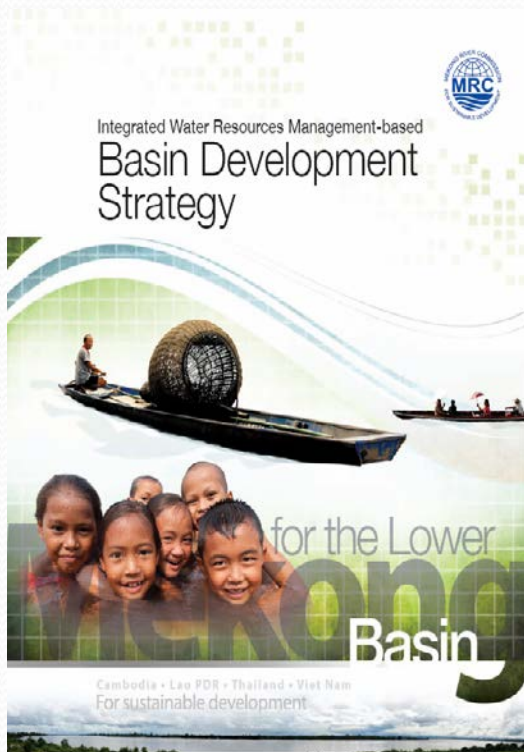


Cumulative impact assessment: capture fisheries % loss for each considered development scenario



- BDP scenario assessment: Transboundary negative impacts of the six mainstream dams in northern Lao PDR (including Xaiyaburi) are relatively small and cannot be measured (eg capture fisheries reduction of 2-3% according to the MRC cumulative assessment and the SEA)
- The potential transboundary negative impacts of the most downstream mainstream dams outside Lao PDR are more severe

The Mekong Basin Development Strategy

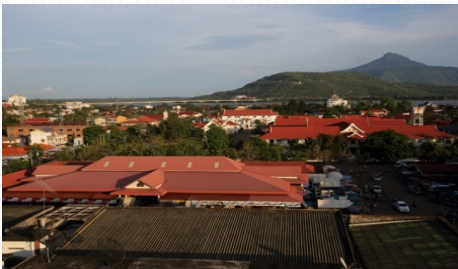


- Approved by the MRC Council of ministers in 2011
- Specified development opportunities in tributary hydropower development and some mainstream hydropower development
- Lao PDR is following this Strategy
- Lao PDR is addressing the strategic priority and actions related to improving sustainability of hydropower development

Lao national development strategy

- National Socio-Economic Development Strategy 2011-2020 and 7th Five Years Socio-Economic Development Plan (NSEDPP) focusing on:
 - promoting economic growth of around 8-8.5% per year
 - achieving MDG to reduce poverty and hunger;
 - promoting environmental protection and sustainable development

the future?



Lao hydropower development policy and standards

- National Policy on Environment and Social Sustainability of Hydropower Sector – *now replaced by **Policy on Sustainable Hydropower Development***
- **Social and Environmental Standards and Obligations (SESO)** – annex to Concession Agreements



Lao hydropower development policy and standards

Policy on Sustainable Hydropower Development:

- All large hydropower projects must produce a **full Environmental Impact Assessment (EIA)** and Environmental Management Plan (EMP)
- The **right of all project-affected people** will be recognized, and achieved through a Resettlement & Social Development Plan
- A **watershed adaptive management** and participatory planning strategy will be developed to stabilize land use, and manage Protected Areas
- **Consultations** will be conducted with all project-affected communities
- **Revenue sharing** with the Environment Protection Fund (EPF)
- Ensure **financial and technical** sustainability of the Project

Meeting national and regional needs

Hydropower development has two primary purposes for Lao PDR:

- 1) promotes economic and social advancement by providing a reliable, clean and affordable domestic power
- 2) earns foreign exchange from exports (over 15% of all exports) and contributes to economic development and sub-regional energy demand

So far, Lao PDR has agreements with our neighbors to supply:

- 7000 MW to Thailand by 2020
- 5000 MW to Viet Nam by 2020
- High voltage power exchange with Cambodia by 2020

National planning and regulatory process

- Lao hydropower development plan – list of projects at different stages of planning and implementation
- Many projects were studied and part of the Mekong Committee Indicative Basin Plan 1970/1987
- Before implementation, all large projects strictly follow national policy on hydropower regarding technical studies, EIA and SIA and consultations with national and local stakeholders
- All large projects must be approved by the National Assembly
- During project studies and implementation, Lao PDR engages the best experts from around the world

