East by Southeast

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BY REMY KINNA | MAY 12, 2016 · 7:43 AM

An alternate past/future for Mekong River dams under the UN Watercourses Convention: Part 3

The author presenting at the Mekong River Commissions's PNPCA workshop, February 2016.

This article is the third in a series looking at dams in the Mekong. Part 1 can be accessed here and Part 2 here.

Notification, consultation & negotiation

The following scenario is a simplified alternative history where the basic elements of the Xayaburi Dam dispute discussed in

Part 2 are applied to the United Nations Convention on the Law of the Non-navigational Uses of International Watercourses (UNWC) framework operating alongside both the Agreement on the Cooperation for the Sustainable Development of the Mekong River (Mekong Agreement) and its supplementary Procedures for Notification, Prior Consultation and Agreement (PNPCA). An alternative legal framework and vision for the future of Mekong dam development is thus proposed. This three-piece article concludes with potential next steps for improved transboundary cooperation in the Mekong.

As proposed in the PNPCA and required under the UNWC (Arts. 12-13), Laos would be legally bound to notify potentially impacted riparian states of its plans for the Xayaburi Dam because of the possible significant transboundary impacts this 'planned measure' might have on the Mekong River. Hence, Laos' written submission, complete with available information and any initial Environmental Impact Assessment (EIA) results, would have been directly provided to the other Mekong River Commission (MRC) states' governments, ideally up to six months prior as stated in the PNPCA, before any construction or permits were obtained (UNWC Arts. 11-12). Under the UNWC, the other riparians would then have had six months to reply in writing during which time Laos could not

advance any aspect of the dam project without their consent (Arts. 13(a), 14(b)).

Given the actual voiced concerns, it is most probable that the downstream states of Cambodia and Vietnam would have requested a delay in the project initiation, so further studies could be conducted on the dam's cross-border impacts. Laos would then have been obliged to extend the reply period by an additional six months (Art. 13(b)). It is also highly probable that these delay requests would have required under the UNWC Article 17(3) for Laos to cease any planning for the dam project, including contract negotiations, clearing land, building roads, or initiating construction. As is their right under the UNWC, Cambodia and Vietnam may have likely replied before the extended deadline with justification for their findings that the dam would cause significant transboundary harm, therefore recommending possible alternatives or improved designs be investigated (Art. 15).

After the six-month extension, if no agreement were reached, Laos and the other states would have officially entered into consultations and negotiations, as required under the UNWC (Art 17(1)), with the primary facilitation forum still being the MRC.

Obligation to cooperate in good faith and exchange information

Laos may have then, as they did, commissioned another EIA, this time investigating cross-border impacts. Ideally this would occur at the outset of the proposal given it is a global due diligence — demonstrating reasonable steps to avoid harm — obligation upon states, endorsed by the ICJ.[1] No construction would have been allowed during this study (Art. 17(3)), and all available information and EIA results would have had to have been released to the other states in a timely fashion (Art. 11).

Concurrently, throughout the notification, reply, consultation, and negotiation stages, all states would have cooperated in good faith by adhering strictly to all procedures under the Mekong Agreement and the PNPCA, including the open and timely exchange of available information to work to peacefully settle issues (Art, 17).

All of the above would have been beneficial to Cambodia and Vietnam as potentially impacted states having timely access to all the available data in order to be best informed to meaningfully engage in consultations but also to Laos in terms of fostering political goodwill from its fellow MRC members. It could also have been much more efficient for Laos in seeking to avoid potential project delays – as experienced in reality in relation to the various disputed dam designs and inadequate environmental impact and resettlement studies (see Part 2) – if they could have demonstrated full adherence to all applicable UNWC (and PNPCA) processes. This may have given fewer grounds for process-related disagreements between states, and in-turn diminished the need for retrospective actions such as multiple EIAs and the Pöyry report (see Part 2) to seemingly rectify procedural and information-related gaps.

Dispute resolution

What if, despite all of these positive improvements, disputes about the project were to still arise? Perhaps, as actually occurred, Cambodia and Vietnam would have disputed the new EIA results saying Laos did not share all project data to which Laos would have responded that these states were unreasonably blocking development of its legitimate hydropower energy potential (see Part 2).

The first step would have been to take the issue to the MRC, but resolution may not have been achieved. Under the Mekong Agreement, the matter would then be referred to bilateral channels to seek a diplomatic solution although under Article 33 of the UNWC a request for mediation would also be possible at this juncture. If resolution were still elusive, a third party fact-finding body could impartially gather and analyse all the available information and then provide its key recommendations (Arts 33(3)-(9)). If the states still failed to reach agreement concerning the Xayaburi Dam, the UNWC would permit any of the dispute parties to seek arbitration by an independent tribunal or to appeal to the ICJ for a final ruling (Art. 33(10); Annex). All dispute parties would consequently be obliged to implement all of the findings from any ruling.

An alternative future vision for Mekong River dams with the UNWC in force

With so many variables, it is impossible to know if any of the Xayaburi Dam issues would have turned out differently from the current reality if the UNWC had been in force between the relevant states. Even having the UNWC and Mekong Agreement with its PNPCA operating collectively is unlikely to resolve all disputes. Nevertheless, the above fictional scenario demonstrates that having both treaties – the UNWC and Mekong Agreement – operating concurrently and complementing each other would certainly improve predictability and transparency by guiding expectations about how states can act regarding project proposals on both the Mekong's mainstream and tributaries.

Moreover, it would underpin the PNPCA with clearer, legally-binding and largely time-bound sequential procedures, while allowing the MRC to continue to be the primary negotiation forum with additional dispute outlets available through third-parties. Such changes would not only have impacted the Xayaburi Dam proposal process but also the processes for the other ten dam projects currently being planned or built that might harm regional development as a whole.[2]

Previous academic research examining controversial dam projects on the Mekong mainstream (the Xayaburi Dam in Laos) and its tributaries (the Yali Falls Dam in Vietnam) supports this assertion that having the UNWC in force would have clarified some divisive substantive and procedural, legal elements.[3,4] Moreover, many researchers argue that having the UNWC in force in the Mekong would go a long way to ensuring international best practice standards for due diligence and cooperation regarding future hydropower projects, especially regarding the PNPCA framework and Mekong Agreement dispute resolution procedures.[5,6,7,8,9,10,11]

In sum, the UNWC would provide a strengthened legal foundation of detailed and binding principles and procedures upon which the Lower Mekong Basin states could improve water governance and resolve ongoing conflicts. Accordingly, as a globally-recognised platform, the UNWC would support a balanced and level 'playing-field' for all the MRC states to govern the lower basin more equitably, especially between upstream and downstream riparians. In-turn, hopefully many of the major threats to the river and its people might be alleviated via a clearer and compulsory set of rules to abide by for hydropower development.

Revitalising processes for sustainable development that people can believe in: The time is now

As the pace of dam construction rapidly accelerates and as the region's economies develop, it has become evidently clear that the legal obligations of the Mekong Agreement and the PNPCA urgently need significant clarifying and strengthening to evolve and cope with these and other regional trends.

China is pushing the LMCM as a viable water cooperation platform uniting the Upper-Lower Mekong Basins and was very quick to signify its own strategic position upstream and future importance to Mekong water relations downstream, especially negotiations over water supply, by opening a dam days before the March meeting supposedly in response to Vietnam's request for increased flows (see Part 1).[13,16,17] Portrayed as a symbolic act of goodwill and 'hydro-diplomacy', critics dispute China's supposedly benevolent rationale with some saying it was simply a fortuitously-timed routine exercise and others highlighting that it will have no major benefits downstream, especially in the Mekong Delta where it is needed most.[18,19,20,21]In November 2015, the Lancang-Mekong Cooperation Mechanism (LMCM) was launched by foreign Ministers from all the Mekong River basin states with the inaugural leaders' meeting held on 23 March 2016.[12,13] Not only is this the first multilateral agreement between *all* Mekong riparians that incorporates water resources, but China – Asia's upstream superpower or 'hydro-hegemon' – rarely signs treaties or establishes institutions for joint-management of shared rivers.[14,15]

Despite the LMCM emerging on the regional agenda and seemingly being positioned by China as a legitimate alternative to the Mekong Agreement, MRC member states finally appear to have recognised strengthening the existing PNPCA as a crucial priority. A workshop entitled 'Dialogue of Lessons Learnt from the Implementation of the PNPCA and Guidelines' was convened in February 2016 by the MRC Secretariat. Its stated aim was to draw lessons

from states' PNPCA experiences of both the Xayaburi and Don Sahong dams in order to improve the procedures and guidelines.[22] One of the workshop's thematic sessions specifically investigated how guidance from the global water conventions and applicable international case law might support implementing legal 'best practice' standards for notification and prior consultation procedures within the PNPCA and its Guidelines.[1,11]

Additionally, several NGOs, including WWF and IUCN, have led calls for all Mekong basin states to join Vietnam in acceding to the UNWC for enhanced transboundary cooperation on sustainable dam development. Awareness-raising and technical capacity-building events around this goal have increased in recent years.[23,24,25,26]

A number of legal studies and policy papers have also been produced investigating the role, relevance, and application of the UNWC within the Lower Mekong Basin. One just published in March 2016 by IUCN entitled 'A window of opportunity for the Mekong Basin: The UN Watercourses Convention as a basis for cooperation' is a comparative legal analysis of how the UNWC complements the Mekong Agreement.7 Interest in the UNWC is clearly building across the region, and the time is now to seize upon it to improve water cooperation and processes for sustainable river development.

Hopefully the newly appointed MRC CEO – the first national from a riparian state – will see the value added and be bold in encouraging all member states to support and revitalise the Mekong Agreement and PNPCA framework through adoption of the UNWC.[27]

Just over 21 years since adopting the feted Mekong Agreement, a renewed opportunity has arisen for all the lower basin states to help strengthen water governance across the Mekong River mainstream and its tributaries. Should all MRC states be politically willing to further clarify and make binding their cooperative commitments within and between each other, the UNWC offers the global legal framework with balanced procedures which, operating alongside the Mekong Agreement and PNPCA, could collectively guide an alternative vision for the Mekong's future sustainable development; one that all the people in this region may be able to believe in once more, as they did back in 1995.

References:

1. McIntyre, O. (2011). The World Court's ongoing contribution to international water law: The Pulp Mills Case between Argentina and Uruguay. *Water Alternatives*, 4(2), 124.
2. Barron, L. (2015, January 29). Xayaburi redux at Lao meet. *The Phnom Penh Post*. Available from:http://www.phnompenhpost.com/national/xayaburi-redux-lao-meet
3. Rieu-Clarke, A. (2015). Notification and consultation procedures under the Mekong Agreement: insights from the Xayaburi controversy. *Asian Journal of International Law*. 5(1), 143.
4. Rieu-Clarke, A., & Gooch, G. (2009-2010). Governing the Tributaries of the Mekong-The Contribution of International Law and Institutions to Enhancing Equitable Cooperation Over the Sesan. *Pacific McGeorge Global Business & Development Law Journal*.22, 193.
5. Bearden, B.L. (2010). The legal regime of the Mekong River: a look back and some proposals for the way ahead.*Water Policy*. 12, 798
6. Bearden, B.L., (2012). Following the proper channels: tributaries in the Mekong legal regime. *Water Policy*. 14, 991
7. IUCN. (2016). A window of opportunity for the Mekong Basin: The UN Watercourses Convention as a basis for cooperation (A legal analysis of how the UN Watercourses Convention complements the Mekong Agreement): IUCN. 27pp.
8. Kinna, R. (2015, November 24). UN Watercourses Convention: Can it revitalise the Mekong Agreement 20 years on? *Mekong Commons*. Available from: http://www.mekongcommons.org/un-watercourses-convention-can-it-revitalise-mekong-agreement-20-years-on/
9. Pech, S. (2011). UN Watercourses Convention and Greater Mekong Sub-region. *Consultancy paper by Hatfield*

Consultants. July 2011. Available from: http://www.unwatercoursesconvention.org/images/2012/10/Mekong-and-UNWC.pdf

