Mekong River, Public Participation in hydropower development: Does it matter?

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Background

About the Mekong River Basin

The Mekong River flows from the Tibetan Plateau passing through six countries to the South China Sea. It comprises 2 parts: Upper Mekong Countries: China and Burma, and Lower Mekong Countries (LMCs): Cambodia, Laos, Thailand and Vietnam (Kummu & Varis 2007). The size of the basin is 795,000 km^2 and home to approximately 60 million people (MRC 2005; Orr et al. 2012). The first international collaboration endeavour to manage transboundary water issues started in 1957 under the initiative of the United Nations (Molle et al. 2009).

In 1995, the Governments of Cambodia, Laos, Thailand and Vietnam signed an agreement to cooperate on the sustainable development of the Mekong River Basin. The 1995 Mekong Agreement led to the establishment of the Mekong River Commission (MRC or the Secretariat). The MRC is a governance body set up to coordinate the riparian countries in the sustainable development and equitable share of water resources and responsibilities. Not all riparian countries signed the agreement – China and Myanmar joined only as dialogue partners (IUCN 2009).

According to the Mekong Agreement, member countries must notify the Joint Committee (JC) of any project development on the mainstream and tributaries that is likely to have transboundary impacts on the environment and people downstream (MRC 2011a). The Lao Government (GoL) notified the Secretariat of its proposed Xayaburi hydroelectric dam project in 2010.

About Xayaburi Dam and the PNPCA Process

Xayaburi Dam is located in northern Laos. It is a US$3.5 billion, 8 year project due to be completed in 2019 with generating capacity of 1,260 megawatts of energy (MRC 2011b). This project is developed by Thailand's company Ch.Karnchang and financed by Thai Bank. This was the first proposal for a dam on the Lower Mekong River Mainstream. The notification activated the Procedures for Notification, Prior Consultation and Agreement (PNPCA) Process.

Under this process a number of national stakeholder consultations took place in each country of Lower Mekong River. The result favoured MRC's Strategic Environmental Assessment of Mainstream Dams (SEA) recommendation to postpone the construction of a mainstream dam for 10 years to allow further study (MRC 2011a). Regardless of this, the official construction ceremony was launched in November 2012 (Schmeier 2013).

Problem

Ineffective institutional arrangement and capacities in the Mekong region have resulted in a lack of linkage between the stakeholder consultation results and government approvals of projects. These two processes appear to be undertaken in parallel but exclusive of each other.

The National Mekong Committees (NMCs) have the sole authority in deciding what consultations should take place and determining what information should be accessible to local communities at a national level (Davidsen 2006; IUCN 2009). Each country views and treats public consultation differently. As pointed out by Davidsen (2006), MRC depends on national governments as the communication interface at the local level. Local communities at the national level therefore have a limited opportunity of influencing the MRC (Davidsen 2006). The link between national and regional level is evident, but not the link between local communities at the national level and regional body. This remains a major challenge of the MRC's institutional arrangement threatening the effectiveness of the overall river basin governance (Sneddon & Fox 2007; Schmeier 2013).

The Xayaburi hydroelectric dam project will not be the last dam built on the Mekong mainstream. Another PNPCA public consultation process for another mainstream dam, Don Sahong in Laos, has recently completed (MRC 2015). If the link between stakeholder consultation results and government approvals of projects is not addressed, the social and environmental losses would be far outweigh its economic gains for the people of the Mekong River Basin.

Decisions and Actions Taken

In 2010 the Xayaburi Dam proposal was notified to the MRC. Seven National stakeholder consultations under the PNPCA process took place in each country except Laos during January – February 2011 (MRC 2011a).

The PNPCA JC Working Group agreed that the stakeholder consultation process was a national matter for each individual country to address. Thus, the stakeholder meetings were organised in line within each of the respective countries' circumstances and requirements. The respective NMC Secretariats coordinated this process.

The GoL and MRC took no follow-up action regarding suggestions proposed or concerns that were raised at public consultations. The possible reason being that public participation was not explicitly required under the PNPCA Guidelines. Consultations took place simply as a process because stakeholder participation was considered necessary by the PNPCA JC Working Group (MRC 2011a).

The GoL hired a Finnish Company, Pöyry, to conduct a review of the Xayaburi Dam project to analyse its design compliance with the MRC Preliminary Design Guidelines for Proposed Mainstream Dams in the LMCs (PDGPMD or the Design Guideline) (MRC 2009). The review included sections relating to fisheries, sediment management, water quality, navigation and the safety of dams. Social aspects such as results from stakeholder consultations were not included.

Pöyry's report gave the green light to the project. Following demands from the Governments of Cambodia and Vietnam, the GoL hired a French Company, CNR, to conduct a peer review of the report. After receiving confirmation from both reports that the project was compliant with the MRC Guidelines, the GoL launched the official construction ceremony on 7 November 2012 (Schmeier 2013).