Mekong basin planning and consultation process

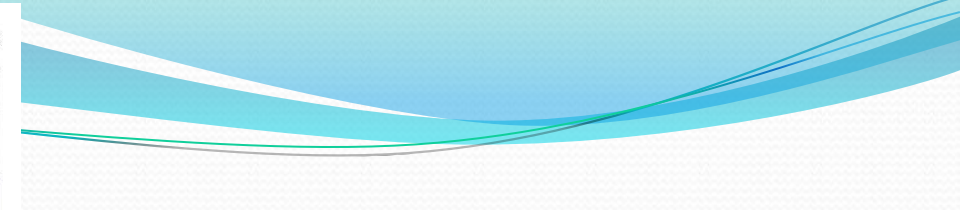
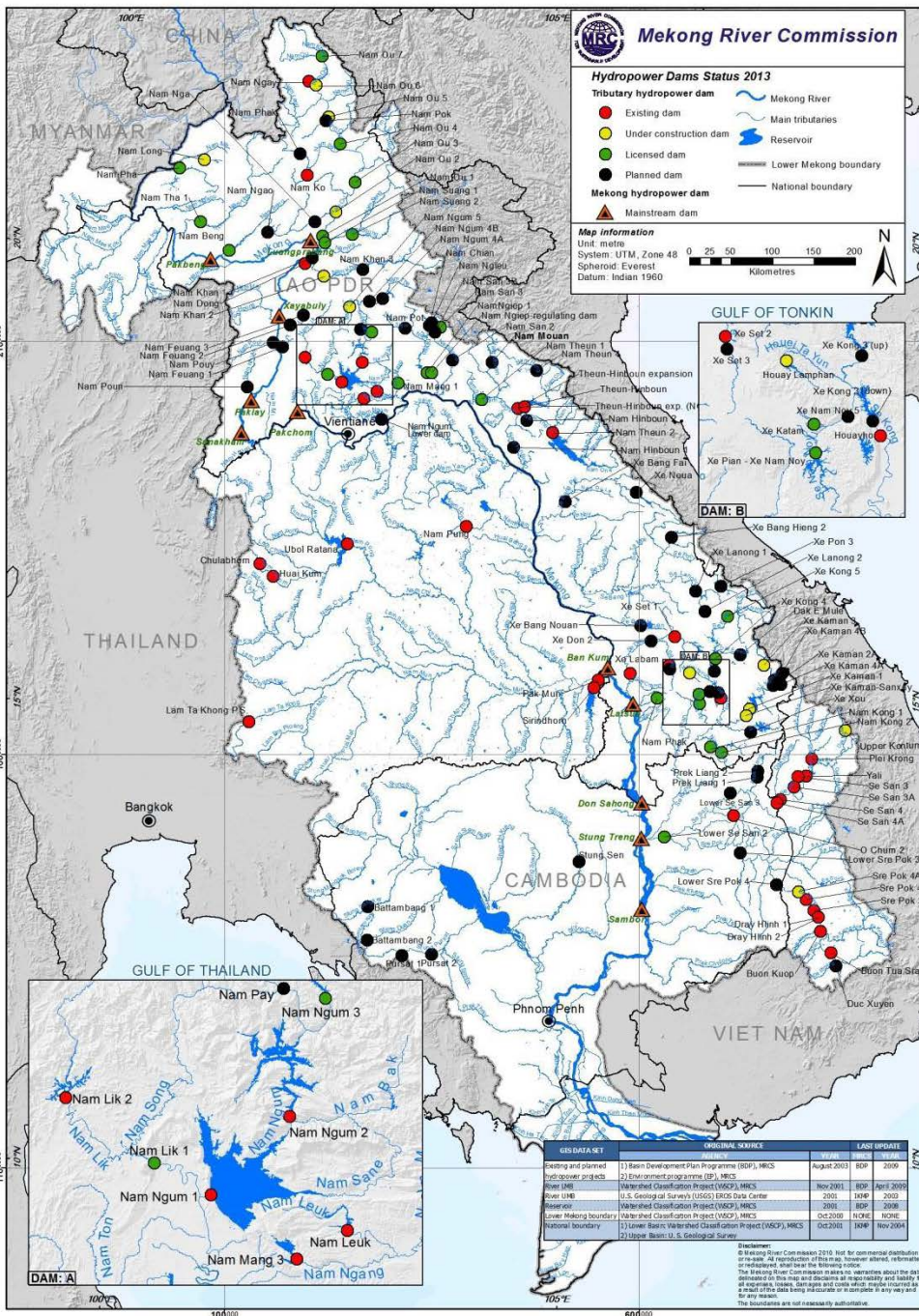
- Lao PDR openly shares information about hydropower plans as part of **MRC basin planning process** – scenario assessment, SEA, and development of Basin Development Strategy
- We openly engage with our neighbors and other stakeholders as part of **PNPCA process**. We expect in return constructive comments and engagements and not unfair criticisms
- **For Xayaburi project**, we seriously considered the recommendations from MRCS and member countries and made improvements to project design (including fish passes) *at our additional cost*
- **For Don Sahong project**, we have openly engaged with member countries and partners, invited anyone interested to visit the site, and will consider any recommendations from the PNPCA process