10. Van Duyen, N. (2001). The Inadequacies of Environmental Protection Mechanisms in the Mekong River Basin Agreement. *Asia Pacific Journal of Environmental Law*. 6, 349
11. Rieu-Clarke, A. (2014). Notification and Consultation on Planned Measures Concerning International Watercourses: Learning Lessons from the Pulp Mills and Kishenganga Cases. *Yearbook of International Environmental Law*. 24(1), 102.
12. Biba, S. (2016, February 1). China drives water cooperation with Mekong countries. *TheThirdPole.net*. Available at: http://www.thethirdpole.net/2016/02/01/china-drives-water-cooperation-with-mekong-countries/
13. Xinhuanet. (2016, March 24). Commentary: Lancang-Mekong cooperation to boost regional prosperity. Available from: http://news.xinhuanet.com/english/2016-03/24/c_135219925.htm
14. Chen, H., Rieu-Clarke, A. &Wouters, P. (2013).Exploring China's transboundary water treaty practice through the prism of the UN Watercourses Convention.*Water International*. 38(2), 217-230
15. Waslekar, S. (2016, January 10). Asia's water can be a source of harmony, not conflict. *South China Morning Post*.Available from: http://www.scmp.com/comment/insight-opinion/article/1899067/asias-water-can-be-source-harmony-not-conflict
16. Ganjanakhundee, S. (2016, March 23). China leaves little doubt who is master of the Mekong. *The Nation*. Available from: http://www.nationmultimedia.com/politics/China-leaves-little-doubt-who-is-master-of-the-Mek-30282244.html
17. Yee, T.H. (2016, March 22). Beijing sweetens ground for China-led regional initiative. *The Straits Times*. Available from: http://www.straitstimes.com/asia/se-asia/beijing-sweetens-ground-for-china-led-regional-initiative
18. Kossov, I. (2016, March 22). No great hopes for China's Mekong release. *The Phnom Penh Post*. Available from:http://www.phnompenhpost.com/national/no-great-hopes-chinas-mekong-release
19. The Mekong Eye. (2016, March 23). NGOs question China's dam release. Available from:http://www.mekongeye.com/2016/03/24/ngos-question-chinas-dam-release/
20. The Nation. (2016, March 19). Water diplomacy by China offers drought relief. Available from:http://www.nationmultimedia.com/national/Water-diplomacy-by-China-offers-drought-relief-30281969.html
21. Zhou, M. (2016, March 23). China and the Mekong Delta: Water Savior or Water Tyrant? *The Diplomat*. Available from: http://thediplomat.com/2016/03/china-and-the-mekong-delta-water-savior-or-water-tyrant/
22. MRC. (2016, February 25). MRC Discuss Lessons Learnt from Its Procedure on Water Diplomacy. Available from:http://www.mrcmekong.org/news-and-events/events/mrc-discuss-lessons-learnt-from-its-procedure-on-water-diplomacy/
23. Brunner, J. (2015, June 24). Why the region needs the UN Watercourses Convention. *IUCN*. Available athttps://www.iucn.org/news_homepage/news_by_date/?21567/Why-the-region-needs-the-UN-Watercourses-Convention
24. Goichot, M. (2016, January 14). UN convention could help solve Mekong pact's weaknesses. *Phnom Penh Post*. Available from: http://www.phnompenhpost.com/analysis-and-op-ed/un-convention-could-help-solve-mekong-pacts-weaknesses
25. Kinna, R., Glemet, R., & Brunner, J. (2015, September 29). Reinvigorating the Mekong Spirit.*Myanmar Times*.Available from: http://www.mmtimes.com/index.php/opinion/16719-reinvigorating-the-mekong-spirit.html
26. Suy, P. (2015). Group Proposes Signing UN Water Pact. *Khmer Times*. Available from:http://www.khmertimeskh.com/news/16099/group-proposes-signing-un-water-pact/
27. MRC. (2016, January 18). First riparian Chief Executive Officer assumes his office today. Available from:http://www.mrcmekong.org/news-and-events/news/first-riparian-chief-executive-officer-assumes-his-office/

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BY DAVID BLAKE | MAY 4, 2016 · 9:25 AM

From Savannakhet to Somerset: United by controversial EDF megaprojects

Two controversial energy infrastructure megaprojects located on opposite sides of the world, one in Western Europe and the other in Southeast Asia, are linked in more subtle ways than the most obvious bond i.e. they share the same main project developer. Hinkley Point C (HPC) nuclear power station, proposed to be built in the English county of Somerset and the Nam Theun 2 (NT2) Hydropower Project in operation since 2010 in central Laos are both megaprojects awarded to the French state-owned power utility, Électricité de France (EDF) as the main developer and shareholder in the respective project consortia.

Both projects are touted by their proponents as low-carbon energy alternatives to fossil fuel burning power plants that are designed to economically supply perceived unmet energy demands; both represent the biggest infrastructure projects the respective host nations have built at the time of construction; both projects have considerable externalities not being shouldered by the developers due to taxpayer subsidised risk guarantees; and both are mired in complex multi-stakeholder debates over their socio-economic and environmental sustainability credentials.

Beyond these similarities, both HPC and NT2 share a common pattern of politicisation at the highest levels of government, both at home and abroad, as vested interests clamour for each project to proceed at whatever the cost (both financially and politically). This situation inevitably leads to some serious political and economic distortions and inherent risks that emerge with time, that could have been avoided had less high profile, cheaper, smaller, more accountable, devolved and transparent energy projects been developed. Thus, it might be an interesting exercise to compare these two megaprojects and see if any wider lessons can be drawn from the common linkages discernible, despite the significant physical distance and domestic development context that separates them.

Nam Theun 2 – a dam too far for EDF and the Banks?

As the historically older case, this hydropower project had an extended period of gestation between initial development plans being proposed and eventual construction many decades later. A pre-feasibility study was first conducted in 1986, although basin planners with the multi-lateral river basin organization, the Mekong Committee, had already identified the dam site as holding potential for hydropower generation in the 1960s[1]. With the Indochina War being expedited across Laos (as "the other theatre") and eventual 1975 regime change in Laos ushering in a one party communist state, geo-political conditions were not conducive for the project to be resurrected until the early 1990s, when the plans were dusted off once more by international actors.

The 39 m high Nam Theun 2 dam under construction in 2008. Much of the work was sub-contracted out to Thai construction companies and the cement was sourced from over 600 kms away in Saraburi, Thailand (Source: International Rivers)

It took ten years in the appraisal and preparatory stage from 1995 before final approval by the World Bank's Executive Directors in lending countries was granted, thereby rubber-stamping the proposed social and environmental safeguards to mitigate and compensate for project impacts. This approval followed a year long period of "public consultations" and "participatory workshops", conducted both internationally and domestically (though it was widely acknowledged that no meaningful participation was possible in the Lao context). In no reasonable sense could the developer claim to have gained broad public acceptance or employed a "fair, informed and transparent decision-making process", according to World Commission on Dams principles, given the depth of opposition expressed by civil society globally.

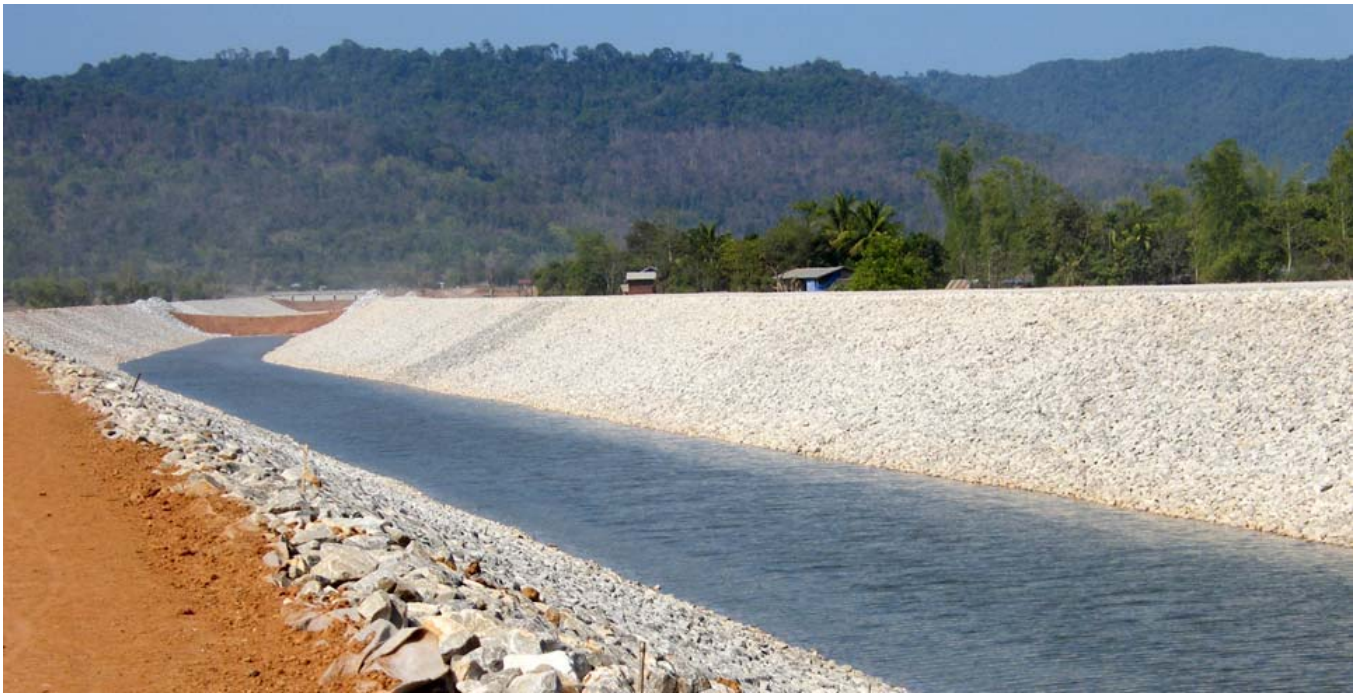
I attended the Bangkok leg of the "technical consultations" held in August 2004, at which numerous civil society actors and dam-impacted villagers from Thailand, including a handful of impactees from the World Bank-funded Pak Mun dam, gave a series of heartfelt and well-reasoned arguments why it was an ill-conceived idea to build the NT2 dam project. The Pak Mun dam in Northeast Thailand became infamous for the multiple impacts it caused to fisheries and aquatic resources based livelihoods, sparking local protests and wider social conflict that still simmers today. But the Bank officials brushed off the objections with their own technocratic arguments as to why constructing the project was Laos' only option to deliver it from abject poverty through electricity revenue generated and develop economically based on a rational utilisation and export of its natural resource asset base. At all the other consultations worldwide, voices of opposition outweighed those in support both in terms of numbers and credibility of the arguments presented. However, it was clear the decision to proceed had been taken long before the consultations were held and the World Bank was more interested in issuing a "blank cheque" to the developers, as maintained by David Hales of the Worldwatch Institute who chaired the public workshop on NT2 in Washington in September 2004.

The NT2 Hydropower Company (NTPC) that built, owns and operates NT2 is itself a consortium of three main shareholders, namely EDF International (40 %), the Electricity Generating Public Company of Thailand (EGCO) (35 %), and the government of Lao PDR's Laos Holding State Enterprise (25 %). NTPC sell 90 % of the power generated from the 1,070 MW installed capacity plant to the Electricity Generating Authority of Thailand (EGAT), with the remainder

consumed domestically in Laos.

Construction officially began in November 2005 and NT2 was commissioned in March 2010, having cost about $1.45 billion, with funding derived from multiple sources, including France's Coface, Sweden's EKN, Norway's GIEK, the ADB, Multilateral Investment Guarantee Agency, the World Bank, the French Development Agency, the Export-Import Bank of Thailand, Nordic Investment Bank, nine international banks and seven Thai banks. The Lao government's equity share in NTPC was financed chiefly by a loan from the European Investment Bank (EIB) and Asian Development Bank (ADB), with the multi-lateral banks providing political risk guarantees to the developers and private lenders, in effect, thus placing the main burden of risk on taxpayers in the contributing countries and into the future, with the Lao people.