Outcomes

The dam construction is underway with no transboundary impact assessment having been conducted.

The Secretariat has, after its review and suggestions relating to the MRC Design Guideline, at least contributed to a redesign of the Xayaburi project including fish ladders (Schmeier 2013).

Economic outcome:

Laos is rich in natural resources particularly rivers. Hydropower development is therefore, became the key focus of economic development to assist the country alleviating poverty. Laos has the potential to develop up to 18,000 megawatts. As of 2015, only 3,000 megawatts have been developed (IFC 2015). If all 12 mainstream hydropower projects were to go ahead, Laos would receive about US$2.6 billion/year generated by the mainstream dams export revenue (ICEM 2010).

The Xayaburi Dam would bring about US$3,913 million of direct revenue for the GoL over the 29 years concession and would create 12,000 jobs locally (Vientiane Times 2013). It would supply 95% of the dam electricity production to Thailand and 5% of the dam electricity production would be allocated to the people in Xayaburi Province, Laos (Vientiane Times 2013). As of 2014, Laos spent about US$67 million on energy import from neighbouring countries including Thailand (MEM 2014) and received about US$610 million from hydropower export revenue (MEM 2014). Approximately 87% of population has accessed to electricity (Electricity Du Laos 2013).

Social outcome:

It is clear that Laos' main goal is to alleviate poverty. Poverty reduction and economic growth are the incentives driving its actions. It is also clear that if not properly managed, such economic development would result in negative environmental and social impacts. History of dam development in Laos is a case in point. Evidence from previous hydropower projects including those funded by the World Bank and ADB (Nam Theurn 2 Dam for example) showed that resettlement programs failed to deliver on its promises (Molle et al. 2009). If the social impacts from the World Bank and ADB hydropower development project could not be mitigated, then the potential for a privately funded project such as the Xayaburi Dam ensuring negative social impacts would be addressed is highly questionable.

In terms of the social benefits (apart from the Xayaburi Dam electricity consumers) more than 2100 people would be resettled and 202,000 people living near the dam site would be affected. There is no official information available regarding the resettlement program.

According to Molle et al. (2009) 70% of the total amount of species in the Mekong River are migratory fish. Building the dam will block the fish passage, creating a barrier for fish to migrate upstream during their reproductive cycle resulting in a decrease in the fish numbers. The fishery industry along this river generates approximately US$2 billion in income annually (Stone 2011). 30% of Lao's and Cambodian's protein is supplied by fish (MRC 2011 cited in Stone, 2011). Hence,

the changes of the flow pattern and sedimentation caused by the dam would cause serious problems to the ecosystem and to the people living within the basin.

Environmental changes as a result of hydropower development are well documented by the Strategic Environmental Assessment of Hydropower on the Mekong Mainstream Report. This report indicated that there would be a 26–42% decline in fish stock relative to the 2000 baseline if all dams on the mainstream were built which equated to 110% of the protein available to livestock in Laos and Cambodia combined. The same report cited that 2.1 million people would be at direct risk of hydropower development, of whom, 106,942 people would lose their homes and require resettlement (ICEM 2010). Large parts of the riparian population, whose livelihoods are dependent on local resources supplied by functioning ecosystems would bear the consequences. These social consequences are often overlooked or undervalued and cannot always be seen in terms of direct economic benefits (IUCN 2012).

Environmental Outcome:

The Xayaburi Dam could also lead to the extinction of unique species in the Mekong River such as the Mekong Giant Catfish. This fish, which grows to 300 kg, is known to spawn north of the Xayaburi Dam (Stone 2011).

The building of dams should not be considered as the sole cause of fish reductions, it is however considered one of the main causes. Another major contributor to fish reductions has been overfishing (Kang et al. 2009).

Apart from creating barriers for fish migration, the dam can impact on the water flow and sediment flow downstream. The dam could make the flow rate decline by 90%, which would reduce the flow rate from 1 m to 0.1 m per second (Stone 2011). In addition, the dam could trap significant nutrients used for agriculture. The MRC (Stone 2011) estimated that 40% of phosphorus and 33% of the nitrogen that flow into the dam would be trapped. The loss of this fertile soil and subsequent water flow would result in a reduced harvest in the agricultural land downstream. Lanza (2011) also argued that such changes of sediments and flow patterns could have negative impacts on aquatic organisms in the river ranging from the microorganism level and up. Replacing self-sustainable agriculture and food security with dependency on income in order to acquire food elsewhere would make people more vulnerable to the instability in the world food market.

Changes in the environment would also lead to changes in people's livelihood, in particular those who have to be resettled as a consequence of the dam construction.