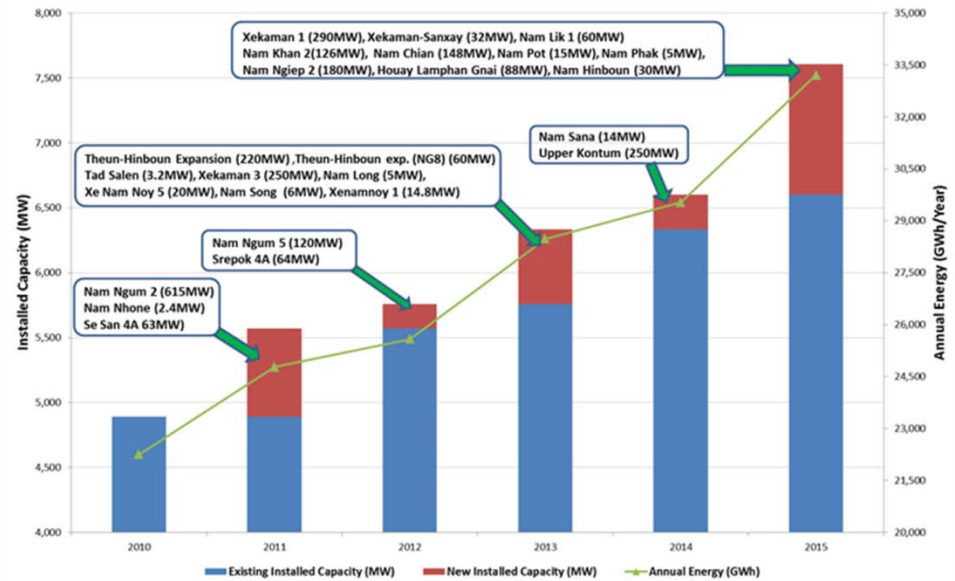
Existing and Planned Projects

1. **25** hydro Projects in operation: 3,244MW with energy output 16,050GWh. Of which 10 projects are owned by EDL-GEN and 15 projects are IPP.
2. **40** hydro + **1** thermal projects under construction and under final preparation: 6,512MW with energy output 35,280GWh
3. **52** hydro projects under MOU and F/S: 8,805MW with energy output 42,536GWh
4. **Hydro potential in Laos is about 26,000 MW**

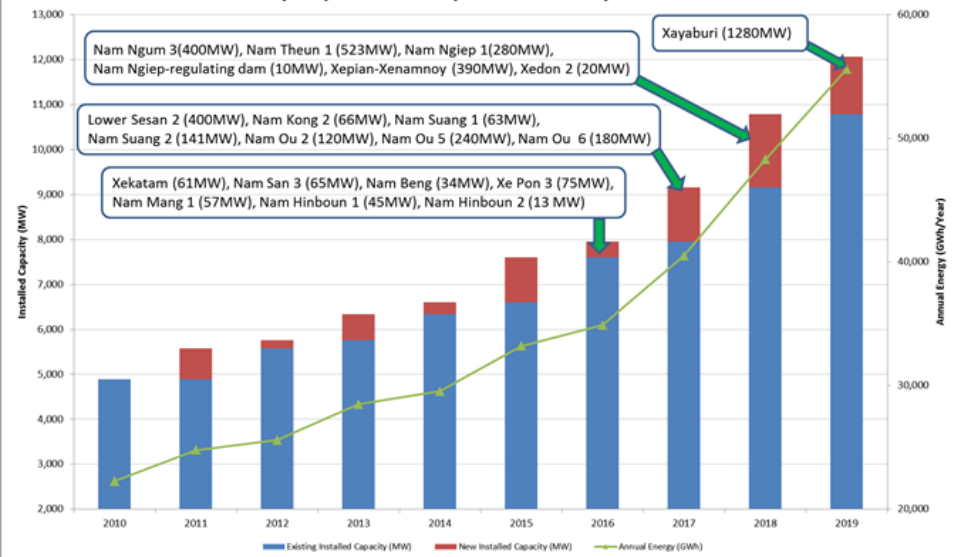
Existing and planned hydropower projects