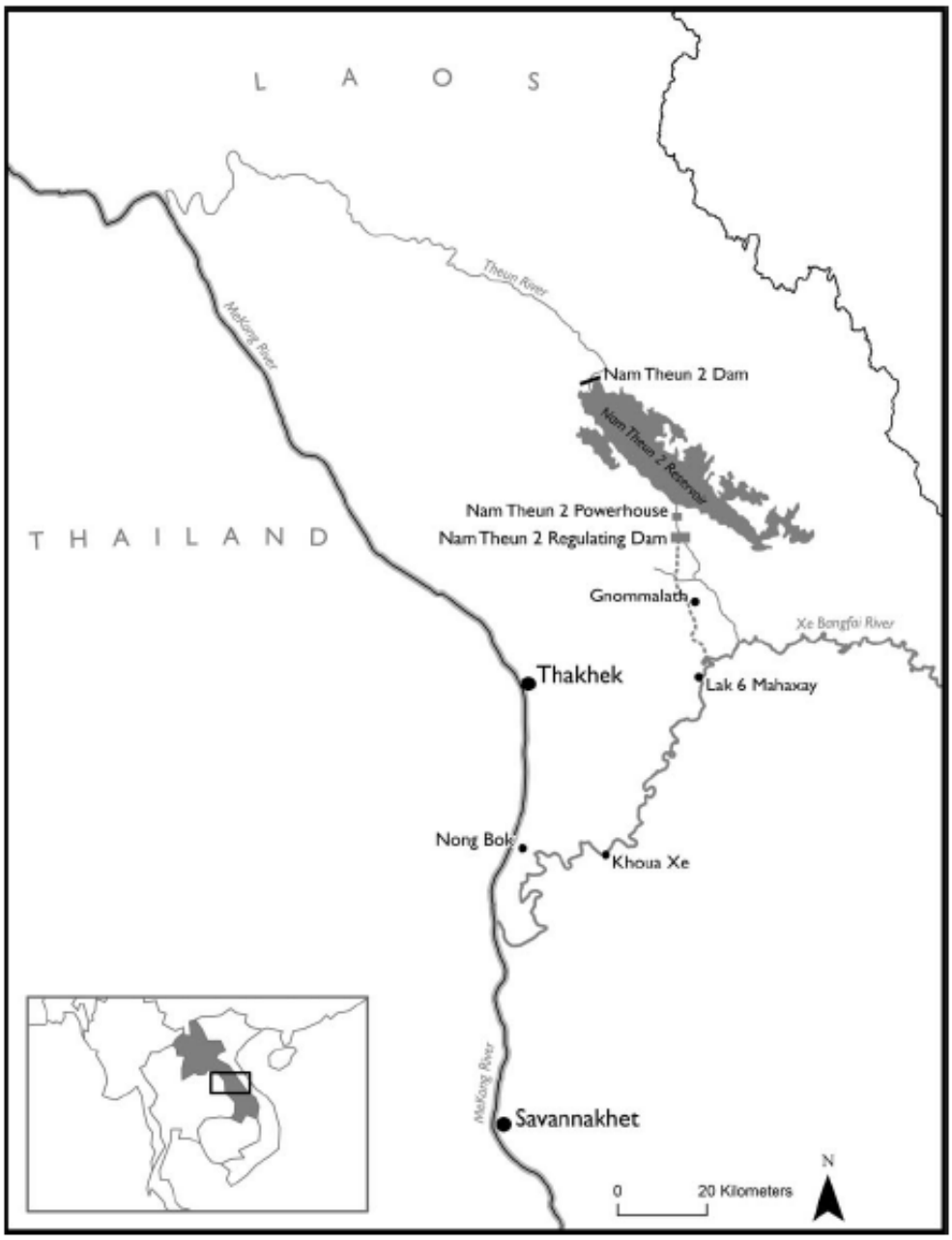
Due to its size, prestige and symbolic nature, NT2 neatly embodied for all representatives of the temporarily thwarted dam building industry (domestically and internationally) a significant step towards the realisation of the popular narrative created that Laos could become the "Battery of Asia" or "Kuwait of Southeast Asia", if the slumbering nation could only maximise the development of its hydropower potential. Technically, the dam project appears to have performed reasonably, but socially and environmentally the dam has been a predictable disaster, with the impacts falling particularly heavily on the downstream riparian people living along the Xe Bang Fai river in Khammouan and Savannaket provinces.



The downstream channel constructed below the power station takes 350 m3/s of turbinated water down to the Xe Bang Fai river, adding significantly to its normal background flows and seriously impacting the aquatic ecology and river-dependent livelihoods (Source: Aurecon Group)

A significant, but invariably overlooked, historical feature of NT2 and the manner in which funding approval was granted by the multi-lateral banks, relates to the highly politicised nature of the campaign pushing for its development, that included being able to harness the support of national leaders at critical moments. At one point in late 2004, it seemed like commitment was wavering from several crucial parties to backing the project, including some ambivalence on the French and American sides as to whether this was a worthy project to be involved in, given the patently high social and environmental impacts that would result and rising voices of opposition. Seemingly in a carefully calculated bid to sway any doubters of the project's strategic importance, proponents started playing the "China card", suggesting that if the Western institutions failed to back it, then China would fill the gap in a trice and takeover the project. This scare tactic seemed to do the trick, because French President Jacques Chirac was understood to have intervened and secured European loans and grants to secure EDF's central involvement, a fact tacitly acknowledged by the French Ambassador to Laos at the project's powerhouse construction inauguration ceremony in November 2005. The ceremony was also attended by the Lao Prime Minister, Bounnhang Vorachit and then Thai PM, Thaksin Shinawatra, representing the country likely to

benefit most from the project in terms of immediate construction contracts, subsidised imported energy and externalisation of socio-ecological costs. Building large dams in Thailand has been controversial since the early 90s, thanks to an active civil society and relatively free media.



The Nam Theun 2 Hydropower Project (NT2) in central Laos and relative position of Savannakhet, where the bulk of the project's power leaves Laos for the Thai market (Source: Baird and Quastel, 2015)

There were strong suspicions amongst civil society observers and energy analysts that the World Bank doctored its figures and used incorrect assumptions in order to make the economic argument for the dam stack up, prior to final appraisal in March 2005. Civil society critics had always argued that there was no credible economic case for the NT2 project going ahead, above and beyond its poor social and environmental score sheet, as the amount of electricity it was supposed to produce for export could easily be covered by demand side management in the Thai energy market. At least 153 NGOs recorded their opposition to the dam project going ahead during the evaluation phase.

In 2011, the World Bank published a report entitled "Doing a Dam Better: the Lao People's Democratic Republic and the story of Nam Theun 2", in which it is claimed the story of NT2's development would provide "valuable insights and lessons that can be applied in future projects of similar size, scope, and complexity". It was also held up as "strong evidence" of the Bank's re-engagement in and commitment to supporting the large hydropower sector, after a decade-long hiatus prior to

and after the seminal World Commission on Dams (WCD) report. Thus, the NT2 project fulfilled many functions for the dam lobby, not only in terms of Laos but worldwide, as a harbinger of renewed lending for "high risk, high reward" hydraulic development projects. And sure enough, it did open up a flood of cheap finance, subsidies and externalisation of risk for the ever-thirsty industry across Asia, Africa and Latin America. The World Bank's storyline of success with the project has continued since, despite the many reports issued that challenge this stale narrative with compelling evidence, including those from the project's own Panel of Experts (PoE), but also numerous civil society studies conducted.

The project is expected to generate total revenue of $1.9 billion over the course of its 25 year concession period, of which some 25 % should, in theory, make it into Lao government coffers to help fund rural poverty alleviation programmes. However, because the project's financial arrangements are so murky, particularly on the Lao government side, there is no guarantee in place that the funds generated will be spent where they were originally intended. Due to a culture of intense secrecy and unaccountability within the heart of Lao state governance, it is uncertain to what extent dividends, taxes and royalties from NT2 have been directed towards social security, education or health programmes. Without an independent audit, suspicions remain that revenues are just co-mingled with other public resources or even mis-appropriated, calling into question any claims by the Banks of a "model project" in water or energy governance. Tellingly, a spate of subsequent hydropower projects in Laos have ignored the long list of "safeguards" touted as the new standard by the NT2 proponents and fast-tracked dam construction without even basic public consultations. In Transparency International's 2015 Corruption Perception Index, Laos was ranked 139th out of 168 nations worldwide.

Children bathe in the dam's 450 km2 Nakai reservoir near a resettlement village. Despite assurances by the developers to remove all vegetation prior to flooding, much of it was left and is slowly rotting in the water (Source: FIVAS)

Meanwhile, most of the goals of the social and environmental mitigation programme remain unmet, while many of the impacts identified by critics (and some additional ones) have been borne out in practice. Resettled families have not been made demonstrably better off and many are still reliant on dwindling material handouts from the NTPC and Lao government to survive, while downstream along the Xe Bang Fai recipient river in Khammouan and Savannakhet provinces, fish populations have crashed and riverside vegetable gardens lost amongst a catalogue of impacts, impoverishing the livelihoods of the tens of thousands of people that once relied on them. Rainy season flooding has been

exacerbated by the power station additional flows, further eroding the sustainability of local livelihoods through destruction of rice crops. Meanwhile natural forests have been destroyed and wildlife decimated in the "protected area" in the headwaters of the NT2 reservoir, despite the assurances of the dam proponents that the project's development would ensure their protection. As Professor Thayer Scudder, an eminent global expert on the social impact of dams, Commissioner for the World Commission on Dams and one of the three person Panel of Experts for the NT2 project, commented in a New York Times article in August 2014, after nearly two decades spent closely monitoring the dam's development process, "Nam Theun 2 confirmed my longstanding suspicion that the task of building a large dam is just too complex and too damaging to priceless natural resources".

Hinkley Point C – more economic madness?

Nuclear power was first developed in the United Kingdom during the 1950s and 60s with the somewhat cornucopian promise of abundant clean, cheap and reliable energy for present and future generations to benefit from. The British public generally believed the claims made by the industry and politicians, so little overt opposition to nuclear energy (unlike nuclear weapons) appeared until the first large-scale nuclear accident occurred at Three-Mile Island in 1979 followed six years later by nuclear meltdown disaster at Chernobyl. These events and various setbacks within the industry prompted a much wider debate about the technology with a resulting fall in public support. At its peak in 1997, nuclear power generated 27 % of the nation's electricity, but this has subsequently declined to about 18.5 % (in 2012) from 15 nuclear reactors, as the original fleet of power stations has been gradually retired for decommissioning and not been replaced. Based on rhetorical concerns about future energy security and pressures to reduce national emissions of carbon dioxide, the UK government announced in 2008 that it had given the go-ahead for a new generation of nuclear power stations to be constructed, with eight potential sites announced the following year, one of which was Hinkley Point.

This move proved controversial, with many NGOs, including Greenpeace, Friends of the Earth, the Campaign for Nuclear Disarmament and the World Wildlife Fund opposing the shift back to nuclear power solutions, on the basis of uncertain cost-benefit appraisal, the opacity of the planning process and environmental concerns. By marked contrast with NT2, nuclear plants like HPC do not require the resettlement of 6,500 households nor do they have the same direct negative impacts on the livelihoods of tens or hundreds of thousands of people, so the short term social and environmental impacts could be said to be more limited and manageable. However, the long term environmental and health impacts and risks posed are less favourable, due to the problems of nuclear material transport to and from site, safe disposal of radioactive waste and plant decommissioning issues passed on to future generations to resolve.

After a long period in the consultation and planning stages, a third reactor is scheduled to be built alongside two existing plants at the Somerset coastal site, namely Hinkley Point A (Magnox reactor) and B (Advanced Gas-cooled Reactor). The landscape-dominating plants occupy a low-lying, rural spot barely above sea-level next to the Bristol Channel, famed for having the second highest tidal range in the world after the Bay of Fundy, Newfoundland. This fact is material, when considering the United Kingdom's energy futures in an era of awareness of the need to build alternative, safe and sustainable energy sources to mitigate predicted climate change. The UK government is legally committed to a gradual decarbonisation of the nation's energy production mix up to 2050.