The MRC sediment, hydrological and fishery expert panel indicated that the negative impact from the Xayaburi Dam would be small. However, if the planned

mainstream dams and tributaries were to be developed (excluding climate change and development in the Upper Mekong), the cumulative impacts would be significant. This would include a global loss of biodiversity, estimated loss in fishery worth US$476 million/year and a loss of up to US$274 billion in ecosystem services (ICEM 2010; Costanza et al. 2011 cited in Olson 2013). These losses compared to the economic benefit of US$33.4 billion over twenty years as projected by MRC, far outweigh its economic gains (Olson 2013; Costanza et al. 2011 cited in Olson 2013; Cronin 2012).

Lessons Learned and Replicability

Improved systems and pathways are needed to promote the involvement of stakeholders in the activity of the MRC. This would ensure a meaningful link between the grass-root interests and the high-level discussions and decision-making process.

To achieve sustainable development together with a fair and equitable share of water resources and responsibilities, governance institutional arrangements need to be adjusted to allow participation from ministers, technical experts and engineers all the way through to the grass-root level of stakeholders. This process should be made mandatory and transparent as a requirement under the PNPCA process and be organised and coordinated by the MRC. This is to minimise the risk of civilian protests and disruptions, lengthy court cases and to maximise the economic value of the water resources for both short term and long term benefits. Public Participation would normally have a positive result for all parties and dramatically reduce the risk of future high cost retrofitting actions demanded by public protests as in the lower Snake River, the United States (Rogers 2009).

Another example of cooperation and integration across sectors and multi-level participation is the case of the Rhine River Basin (RRB). With a unified vision (to clean up the Rhine River), strong leadership and political will (from all Rhine member countries), together with transparent and reliable sharing of the data collected (multi-level participations facilitated by International Rhine River Commission), the Rhine River has changed from being a “sewer of Europe” to one of the cleanest rivers in Europe. The history of the development in the RRB demonstrates that cooperation does not happen overnight and all the changes take time. However, without cooperation and integration across all sectors and multi-level participation, change would not be achievable and outcomes would not be sustainable.

There are two keys reasons why public participation is crucial. Firstly, it is believed that objectives cannot be achieved without balancing the interests of all of the diverse groups and secondly the issue relates to enforceability (Frijters & Leentvaar 2003). High transparency will lead to higher cooperation and stronger ownership at all levels. Strong public participation in the RRB was achievable due to the understanding and acceptance of its significance which led to better support at the decision-making level.

These factors are not only evidenced in the success of the RRB but some other case studies around the world from a very local scale projects to large river basins. A number of successful case studies that were captured in the 'River Journeys 3' by the International River Foundation (IRF 2014) all emphasised an institutional mechanism that enabled public participation as a key factor to success.

The challenge for the Mekong River Basin is to convince the respective governments of the benefits of public participation and the consequences of what could happen without it. This would need to be addressed before any participation process could take place effectively. Xayabouri Dam could be used as a case in point.

In mid-2014, Thai villagers took the key agencies who had agreed to buy electricity from Xayabouri Dam including state-owned Electricity Generating Authority of Thailand (EGAT) to the Thai Supreme Administrative Court. The villagers are demanding the suspension of the power purchase agreement, for them to carry out a transboundary impact assessment and conduct further meaningful consultations (Reuters 2014). This indicates what could happen when public consultations are treated as a 'tick in the box'.

Opportunities for positive changes within governance exist. The main incentive for Laos to sign international treaties and conventions on human rights is the requirement of foreign aid recipients to address issues of human rights (FIDH 2012). Furthermore, the MRC Public Participation Strategy (PPS) came from bilateral aid agencies pressure (Sneddon & Fox 2007). This demonstrates a positive influential role that donor agencies play. The frameworks that emphasise the need for public participations include the PNPCA process, the MRC Strategic Plan, and the 2003 MRC's PPS. This acknowledges that "stakeholder involvement in the decision-making process is fundamental to achieving feasible, equitable and lasting solutions" (Schmeier 2013, p. 165). The Secretariat can draw on these agreed strategies by the member countries to improve its institutional arrangement.

On 21 May 2014, Vietnam became the 35th party to the 1997 Convention on the Law of the Non-Navigational Uses of International Watercourses. Maximising the

influential role of the international development partners and the 1997 Watercourses Convention would allow the MRC Secretariat to diplomatically demonstrate to riparian states the benefits of public participation in the development and decision-making of the basin. This would also comply with international law and assist each member state in achieving its poverty reduction goal without jeopardising its natural resources and people.

Author: Bounthavivanh Mixap
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Abbreviation List:

ADB	Asian Development Bank
EGAT	Electricity Generating Authority of Thailand
GoL	The Lao Government
IWRM	Integrated Water Resources Management
JC	Joint Committee
LMCs	Lower Mekong Countries
MRC	Mekong River Commission
NMCs	National Mekong Committees
NT2	Nam Theurn 2 Dam
PDGPMD	Preliminary Design Guidelines for Proposed Mainstream Dams in the LMC
PNPCA	Procedures for Notification, Prior Consultation and Agreement
PPS	Public Participation Strategy
RRB	Rhine River Basin
SEA	Strategic Environmental Assessment of Mainstream Dams

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