Hydropower Development in LMB by 2015

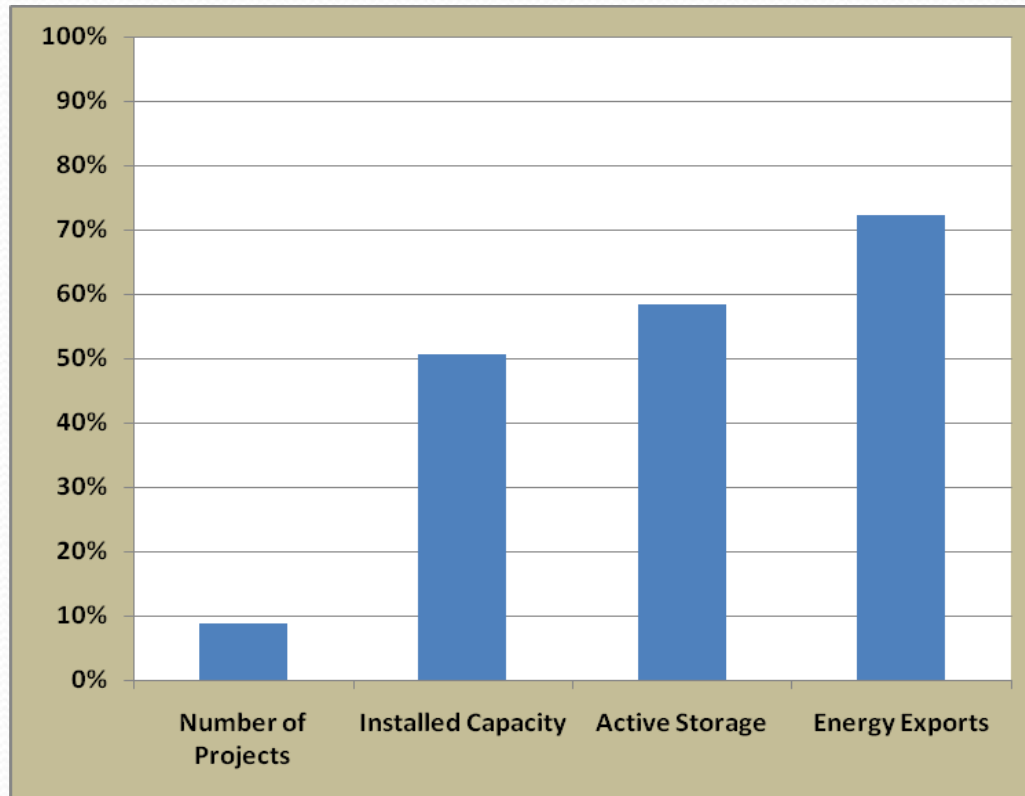


Hydropower Development in LMB by 2019



Prudent and sustainable development

- During last 4 years, implementation of projects is slower than planned
- Only 8.8 percent of the projects that were scheduled for commissioning before 2014 are currently in operation.



- The achievement rate is better in terms of capacity (50.7%), active storage (58.4%) and annual energy exports (72.2%).

Achievement Rate of the 2009 Expected Laos Hydropower Development

Sustainable hydropower development is good policy

- Hydropower is clean, zero carbon emission and renewable;
- With the present electric power generated by hydropower of 16,000GWh in Lao PDR helps reduced the CO2 emission by 14.4 mio.T yearly compared with coal fired.
- Hydropower is a non-consumptive use of water
- Sustainable and responsible development of hydropower can be a catalyst for economic development and can help bring millions of people out of poverty (as other developed countries have done)

Laws and Regulations favoring Private Financing in Lao PDR

- Despite under development, Lao legal framework already proven acceptable to international lenders:
 - ▣ Private majority permitted
 - ▣ Collateral securitization on project assets including leasehold on lands
 - ▣ No restriction on project borrowing
 - ▣ Neutral arbitration accepted
 - ▣ Ratification of international treaties such as New York Convention 1958, ICC 500 Paris, etc. and agreements on avoidance of double taxation signed with several countries
- Existing laws and regulations pertaining environmental and social mitigation measures already accepted by banking communities.

THANK YOU