A view across Bridgwater Bay to the Hinkley A and B power station site. HPC will be developed alongside, at an estimated cost of £ 18 billion (David J.H. Blake)

While the original A plant closed in 1999 and is being decommissioned, Hinkley B is still operating under EDF ownership and is not expected to cease operations until at least 2023. The entire site is vulnerable to future increases in sea levels, something that was not well understood when Hinkley A and B were built, but should be a high priority for HPC planners. In 1607, a major tsunami is recorded as engulfing much of this coastline and killing an estimated 2,000 people, but neither this historical event nor future predicted sea level rises of at least two metres by the end of this century and more severe weather events precipitated by climate change seems to have dampened the appetite of the proponents to push ahead with HPC, regardless of potential risks. When I visited the site in early April 2016 at high water on a spring tide, the sea was already lapping over the first line of concrete defences around the existing reactors (see picture). I can foresee extra marine erosion and flood protection measures, adding further to the costs of the project in the foreseeable future.

The coastal perimeter of the HPC site is threatened with coastal erosion, expected to worsen in future under conditions of rising sea levels, stormier weather and an underlying soft geology (David J.H. Blake)

HPC was originally proposed by the government as an ideal solution to “keeping the lights on” in a climate change challenged world, able to supply 7 % of the UK’s present energy needs at a single location, through a 3,200 MW installed capacity and reliably high plant load factor[2]. The trouble is, the European Pressurized Reactor (EPR) design EDF have proposed to use is thus far unproven technology and at the four other sites where a similar nuclear reactor type is being constructed in France, Finland and China, the projects have been dogged by unforeseen technical problems leading to steep cost and time overruns.

During a spring tide in early April 2016, the sea breached the first line of sea defences near the plant. In 1607, this coastline was struck by a major tsunami that swept many miles inland and drowned thousands (David J.H. Blake)

As a political party, the incumbent Conservatives have traditionally offered strong support for nuclear power, although up until a few years ago the leadership insisted that it should not be subsidised by the taxpayer but subject to normal market forces and open competition. However, this stance shifted under the Conservative-Liberal Democrat coalition government (2010-15), when ministers decided that the UK should pursue a nuclear-fuelled future, with the provision of state subsidies to sector investors, riling both free-marketeers and renewable energy campaigners alike. This policy position remained unchanged even after the sobering wake-up call of the potential dangers surrounding nuclear power delivered by the March 2011 Fukushima disaster. Yet the British public have proven far less averse to nuclear power than the German population, perhaps partly because the former have been fed a regular line from the government that without further nuclear development the UK may be looking at future brown-outs. Such a fear-invoking narrative was recently admitted to be a myth by the government's own Secretary of State for Energy and Climate Change, when Amber Rudd publicly stated that the nation's lights would not go out if it was not developed, as had been claimed by her predecessors.

Such admissions are grist to the mill for the national and local civil society opposition to Hinkley, movements like Stop Hinkley which have doggedly campaigned against the project for many years, long before HPC was proposed. Although such citizen groups are ideologically opposed to nuclear power development in principle, their economic arguments against the project have been given added weight in recent years by a number of studies by financial and economic analysts, such as Liberium Capital which described the strike price as "economically insane" and "as far as we can see this makes Hinkley Point the most expensive power station in the world."

Despite the generous government guarantees provided by a strike price (at £92.50 per MW/h) for the electricity produced of over twice the current wholesale price for electricity in the UK, the parlous state of EDF's finances and massive debt mountain mean that HPC is a risky proposition for the utility. Its own workers' union opposes the project and in February 2016, Thomas Piquemal, EDF's chief financial officer resigned, warning that building HPC could ruin the company. As a result, the French government has said it plans to provide financial support to EDF, a move that will likely fall foul of EU legislation to ensure fair competition in the energy market and disallow unfair state aid to individual companies, something that the UK government is already being challenged on in the European courts by the Austrian government. With national pride and the reputation of French nuclear technology potentially at stake (EDF is also looking to invest in China and other countries), a decision from the French government on whether to bailout EDF has been delayed time and again, and a decision is not now anticipated until at least September 2016.

One remarkable point of difference between NT2 and HPC is that with the former, China was portrayed by some as a threat to EDF and Western venture capital's regional interests, had it been allowed to gain a stake in the dam project. With the benefit of hindsight, China was poised to build dozens of other dams in Laos, with or without EDF's involvement. But now China is actively courted as a nuclear investment partner, both for the injection of funds it can offer, but also, potentially for its technological expertise. Indeed, the China General Nuclear Power Corporation has taken a one third stake in HPC, with the deal inked just hours before the state visit of President Xi Jinping to London in October 2015. Much to the chagrin of human rights groups, the President was afforded the red carpet treatment for his visit, with PM Cameron and Chancellor Osborne hoping HPC would be the springboard for further Chinese investment in nuclear power stations in Essex and Suffolk.

With the latest twist in the Hinkley saga looking like a legal challenge will be launched against the UK and French governments, one Southwest region Green MP referred to HPC as an uneconomic "white elephant" which is being pushed regardless, because there is "now a political battle where the stakes for both the UK and France are just too high to admit failure".

Both NT2 and NPC would qualify as prime examples of what Danish economist Bent Flyvbjerg refers to as "Machiavellian

Megaprojects", which are shown to follow a time-honoured formula:

(underestimated costs) + (overestimated revenues) + (undervalued environmental impacts) + (overvalued economic development effects) = (project approval)

As Flyvbjerg stresses in his analysis of such megaproject development by a relatively few societal elites, the monomaniacal pursuit can frequently lead to the deception of "parliaments, the public and the media about the costs and benefits of the projects".

It seems there is more linking the development paradigm of Savannakhet and Somerset than citizens in both the U.K and Laos may fully appreciate. There is still a glimmer of hope, however, that commonsense may prevail in London and Paris, and the HPC case of *folie de grandeur* may be stopped in its tracks. In the case of NT2, Laos has now been locked into a project with multiple negative social and environmental consequences, many irreversible such as permanent loss of valuable terrestrial and aquatic biodiversity, that will ultimately cost its citizens and the wider Mekong basin populations dearly into the future.

[1] Interestingly, in the address given by Pierre Lellouche, Minister of State with responsibility for Foreign Trade at the Nam Theun 2 project's inauguration ceremony on 9 December 2010, he claimed that the site was first identified back in 1927 by an engineer, presumably of the French Indochina colonial government.

[2] The plant load factor is the ratio between the actual energy generated by the plant to the maximum possible energy that can be generated with the plant working at its rated power over the duration of a year.

BY TOM FAWTHROP | APRIL 18, 2016 · 1:37 AM

The Myth of Sustainable Hydropower

Explorers, travelers and traders have long been enchanted by the magical vistas and extraordinary biodiversity of the Mekong flowing through six countries, from the mountains of Tibet to the delta in Vietnam.

However the voracious demands of an energy-hungry region have led to a headlong rush into hydropower and a simmering conflict over the vitally important water resources of this great international river.

The current plans for a cascade of 11 dams on the main stream of the Lower Mekong is a recipe for killing the turbulent spirit of the mighty Mekong, taming its waters and the wonders of nature in the obsessive pursuit of energy at all costs.

The supporters of large dams argue hydropower is an allegedly 'clean efficient source for of energy.' They further claim that dams stimulate economic growth and promote development.

However the opposition to all dam projects on the mainstream Mekong, starts with the rural communities along the Mekong and its river basin supporting a 60 million population. The dam developers and government technocrats have failed to examine and study the hidden costs of hydropower, and the irreversible destruction of a unique ecosystem.

A wide-spectrum of critics points to well-documented list of negative impacts: the reduction of water flow and sediment, the huge loss of fisheries, the reduction of food security, and the increasing salinization-intrusion of sea water in the delta, to name but a few serious impacts which run counter to any narrative that dams automatically bring economic progress and "development."

2016 will be a decisive year for hydropower projects on the mainstream Mekong. The first dam on the Lower Mekong –the Xayaburi Dam is now 60% built. The Don Sahong dam in southern Lao has just been launched, in January this year and a third dam the Pak Beng is being prepared.

Can hydropower on a mainstream river be sustainable?

The unilateral launch of the Xayaburi dam in 2012 and now the Don Sahong dam – second dam on the mainstream of the Mekong, is turning the river away from the historical vision of an international river of cooperation and friendship between Laos, Cambodia, Thailand and Vietnam, and into another conflict zone over the sharing of water resources.

However the government of Laos is not under any pressure from any of the bodies that ought to be grievously concerned: UN agencies like UNEP and FAO .The World Bank, WLE (Water, Land and Ecosystems, a CGIAR consultancy group); the USAID-sponsored Mekong Partnership for the Environment (MPE); nor other bodies that adhere to the mantra of 'sustainable hydropower' and environmental protection.

This term identifies a discourse that argues a well-mitigated 'nice dam' does not inflict too much damage on the ecosystem. It is a position that offers great comfort and solace to dam developers, investors and banks under fire from environmentalists and scientists.

Within this cluster of concern about water governance and claims to protect the environment of the 4,880 kilometres long Mekong, there is a grand silence by the donor nations and international bodies that greets the decline of the region's longest river and the launch of yet another dam.

A regional coordinator for the WLE program has argued the case for 'sustainable hydropower' and trade-offs.

"We all enjoy the benefits that come with electric lighting, household appliances", says Kim Geheb, WLE. "But how do we do this without affecting food production and the health of the environment? How do we ensure that rapid, large-scale dam development is fair and equitable? Answers to these questions are at the heart of what constitutes a 'good' dam."

Xayaburi dam construction site. Photo: Stimson Center

The two dams launched so far on the Lower Mekong in Laos surely do not appear to fulfill any obvious criteria for the sustainability principle of what constitutes a 'good dam. 'The Xayaburi and the Don Sahong dams along the Mekong are neither fair nor equitable, for the overwhelming majority of poor farming communities living downstream from these dams. These two dams both lack credible environmental impact assessments (EIAs), have failed to provide any trans-boundary studies, and have been launched in defiance of wide-ranging protest and riparian objections.

Scientific consultants to WWF (The World –Wide Fund for Nature) have issued a number of reports exposing massive flaws in these two projects and the lack of credibility of their assurances of effective fish mitigation.

Latest data published by *Catch and Culture* MRC's fisheries publication shows that threat posed to the Mekong is based on hidden economic costs that will occur the Mekong is dammed.

The Mekong is a very special river hosting the world's largest inland fisheries valued at $11 billion ($11 billion for wild capture but that total figure is $17 billion if fish farms along the Mekong are included.) It ranks with the Amazon for the extraordinary diversity of fish species at around 1000 and scientists are still counting.

Fisherman checks his nets on Cambodia's Tonle Sap

Estimated fisheries contributed $2.8 billion to Cambodia's economy in 2015. That's a big chunk of Cambodia's $16.71

billion GDP. These catches for wild-capture fisheries are directly under threat from hydro-electric dams.

Studies have shown that the projected loss of fisheries, crops and biodiversity caused by dams will result in a staggeringly high deficit, compared to the modest benefits from increased energy and electricity. The 2015 study calculates the Mekong net loss at minus $2.4 billion (for 6 dams) and up to minus $21.8 billion if all eleven dams are built on the mainstream according to a study published by Chiang Rai University

The science shows that it does not even make good economic sense to build more large dams, in a river blessed by such amazing ecological wealth.

The mitigation game fools no one

Sustainable hydropower and its concern to minimize harm to the environment relies heavily on mitigation technology, including such devices as fish passage, fish ladders and even so-called 'fish-friendly' turbines.

Christy Owen, party leader of the MPE (The US-Aid backed Mekong Partnership for Environment) explained at a recent forum: "This work can help ensure that new development projects meet the needs of business, while minimizing harm to local communities and the environment."

Her statement assumes that no matter the high stakes, and the calamitous effects of 'bad dams', dams are somehow "destined to go ahead" after a measure of mitigation and refinement

Fish mitigation technology has mostly been applied and tested in northern climes – the rivers of North America, and parts of northern Europe. Importing this technology to the Mekong and other tropical rivers teeming with a vastly greater variety of fish species than in the rivers of colder countries, is seen by most fisheries experts as highly risky at best.

What may work in the rivers of North America and Norway cannot be mechanically transferred to the vastly more diverse fish species and ecology of the Amazon and the Mekong.

Hydropower consultant working with WWF Dr. Jian-Hua Meng views the mitigation carried out by Swiss consultants on the Xayaburi dam as a huge gamble with the river's natural resources. "They are playing roulette with the livelihoods of over 60 million people. It would not be acceptable in Europe, so why is it different in Asia?" [1]

The mitigation team employed by Mega-First, the Malaysian developer of the Don Sahong dam, has been engineering fish diversion channels so that fish will change their centuries- old route along the Sahong channel which will be totally blocked by the building of the Don Sahong Dam.

NGO mobilization in Thailand against the Don Sahong Dam.

However the MRC panel of experts found no evidence that this engineering project would guarantee the protection of large quantities of migratory fish of many different species by offering an untested alternative migration route to bypass the traditional channel according to MRC fisheries expert Dr So Nam (Pakse MRC technical review of experts December 2014).

Mekong specialist Dr. Philip Hirsch, based at University of Sydney shared with this correspondent "After 30 years of studying dam impacts, I have yet to come across one [dam], whose impacts have been well-mitigated. Let's start with dams that are already there, before using 'anticipated mitigation' as a pretext for going ahead with new projects."

The evidence is clear: there is nothing sustainable about large dams

A widely cited Oxford University study, published in the journal *Energy Policy* in March 2014, reviewed data from 245 large dams in 65 different countries, and concluded that large dams in general are not sustainable.

As the authors wrote in a statement attached to the study: "The evidence is conclusive: Large dams in a vast majority of cases are not economically viable. Instead of obtaining hoped-for riches, emerging economies risk drowning their fragile economies in debt, owing to ill-advised construction of large dams."

The global governance debate has clearly shifted business towards paying more attention to environmental protection issues, but all too often this is more a concern to improve their corporate image and improving their public relations, rather than a genuine will rethink their on-going strategy for damming the Mekong.

From his decades of research in the Mekong region Dr Philip Hirsch concludes: "The impacts of some dams are just too great to mitigate."

WWF warns that hydropower does not mitigate of climate change. But with the Mekong under threat from an annual decline in water flow from the melting glaciers in Tibet, it can on the contrary exacerbate and drive climate change.

The evidence is steadily mounting that if we allow the Mekong to be comprehensively dammed, climate change will grow worse with increasing droughts and salinization from the ocean. The region will then be saddled with a ruined Mekong

and the riparian peoples will be damned into around 20 years time to the tragic and irreversible legacy of unsustainable hydropower.

The only way to save the Mekong is by pushing for the political will of regional countries to understand the ecological wealth and the real economic value of great rivers like the Amazon and the Mekong.

References:

Strategic Environmental Assessment of Mainstream Dams ...

www.mrcmekong.org › ... › Initiative on Sustainable Hydropower The SEA presents trans-boundary impacts of the proposed mainstream ... As with any commissioned study, the SEA report is not an official MRC approved document.

2) Mekong communities seek injunction on Xayaburi Dam deal ...

www.nationmultimedia.com › national

Oct 16, 2014 – ... River yesterday lodged a petition with the Administrative Court in Bangkok, ... Court on June 24 to accept the network's right to bring a lawsuit

Catch & Culture Vol. 21, No. 3 » Mekong River Commission

www.mrcmekong.org › News & Events › Newsletters

Jan 5, 2016 – Lower Mekong fisheries estimated to be worth around $17 billion a year ... Catch and Culture is published three times a year by the office of the Mekong River ... are available through the MRC website, www.mrcmekong.org

The 2015 study calculates the Mekong net loss at minus $2.4 billion (for 6 dams) and up to -21.8 $billion (for 11 dams)

Energy Policy

Volume 69, June 2014, Pages 43–56 Oxford Univesity study on the impacts of large dams .The study is based on data from 245 large dams in 65 different countries.

Should we build more large dams? The actual costs of hydropower megaproject development

http://www.bsg.ox.ac.uk/news/should-we-build-more-large-dams

Latest research pubished in 2015 by Chiang Rai University Mekong research group
http://www.mfu.ac.th/nremc/content_detail.php?id=298

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[1] *(*Interview with the author and film-maker Tom Fawthrop who directed the *film The Great Gamble on the Mekong' Eureka Films 2015).*

BY DAVID BLAKE | APRIL 8, 2016 · 12:31 AM

“Welcome to Sayabouly – Land of Elephants & Dams”

A propaganda poster in the center of Sayabouli township shows founding leader of the Lao People’s Revolutionary Party and former Prime Minister Kaysone Phomvihane

Sayabouly[1] province, situated in Laos’ northwest, has long been considered something of a historical and geographical anomaly. For a start, it is the only Lao province that lies entirely on the western bank of the Mekong river with only a forested mountain range separating it from Thailand, and secondly, as a once remote borderland, it has at various times been the subject of territorial disputes that occasionally have proved quite bitter.

Once part of the Lan Xang kingdom and used as a conduit for warring Siamese and Lao armies, by the late nineteenth century Sayabouly became a slice of desirable real estate for expansionist Siamese and French colonial governments, both of whom claimed dominion over its territory and rich forest resources. The Siamese were forced to cede it to France in 1904 by treaty, no doubt recognising its strategic importance for buffering the important city of Luang Prabang. During the Second World War in 1940, Thailand annexed it with the help of the Japanese army and renamed it Lan Chang, but the province returned to French control six years later with the restoration of French Indochina and Thailand was obliged to drop its claims as part of the conditions for its entry into the United Nations.

Location of Sayabouli province in Lao PDR. Photo: Wikipedia

Since the fall of French Indochina and its inclusion in a new Lao nation, Sayabouly has been subject to periodic Thai irredentist claims for lost lands of a greater Thai empire and saw active insurgency by Thai-funded fighters during the twenty year civil war, although it largely escaped the US aerial bombing campaign that devastated so much of the rest of the country. More recently, the southern end of Sayabouly in Botene district experienced a short border war between the Thai and Lao military from December 1987 to February 1988, supposedly over disputed logging claims and the legacy of unclear French border demarcation. This rather bloody spat reportedly led to the deaths of around a thousand soldiers (primarily on the Thai side), but was deftly hushed up by the authorities on both sides, with the Thai government blocking reporters from accessing the battlefield area. I have heard credible reports from Lao soldiers present that Thailand employed chemical weapons against the Lao

Sayabouly also offered an important sanctuary for Communist Party of Thailand (CPT) fighters during the 1970s and 80s, a leading member of which used to be a neighbour when I lived in remote Phiang District for two years in the late 1990s. I was a field-based advisor with a UNDP-funded aquaculture extension project working with the provincial livestock and fisheries department in a role that gave me a unique opportunity to travel extensively throughout the province, at a time when road communications were still problematic and slow, while telecommunications facilities did not extend much further than the provincial capital.

The kindly old Thai CPT comrade I knew had trained in China and fought in the jungles throughout Northern Thailand, eventually retreating to communist Laos following a government amnesty for CPT members being declared in 1982. After laying down his weapons, he lived out his twilight years in Muang Phiang in conditions of relative poverty living the life of a smallholder farmer, steadfastly refusing to return to his birth place in Sisaket Province, Northeast Thailand. He used to tell me about the dense forests the CPT set up small camps in to conduct raids into Thailand, which one could trek through for days without encountering a road or human habitation, living largely off hunted game and forest produce. The Lao authorities permitted a small group of Thai CPT dissidents to seek refuge in Sayabouly for years after hostilities officially ceased, including the noted writer, Assanee Polajan.

Retooling Sayabouly

Despite recent government efforts to put the province on the map through tourist promotion, attempting to take advantage of its position as both a gateway to Luang Prabang and a province with a rich potential for eco-tourism in its own right, reflected in the organisation of an annual Elephant Festival in Sayabouly provincial capital (held on 19-21 February this

year), originally conceived by ElefantAsia to ensure pachyderm protection, with the elephants acting as an iconic symbol of wider Lao cultural and environmental conservation concerns.

Having evolved since its first iteration in Hongsa district in 2006, tourists nowadays would see dozens of elephants led in to the township to play football, drag demonstration logs, parade in costume, take a bath in the Nam Houng river, give rides and generally entertain locals and foreigners alike. Since its inception, the conservation message has been gradually replaced by spectacle and commercialism, with ElefantAsia nudged out of the scene by competitors with far deeper pockets and greater influence in high places, with the two most prominent names by far being "Hongsa Power Company" and "Xayaburi Power Company". Both maintain a healthy fleet of branded four wheel drive vehicles and display prominent roadside posters around town that compete with Lao People's Revolutionary Party (LPRP) hammer and sickle adorned banners, from which smiling demagogues beam down on passers-by above ubiquitous state propaganda messages. Ironically perhaps, given the province's history, both of these companies are Thai-owned. Amidst this strange mix of modern corporate advertising and North Korean style political propaganda, it is unlikely a visitor would learn much about the province's rich historical past at the Festival, much less its environmentally controversial present.

Not disconnected from the deft switch to Thai corporate sponsorship of the Elephant Festival, Sayabouly province hosts two of the largest energy production projects in Southeast Asia. These have contributed to a fundamental alteration in its ecological character in a matter of a few years, perhaps more than any other province in the Lao People's Democratic Republic, as it is officially known. What were remarkably healthy and biodiverse forests and river systems at the turn of the millennium, have rapidly degraded to become rather lacklustre shadows of their former state, diminishing their value and utility to the majority of the scattered rural population that heavily depended upon the services they provided. Furthermore, rare and endangered wildlife species have all but disappeared, falling victim to habitat loss, hunting and a scarcely restrained trade in bush meat.

Group of youth work as a team with nets to catch small fish in the Nam Huong river near Sayabouli township.

For many households, agriculture was a secondary occupation to the foraging and harvesting of non-timber forest products and a wide variety of aquatic organisms that formed the basis of livelihoods up to around the millennium. While this livelihood switch may be considered the inevitable cost of "development" and "progress" wherever one cares to look in the "developing" nations of the world, the social and environmental changes I found in Sayabouly during a recent visit were nevertheless rather stark and speak to wider political and structural issues emerging in this autocratic state, sandwiched between three voracious regional powers.

Harnessing Sayabouly

My first return visit to Sayabouly in over a decade began in the northern district town of Hongsa, travelling there by slow boat down the Mekong River to the minor landing at Tha Suang, an hour's journey downstream from the popular

backpacker overnight stopping off village of Pak Beng, located roughly midway between Huay Xai and Luang Prabang. Pak Beng is on the cusp of being transformed by a near-completed bridge over the Mekong that will link Thailand and China, and just above the bridge, a 912 MW hydropower dam, with the site currently being prepared by Datang, a Chinese corporation. From Tha Suang, Hongsa is reached along a narrow, twisting dirt road, which snakes up through some of the last remnants of a once immense jungle. One emerges from that forest high above Hongsa to be greeted by the sight of an immense smoking industrial complex, dominated by a massive chimney and three cooling towers. On the day of my visit the tops of the chimney and towers were lost in the cloud, giving the view something of a surreal quality, juxtaposed as it is next to paddy fields and traditional villages.

Hongsa lignite power station. Local air and water quality has deteriorated around the site since operations began in 2015.

Hongsa has become the site of a giant opencast lignite mine and associated thermal power station which is designed to produce when fully operational an electricity output of 1,653 MW, of which all but 100 MW will be exported to Thailand. It is described by the Lao government as a "model project" that is "truly environmentally friendly and conducive to sustainable social development"[2]. The main investors in Hongsa Power Company (HPC) are Thai companies Banpu Power and Ratchaburi Electricity Generating Holding, each of which hold a 40 % stake, while the remaining 20 % is retained by the Lao government's Lao Holding State Enterprise (LHSE). The consortium has been granted a 25 year concession to operate the mine and power station, which employs some 700 staff, of which about 400 are Lao nationals. The concession area covers about 60 km^2 and required the forced resettlement of over 2,000 people to a once-forested 1,200 hectare site located some 18 kilometres to the east of Hongsa town. Oustees are trained to adopt new and alternative livelihoods involving both agricultural and non-farm activities by staff from HPC and state officials, but inevitably within a far more challenging and biologically impoverished landscape than their more productive homelands.

The local driver who took me to Hongsa told me that since the mine and power station were built, the local river (Nam Kene) had become seriously polluted affecting the water source for several villages and killing fish all the way down to its confluence with the Mekong over 30 kilometres away. He told me, "since the power station opened last year, people in Hongsa and Muang Ngeun have been complaining about chest complaints and other health issues, brought about by the dirty air from those chimneys." He explained that a vast area of agricultural land, mostly rice paddies, and natural forest had been confiscated over the last few years, to make way for both the mine and power station, but also the resettlement site, leading to a rapid loss of previously prolific non-timber forest products and wildlife available locally.

The same informant also told me that villagers living along the Mekong's banks in Hongsa district were aware of and concerned about the future impacts of the Xayaburi hydropower project on their fisheries and natural resources-based livelihoods. This was the other Thai-owned mega-project looming large over the province's future. They had already

experienced a precipitous decline in fish catches in recent years, but were not sure if this was mostly related to dams upstream in China that have already greatly altered flow regime of the river, or the ongoing construction of Xayaburi dam located 90 kilometres downstream of Luang Prabang city. The Xayaburi dam project officially began construction in 2012, although site preparations had been going on for a year or two previously, creating a noted logical disconnect between Lao state-controlled media announcements and reported observations of actual on the ground activities.

The Xayaburi dam under construction in December 2014. Photo: Courtney Weatherby

The 1,285 MW project, estimated to cost $ 3.5 billion, is owned by "Xayaburi Power Company", which is a 50% owned subsidiary of the Thai construction corporation giant CH. Karnchang PLC, a major listed company on the Thai stock exchange. Funds to build the dam project have been loaned by a group of six Thai financial institutions, including the state-run Export-Import Bank of Thailand. Its implementation has been described as a "game changer" in terms of paving the way for future hydropower development along the lower Mekong mainstream. Indeed, since it was approved by the Lao and Thai governments, Xayaburi has sparked off a rush of new hydro development domestically in Laos, including an equally controversial project in southern Laos at Don Sahong, situated on the most important river channel for upstream fish migration, just a few kilometres from the border with Cambodia. Similar to the Hongsa project, 95% of the power produced from Xayaburi is scheduled for export to Thailand, following planned completion in 2017, underlining a wider gradual incorporation of neighbouring state's natural resources into the Thai market. This is not to underestimate similar designs and processes underway by both China and Vietnam who are in fierce competition with Thailand for the rights and means to extract them.

Sayabouly at risk

In terms of the environmental and social impacts of the Xayaburi project, much has been written elsewhere about its destructive potential to decimate capture fisheries upstream and downstream, through blocking migration pathways and altering flow and sediment patterns across international boundaries, although the Lao government has treated its development in essence as a domestic affair, with any transboundary impacts considered minor and "incidental." The government and developers have consistently rejected any need to accept responsibility in the event of a decline in fisheries linked to the dam, arguing that their technological mitigation methods in the form of an unproven fish lift and pass will be sufficient.

In any case, as the director-general of Laos' Department of Energy Policy and Planning, Daovong Phonekeo maintained, following the decision to pursue construction of Don Sahong dam last year, "for the development of the Mekong River, we don't need consensus." Meanwhile, a challenge against the legality of Thailand's Ministry of Energy and four other state agencies' support for the Xayaburi dam project was brought to the Supreme Administrative Court by a coalition of villagers at risk of impact and civil society groups, but was thrown out late last year by judges on the grounds that the agencies involved had performed their legal duty correctly. An appeal against the verdict was filed by the plaintiffs on January 25 this year, but any decision will come too late to halt the dam's completion. The often maligned and toothless Mekong River Commission has remained to all intents and purposes mute throughout this process, causing disillusioned donors to head for the door with future funding.

Although the Xayaburi dam has been roundly criticised for its destructive potential by a wide range of civil society and international state and non-state organisations and media, including repeated concerns voiced by the United States government and other Western nations, the Lao government and allied hydropower industry interests portray any opposition as being confined to a small group of foreign environmentalists that are ideologically opposed to any development activities. Thus, opposition to Xayaburi and other major Mekong dams is perceived within Laos as the preserve of a minority of Western "troublemakers" that through ignorance and arrogance, want to keep the nation perpetually poor and underdeveloped, by halting its rightful sovereign demands to fully develop its water resources for hydropower production and other purposes. Anyone who remotely sympathises in public with this unreasonable foreign

position is likely to be harshly treated by the ubiquitous state machine, which falls under the direction of the Politburo of the LPRP.

As the respected historian and political observer of Laos, Martin Stuart-Fox has observed, "No criticism, or even political debate, is permitted outside the confines of the highly secretive party, which recruits its membership from the ambitious and educated. Without the support of the party, promotion in government and the bureaucracy or success in business is impossible."[3] In short, Laos languishes near the bottom of almost any international league table of civil liberties, accountability, rule of law, and anticorruption and transparency measures, with virtually no civil society to speak of, in particular around hydraulic development issues. As a young villager watching a dam site being prepared on the Nam Kading river in central Laos once confided to me, "To speak against a dam here, is like speaking against the king over there", pointing towards Thailand. In other words, it is just not done, if one wants to survive.

And not everyone does survive under the LPRP regime, which has ruled with an iron fist since "liberation" in 1975. Lao people who dare to speak out or protest may be incarcerated for years in grim prisons or fall victim to more brutal measures. Some have been known to simply disappear and are never heard of again, for conducting what would be considered quite innocuous activities in most other countries. Even though he was careful not to directly criticise the government's policy on dam development and was a relatively high-profile NGO leader who had won the Magsaysay Award in 2005 and travelled extensively abroad, Sombath Somphone became a victim of suspected state enforced disappearance in December 2012. While his case has been extensively covered in the international media, and the Lao government has been criticised by Australian and European parliamentarians for not releasing more information about Somphone's case, there has been little progress made over the last three years and the human rights situation domestically has continued to worsen, leading to a palpable sense of fear amongst ordinary citizens. According to a reliable source in Vientiane, since Somphone's disappearance an estimated 200 Lao citizens have similarly disappeared, with a reasonable assumption that state forces are responsible.

While such figures are impossible to verify, in the absence of a free media and independent organisations to investigate such allegations, it is widely recognised by organisations such as Human Rights Watch that Laos has regressed in terms of basic freedoms over the last decade. I found Lao people I met during my visit far less likely to talk frankly about the internal situation than I ever recall was the case in the late 1990s and could only attribute this to a context of worsening state censorship of expression and draconian internal repression, even while superficially it may appear to be reaching out to processes of regionalisation and globalisation. Even foreigner friends who work in Laos were reluctant to talk about dam-related issues, perhaps frightened that their Lao visas or work permits may be cancelled by vindictive authorities. There is no contradiction in this position, nevertheless, *if* one appreciates how power and decision-making are centralised within the hands of a relatively small group of people at the top of a patronage-based hierarchical system.

Whither Sayabouly?

To better comprehend the political situation in Sayabouly and more broadly in Laos with regard to dam development, the visible environmental degradation and tangibly repressive atmosphere that surrounds such infrastructural development, it is helpful to recall the work of Karl Wittfogel and his "hydraulic society" hypothesis. Wittfogel, in describing the nature of state-society relations in certain ancient states in arid and semi-arid areas which exerted strong authoritarian control (often under a despotic, theocratic ruler), hypothesised that state formation and expansion was carried out to a large extent through the centralised control over water resources, in particular irrigation development and management, though included other productive and protective (i.e. flood control) functions too, as well as non-hydraulic infrastructural construction. He noted how, "the rulers of hydraulic society were great builders", in their efforts to dominate and sustain their power base. In modern states too, one can discern how state-centric hydraulic development can permit the greater control over society, with increased bureaucratisation and centralisation of power to a small, ruling elite, paralleling the processes in ancient states, albeit within a narrower time frame nowadays due to technological advancements. Laos is becoming a classic nouveau hydraulic society as its handful of ruling families concentrate the wealth and power that results from the sole authority to dole out rights (at considerable cost, one might add) to public and private operators wishing to

develop the hydraulic potential of the nation's rivers.

This leads to some spectacularly big and bad projects being built throughout the country, exemplified by the Xayaburi hydropower project, but also a slew of smaller dam projects on tributaries, such as the one I witnessed getting under way to the east of Sayabouly town on the Nam Houng River. A contract signing and groundbreaking ceremony was held on 2 August last year attended by the recently deposed Lao foreign minister, Somsawat Lengsavad, and work is being undertaken by a Lao construction company linked to the central elite, Simouang Group and a Korean sub-contractor, Dowoo Engineering and Construction, both of which appear to have no prior experience of dam construction. Even though the electricity production capacity is relatively small at 15 MW, the project's ecological footprint is high, that will lead to the destruction of an "ADB Sustainable Tourism Development Project" funded medicinal plant preserve and spa centre at Huay Namsai, originally aimed at boosting the province's eco-tourism credentials, supporting ethnic minorities and boosting local livelihoods.

Sign announcing directions to the Chinese built Nam Houng 1 hydropower plant.

When I visited in late January, the magnificent old growth forest around the centre had just been felled and the trunks were awaiting removal, while visitors to the centre were blocked from entry by dam company guards. A provincial official that had helped to establish the centre told me that he was thoroughly disillusioned, after he had learned the herbal plant centre was to be flooded by the dam and local Hmong people would lose land and livelihoods as a result. He confided that the LPRP leaders were considering changing the provincial motto from "Sayabouly, Land of the Elephants" to "Sayabouly, Battery of ASEAN". I looked for a hint of irony in his face, but there was none.

Sayabouly province may not be territorially integrated into the borders of Greater Thailand and it is still very much a part of the PDR, but its natural resources are increasingly not being enjoyed locally by the majority of its inhabitants. Instead, they are flowing across the border to the nearest of an insatiable triumvirate of neighbours, captured by powerful foreign business interests in close collusion with the provincial and national level LPRP apparatchik. It is apparent that such processes of primitive accumulation will only grind to a halt when the store cupboard is well and truly bare, which may not be too long into the future. Tellingly, it is predicted that lignite reserves at Hongsa will be exhausted just one year after the power concession agreement expires, presumably leaving the nation with one humungous bill in clean up costs at the mega "mine-mouth power project". Whether there will be any wild elephants left in the province's forests by 2040, or indeed any Lao forests left intact at all, seems most unlikely under the present paradigm.

[1] NB: I have adopted the spelling convention most commonly used by provincial authorities, though there are several other variations commonly encountered, including that used for the eponymous hydropower dam, which I have retained when referring to the project in this article i.e. "Xayaburi".

[2] This quote is taken from the Ministry of Energy and Mining, sponsored amongst others by Hongsa Power Company, that paints a wholly rosy picture of this and other power projects underway or already built in Laos. Available at: http://www.laoenergy.la/pageMenu.php?id_menu=47

[3] Quote taken from Stuart-Fox, M. (2008). Laos. In Sanha Kelly, Christopher Walker and Jake Dizard (Ed.), *Countries at the Crossroads 2007: A Survey of Democratic Governance* (pp. 369-392) Lanham, MD, United States: Rowman & Littlefield Publishers .

BY EAST BY SOUTHEAST | SEPTEMBER 11, 2015 · 10:27 AM

SMEC'ed About the Head

What is it about No that SMEC doesn't understand?

SMEC, an Australian based services company that morphed out of the Snowy Mountains Engineering Corporation, was recently handed a petition containing 23,7171 signatures opposing a dam that would effectively divide war-shocked Shan state in Myanmar in half.

They are the public face of a consortium planning a giant dam on the Upper Salween river at Mong Ton in Myanmar. It's not the first time they have been told the idea stinks. Maybe they are heroically taking one for the gang; the disaster prone Three Gorges Corporation, the very shonky Sino Hydro, the Myanmar Electricity Power Enterprise, and state energy monopsony Thai Electricity Generating Authority (EGAT). Then there is a UK team of engineers Malcolm Dunstan and Associates, involved in dam building in Myanmar in the past and, because of human right violations on the sites, placed on UK's Burma Campaign's 'Dirty Company' list. SMEC might well soon be down there with them.

SMEC has been meeting the people of Shan state, seeking agreement for the Mong Ton dam to be built on the upper Salween in Shan State. They have faced serial rejection. Meetings have been cancelled due to local hostility. Old Shan women have risen to their feet, their voices rich and challenging, telling the SMEC representatives that having survived years of war, they refuse to let their ancestral lands be drowned to produce unneeded electricity for China and Thailand.

SMEC's habit of giving gifts of cloth bags, bottled drinks and snacks to people they interview has as angered local villagers, who view these as bribes. They report SMEC repeatedly pushes the 'positive' impacts of the dam, appearing deaf to protests, while attempting to persuade them to sign documents they don't understand.

On July 22nd, a group of villagers returned the bags they had been given by SMEC surveyors, and instead presented them with anti-dam posters. A Shan joint statement calls SMEC's assessments process "simply a sham, aimed to rubber-stamp the Mong Ton dam plans, rather than objectively assess (sic) the project's actual impacts."

In April this year the Australian Federal Police raided SMEC's international's headquarters in New South Wales 'as part of an investigation into allegations of foreign bribery – it was unclear if this was associated with the Myanmar project.

'Many of our highly respected stupas and pagodas, such as Ho Leung temple, will be destroyed.' said Hkyaw Seng, whose village is close to the construction site. The 700 years old Ho Leung Temple, on the eastern bank of the Salween is famous throughout Shan State, with tens of thousands of pilgrims travelling there every March.

In the Australian context, this might be compared to submerging St Patrick's Cathedral in Melbourne to power New Zealand.

Burma Battlers

Along with other ethnic states of Myanmar, Shan state suffered intense warfare for over 20 years and sporadic clashes since. It is the biggest of Myanmar's seven ethnic states with population of around 8 million people, half of whom are Shan.

During that long war many abuses were committed by the Burmese Army, include arbitrary execution and detention, torture, looting, rape, forced relocation and forced labour.

Shan and Karen representatives reported to this correspondent that SMEC's work has been obstructed by political

instability, increasing military presence and growing community resistance. In May Burmese Army tanks were photographed in Kunhing, whose renowned 'thousand islands' in the Pang tributary will be submerged by the dam reservoir. They fear opposition to the dam will trigger military violence.

Four SMEC officials went to the Wa capital in early July this year, seeking to survey the Wa Special Administrative Region. They were 'advised' to return at a later date by leaders of the China-backed United Wa State Army, possibly due to growing political and military tension between UWSA (notoriously linked with cross border drug trade) and Burmese government; tensions that erupted into fighting in Mong Ton township in early June 2015. SMEC is now effectively unable to carry out surveys in a large swathe of Wa-controlled territory along the eastern bank of the Salween above the planned Mong Ton dam.

The US$10 billion (2015 estimate) hydropower dam will flood an area nearly the size of Singapore, virtually bisecting Shan state and destroying around a hundred communities. You can replace houses but not communities which are organic social structures built on trust mutual support and shared histories. It is the very strength of these communities that enabled their people to endure the hardships of war. Locals report that tanks are returning, as are armed guards. A Chiang Mai lawyer with connections to the Shan, told this correspondent recently 'local media report that the project has started, and in a conversation we had... a few weeks ago, there is a camp of mostly Chinese engineers doing testing near the site. They said that the river near that area is off limits to all people and that warning shots were fired at a boat that got too close. The contact was not sure who fired the shots.'

The Burma river network (BRN) asserts that large dams are being constructed on all of Burma's major rivers and tributaries by Chinese, Thai and Indian companies. The dams are causing displacement, militarization, human rights abuses, and irreversible environmental damage – threatening the livelihoods and food security of millions. The power and revenues generated are going to the military regime and neighbouring countries.

Role Play

So what is an Aussie company doing there?

'It is not SMEC's role to provide recommendations as to whether the Project should proceed. The findings of the EIA/SIA will be presented to the Government of Myanmar, who will decide (with other sources of information) whether to proceed with the Project.' (Pro forma response from SMEC).

SMEC's role has been to complete the Environmental and Social Impact Assessments. The general idea is for both these studies to be submitted to the government to be signed-off (or, as happens too often, paid off) and plans for mitigation put to the villagers and agreed to *before* work can start. However a local council member in Mong Ton, seconding the lawyer's report, said that despite the local people's disapproval, earthworks were already underway along the ridge of the mountain, as was confirmed by Kai Khur Hseng, a spokesperson for the Shan by phone from the Thai-Myanmar border.

'Well you would expect that,' said environmental consultant Dr Sean Foley in neighbouring Laos. 'They borrow lots of money to build the dam and no doubt to pay off officials. The longer they delay, the more interest they have to pay, so it's in their interest to get moving, and pay the necessary fees to ensure the EIA is agreed to. The 'soft' items like compensation to villagers and relocation construction are usually where all the cost savings are made.'

As for the social impacts, it should be obvious, when confronted with a room full of people who are largely farmers and whose land is about to be flooded, wearing 'No Dams' headbands, that maybe, just maybe, these people think the social and economic costs are not worth it. Despite SMEC's claims to hold free and fair consultations the presence of local militias and pro-government representatives in meetings inhibited villagers from asking questions.

A message sent to SMEC's local senior manager, Michael Holics, which asked how much forest was going to be destroyed, how many tonnes of concrete to be used was met with a pro forma response (see above), the same response given to

questions related to resettlement, land allocation, livelihoods, and fish stocks. Tropical dams are under scrutiny, found to emit as much greenhouse gas as coal fired power plants with similar energy output, while devastating huge areas of land.

SMEC's job has already been done by International Rivers (IR) and other local groups who have listed the environmental and social factors mitigating against building the dam. Pianporn Deetes of IR told this correspondent that tens of thousands of ethnic people living on the floodplains near the dam site have already been forcibly relocated. 'All dams planned on the Salween River will greatly disrupt the riverine ecosystem and destroy the livelihoods of peoples living along the river.'

SMEC could hardly avoid the fact that in 2007, the dam consortium was given land on which to build an office, land confiscated from Wan Mai village. In the way of the then-incumbent military junta, landless villagers were forced to attend the ground-breaking ceremony for the dam. Further north, the Mekong, Salween and Yangtze rivers flow in parallel for at least 300 kms, creating a World Heritage listed biodiversity area that is being destroyed by megaprojects like hydropower dams. In short, SMEC whose office centred CSR principles would have this project in Australia booed off the field, seem undeterred.

Sai Khur Hseng reported that wars and forest destruction had taken its toll on mega-fauna like elephants but that 'Survivors habitat will be drowned by the dam.' Myanmar's laws have not been reformed in keeping with global standards and do not provide for compensation or relocation.

Paul Sein Twa, reported that business cronies of the regime have already been clear-felling formerly dense teak forests around the dam site. Director of the Karen Environmental and Social Action Network (KESAN), Twa told Mongabay that proposed multiple dams would do irreparable damage to the Salween Basin extending across, China, Myanmar and Thailand. The basin is "home to the world's last great teak forest, to dry-season islands rich with crops, and to healthy fisheries upon which many people depend. This river is of vast ecological and cultural value, and it is worth preserving for present and future generations.'

Did the Earth Move for You

The Mong Ton dam wall, some 241 meters high, would be one of the highest in the region. The area is very prone to earthquakes and warning has been issued about impending risk of a serious movement of the nearby Sagaing fault after the Nepal 'adjustment'. The collapse of such a dam would be disastrous. Scientists have warned of additional +7 scale adjustments in the next decade and have clearly advised against dam building. A dam this size could itself cause a seismic event, as happened in Sichuan China.

The Himalayan and Tibetan glaciers appear to be melting faster than earlier predicted, offering increased flows in the short-term but 'dry ice' in the future.

Twa agreed the dam also poses a threat of catastrophic flooding, should the region's seismic activity lead to an earthquake-induced dam failure.

Asia is engaged in a orgy of dam building, pushed heavily by China and Thailand, whose urban elites stand to profit mightily from such investments. In this part of the world rivers are integral to life, providing food, transport and irrigation to countless communities.

Myanmar's government has not publicly addressed villager's complaints, but have praised the Salween dam projects as benefiting local populations, securing critically-needed electricity for Myanmar and leading to peace. But the opposite appears to be true, with the poor losing hard-won security and military build ups occurring daily. Maybe SMEC's shareholders should understand the implications of the company's activities and make their discontent clear.

The author of this article has chosen to publish anonymously.

BY AREEYA TIVASURADEJ | SEPTEMBER 4, 2015 · 3:06 AM

Large dams are not the answer to climate change in the Mekong Region

Some may say it is too early to conclude that the changing weather patterns in the Mekong region – be it a longer dry season, unexpected river water level fluctuation, or cold days in early summer – are a result of climate change. Even if we could summarize the large number of expert debates and long list of research papers, it's unlikely that a clear answer to the simple question "Is climate change happening in the Mekong?" would emerge.

But if instead we look on the ground, local communities along the Mekong River in Thailand will tell you that something is happening to the climate and that it's not what it used to be.

A study[1] just published by local Thai communities who live along the Mekong River, titled "Ecology, Economics, Cultures of the Mekong Basin: From Kaeng Kood Koo to Pha Chan in a Changing Current" reports that weather patterns have been fluctuating oddly over the past several years. In addition, the water level in the Mekong River rises and ebbs unpredictably and unlike the past. These changes have greatly affected these communities who still rely on nature to make their living as fishers and farmers (see also video here).

Cold spells and heavy rains: The case of 2011

As an example, we can look back to 2011 when two incidents occurred that appeared odd to many Thai river-side communities and are still recalled now: a highly abnormal cold spell in March 2011 when Thailand is usually warming up ready for the hot season, and then a prolonged period of heavy rainfall that lasted much of 9 months in 2011.

In the Mekong Region, the hottest[2] time of the year usually falls in April. It is the same month when Thailand, Cambodia, Myanmar, and Laos celebrate the water festival, which practically speaking is a great way to cool off as the temperature becomes sweltering hot. But back in 2011, a month before this large festive event, the average temperature in Thailand cut to almost half its normal rate to 18 degrees Celsius (°C)[3] in Bangkok. In Ubon Ratchatani Province in northeastern Thailand next to the Mekong River, the temperature dropped to around 15 °C.

Meanwhile, as the average temperature seemed to struggle to go beyond 25 °C for the whole month of March, the monsoon brought in at least 4 large storms swelling the Mekong River.

To the communities living alongside the river, the most apparent effect of the chill and increased water volume was on the fishery. Local fisher folks hold an intimateknowledge[5] of the Mekong fisheries that is passed on from generation to generation. They understand the seasonality of the Mekong River, including how the river's ecosystems relate to the different types of fish migration, breeding habits, and behaviors. The fishers' observed that the change in weather pattern and water level in March 2011caused many fish to become dull[6] to find food and instead the fish started hiding behind rocks and in pools. As there were less fish swimming in the river, it affected the fish catch of fishers, such that many fishers gave up fishing during the period as it was uneconomical to spend money on diesel fuel when they knew they could find no fish.

The heavy rainfall that started in March continued on for another nine months. In July 2011, Tropical Storm Nock-ten made land fall, bringing severe flooding to North, Northeastern and central Thailand. Large swathes of farmland, as well as

Thailand's capital city Bangkok, were left under water.

2011's rainy season added so much water to the Mekong River and made the current so unusually turbulent that many riverbanks and riverbank gardens were flooded or even washed away. Many riverbank farmers lost their crops and therefore their income. Assistance and financial help from the local authorities made their way to some communities, but many admitted that they still had to pay for another round of seeds and sprouts by themselves[7] hoping that the river water would not flood their land a second time.

Fish and agriculture are the most basic foundation of the livelihoods and economy of the Thai communities along the Mekong River. Fish are a key source of protein. Riverbank gardens are the people's homemade salad bar. They are both a steady source of income for many communities. The changing weather and its impact on the Mekong River have impacted both.

A Thai fisher with a fish caught from the Mekong River in Baan Muang, Nongkhai Province, February 2013. (Photo by TERRA.)

Climate change as experts (and greenhouse gas emitters) see it

According to studies done by the International Panel on Climate Change (IPCC) and theMekong River Commission (MRC), climate change will affect and change the Mekong River in the coming years. And there's no guarantee that locals are ready to face those challenges. IPCC[8] and MRC's data point out three things that would result from climate change:

1. Increasing temperature across the basin: One consequence of this is that there will be accelerated glacial melt in the Mekong headwaters, which in the long term will reduce the dry season water released from the glaciers
2. More rain in the rainy season; less rain in the dry season: this will greatly affect both agriculture and fisheries across the basin
3. Longer summers and shorter winters: this could lead to warmer water temperatures and could change fish behaviors, especially related to breeding and migration

To alleviate the impacts of climate change, many governments who ratified the Kyoto Protocol – created under the United Nations Framework Convention on Climate Change (UNFCCC) treaty to reduce greenhouse gases emissions – came up with an idea to create mechanisms to meet their carbon emission reduction goals. One of the mechanisms is the Clean Development Mechanism (CDM)[9] which provides a long list of projects like renewable energy, methane capture, and reforestation as options to seek carbon credits. Though it sounds like a good mechanism, CDM was never designed to pressure emitters to reduce emissions, but simply to help emitters to "trade-off" carbon emission.

Hydropower development is included in the list of CDM projects. Water is supposed to be a great source of renewable energy to generate electricity as it was at first assumed that dams don't emit carbon. Yet, recent research[10] has revealed this idea to be profoundly wrong and in fact large hydropower dams can have significant carbon footprints.

In 2002, Singapore researchers reminded scientists that greenhouse gas emissions from hydropower reservoirs are under-estimated[11]. Another report[12] published in Nature Climate Change points out that hydropower is not as low-carbon as assumed; instead dams produce emissions as they trap sediments and vegetation in the reservoir, which then decay and release methane and carbon dioxide. An academic study by Marco Aurelio dos Santos[13] and his team in 2006 indicated that greenhouse gas emissions from hydropower per megawatt could in some cases be as high as fossil-fueled plants, especially in tropical areas. In a letter in Nature Geoscience in 2011, a group of researchers[14] called for significant consideration to be given to hydropower dams' carbon footprint.

But it is not only a dam's "carbon footprint" that should be of concern. The process of dam construction can wipe out carbon sinks by triggering deforestation within and beyond reservoir areas, as has happened at the Lower Sesan 2 dam[15]

site in northeast Cambodia. Dams also block sediments and nutrients from making their way downstream to replenish soils, as well as to rebuild the delta areas and avoid excessive river bank erosion. With less nutrients feeding the soil, farmers may opt for chemical fertilizers to replace the missing nutrients, but in the long term this destroys the soil health and creates a cycle of agrochemical dependency – as well as potentially farmer debt.

Climate justice not climate change

Treaties like the Kyoto Protocol should be designed to pressure high emitters of greenhouse gases to reduce their greenhouse gas contribution that lead to detrimental impacts on the earth and on communities, many of whom are being left in an increasingly vulnerable situation. But at the moment it appears designed to find a means to help these emitters' behavior appear acceptable before the global community by skewing the climate change debate towards carbon credits instead of true reductions.

The Mekong River basin is home to over 65 million people. The ecological diversity[16] within the basin sustains the region's food security[17]. The Mekong River is second to none when it comes to the amount and diversity[18] of fish species which provide both food and income sources in Southeast Asia. But climate change is affecting many people now and it is not stopping. If high emitters of greenhouse gases are serious about addressing climate change, it is time that they started learning about climate justice. They need to learn about the myriad impacts of dams on people[19] and the environment, which are already well known to millions of dam affected people globally.

Flooding of a riverbank garden in Phra Klang Toong village, Nakhon Phanom Province, Thailand in December 2013. (Photo by TERRA.)

The lower Mekong River is already feeling the impact of a series of dams built upstream in China. Thai riparian communities faced another flooding[20] in the dry season that spanned between the end of 2013 and early 2014 when the Mekong River unprecedentedly and unexpectedly rose between one and two meters, which lasted for approximately a week before receding. Affected riverside communities lost[21] their boats, crops, fish stocks and income as a result of the rapid rise in river level. There was no warning and no government officials reacted to the situation promptly. Locals were left to cope with the situation by their own means. Though no government came forward to confirm if the exceptional water rise and quick ebb were caused by China's dams, local communities[22] stood firm to point to upstream dams for the loss and damages.

With the waning of fossil fuels like coal that are also gaining a bad reputation for releasing large amounts of carbon and creating pollution, some developers and governments are proposing a turn towards hydropower projects and apparently with the support of the CDM. Yet such an approach will never tackle the problem at its root as the current development model champions industrialization and urbanization and still prioritizes high GDP pursued through the use of dirty and unsustainable electricity sources. Large dams are false solutions[23] to climate change as they fragment free-flowing rivers and devastate[24] local natural resources and communities. Instead a more radical rethinking of development is required, including how we relate to our rivers and the wider ecosystems that could sustain us for the present and future generations.

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Footnotes

1. Chantawong et al. (2015) Ecology, Economics, Cultures of the Mekong Basin: From Kaeng Kood Koo to Pha Chan in a Changing Current. Published by Foundation for Ecological Recovery (Thai language). ↩
2. The Nation (2011) "More cold weather coming". 29 March 2011. ↩
3. James Hookway and Wilawan Watcharasakwet. The Wall Street Journal. 19 March 2011. Thailand Braces for Tsunami, Then Cold Snap. ↩
4. Chantawong et al. (2015) Ecology, Economics, Cultures of the Mekong Basin: From Kaeng Kood Koo to Pha Chan in a

Changing Current. p 184 Published by Foundation for Ecological Recovery (Thai language). ↩
5. A River, Its Fish and Its People: Local Knowledge of the Natural Environment at the Mouth of the Mun River. Mekong Watch. May 2004. ↩
6. Chantawong et al. (2015) Ecology, Economics, Cultures of the Mekong Basin: From Kaeng Kood Koo to Pha Chan in a Changing Current. Published by Foundation for Ecological Recovery (Thai language). ↩
7. Chantawong, Montree. "The Shifting Mekong and Damages to Downstream: Who's Responsible?". 19 March 2014. ↩
8. IPCC (2000). IPCC Special Report – Emission Scenarios. Summary for Policymakers. A Special Report of IPCC Working Group III Published for the Intergovernmental Panel on Climate Change (IPCC). ↩
9. Mira Käkönen. CDM and challenges in delivering to the poor: case study from Cambodia. Finland Futures Research Centre, University of Turku. 28 February 2012.↩
10. Roberts, Kale. Mother Earth News (2015). "Renewable Energy Is Not Always 'Green': Greenhouse Gas Emissions from Hydroelectric Reservoirs". 2 July 2015. ↩
11. Li, Siyue and Lu, X. X. (2012). Uncertainties of Carbon Emission from Hydroelectric Reservoirs. Nat Hazards. 24 March 2012. ↩
12. Butler, Rhett. Mongabay (2012). "Tropical Dams Are A False Solution to Climate Change". 27 May 2012. ↩
13. dos Santos, Marco Aurelio. et al. Gross Greenhouse Gas Fluxes from Hydro-power Reservoir compared to Thermo-power Plants. Energy Policy. (2006) ↩
14. Barros, Nathan. et al. Carbon Emission From Hydroelectric Reservoirs Linked to Reservoir Age and Latitude. Nature Geoscience. (2011). ↩
15. Titthara, May. Phnom Penh Post. "Call for Sesan 2 Logging Halt". 1 July 2015. ↩
16. The Guardian. "Thorny frog and dementor wasp among new species discovered in Mekong". 27 May 2015. ↩
17. International Rivers (2015). "The Mekong Feeds Millions: Dams Threaten Southeast Asia's Vital Lifeline". ↩
18. VietnamNet Bridge. "Hydropower plants likely to affect Mekong River's fishery resources: experts". 27 December 2014. ↩
19. Zaffos, Joshua. "Life on Mekong Faces Threats As Major Dams Begin to Rise". 20 February 2014. ↩
20. International Rivers (2014). "Mekong Floods: The Dampening of the Wintery Suffering". 8 January 2014. ↩
21. Chantawong, Montree. "The Shifting Mekong and Damages to Downstream: Who's Responsible?". 19 March 2014. ↩
22. Clark, Pilita. Financial Times. "Troubled Waters: the Mekong River Crisis". 18 July 2014. ↩
23. TERRA (2013). "The False Solutions to Climate Change: A Case Study on Hydropower in the Mekong River Basin". ↩
24. Cronin, Richard P. World Politics Review (2015). "International Pressure Could Still Turn the Tide on Mekong Dams". 25 March 2015. ↩

BY TOM FAWTHROP | AUGUST 7, 2015 · 11:02 AM

The Salween River is Not for Sale

TAUNGGYI, Shan state, Myanmar

It is billed to become the biggest dam in SE Asia. The Mong Ton dam project on the Salween River will flood a vast area, with a reservoir extending 380 km upstream over an area home to thousands of Shan and other ethnic groups in a region of important biodiversity.

It could well become Myanmar's most controversial dam project since the Myitsone on the Irrawaddy. (This dam was suspended by President Thein Sein in 2010).

Sinohydro, The Three Gorges and Southern Power grid form a Chinese consortium with a 40 % stake in partnership with EGAT Thailand's Electricity Authority (40%) and local partners IGE.

Kunhing villagers protest against Mong Ton Dam, April 30, 2015.

Thousands of villagers supported by civil society in the Shan state are angry that their Salween –the last undammed river of size and importance in the region- is being dragged into the nexus of ever expanding hydro-power and big business.

The strength of anti-dam sentiments took the EIA consultants by surprise at a recent public meetings in Shan state conducted by SMEC (The Snowy Mountain Engineering Corporation from Australia).

The Australian consultants have been engaged by the developers to conduct EIA and SIA – Environmental and Social Impact Assessments.

They received a hostile reception from hundreds of Shan people crammed into a small hall many of them sporting "No Dam "bandalas and placards.

The Smec consultants were told the assessment period was too short.The villagers have been told very little by the government and these corporations.

The recent protest against the gigantic Mong Ton dam project on Salween River is only one part of a growing anti- dam movement struggling to protect the culture and livelihoods of millions stretched across three ethnic states in Myanmar - Shan, Karen, and Kayah comprising diverse minority peoples.

Hundreds of kilometers to the south, Kesan – (the Karen Environmental Network) organized a Salween day to mark the global protection of rivers day March 14th 2015, to celebrate the river's beauty and vital importance to ethnic peoples.

Up north the Mong Ton dam would flood pristine teak forests; the planned Hatgyi dam in Karen state would flood two wildlife north sanctuaries. Cultural and religious heritage sites will be inundated.

Banners defiantly proclaimed on the Thanlwin River/Salween in Myanmar: NO DAMS! THE SALWEEN IS NOT FOR SALE! On International Rivers Day of Protest celebrated on rivers around the world from the Amazon to the Mekong.

Ms Hsa Moo, a Kesan media coordinator addressed a crowd of several hundred Karen villagers. "When the government in Nay Pyidaw looks at the Salween River and other rivers in Burma, they don't see its beauty: they only see Thai Baht, Chinese Yuan, US dollars and Indian Rupees. For them, the rivers flowing through the lands of our ethnic communities are nothing more than a potential source of revenue. Not revenue for local people, but for the central government:

They want to dam our rivers, sell most of the energy they generate to neighboring countries, and keep the money for themselves.' She concluded "Our rivers are not for sale."

Statements from the Naypidaw parliament indicate the government's prime concern is not with the potentially disastrous impacts, but with the country's energy shortages.

In February 2013 the Deputy Minister of Power Myint Zaw told parliament that six hydropower dams had been approved for the Salween River, one of the region's longest flowing for 2800 kms from the snow-capped mountains of Tibet, through China and Myanmar.

The projects in Shan State include the Kunlon, with a capacity of 1400 megawatts, Naungpha (1000MW), Mann Thaung (200MW) and Mong Ton(aka Tasang dam) (7110MW). Other dams include Ywarthit (4000MW) in Kayah State and Hatgyi (1360MW) in Karen State.

Professor Maung Maung Aye chief advisor to the MEI –Myanmar Environment Institute speaking in a panel discussion in Yangon commented; “today damming the rivers is the government’s first principle for developing more energy, instead of being the last option for the nation.”.

The NGO Renewable Energy Association of Myanmar (REAM) also strongly criticized the government’s failure to adopt an energy policy that would include investment in solar power, wind power and other clean and green energy solutions that have recently dropped in price, and become far more affordable..

Upstream from Myanmar the Salween(Nujiang) in China had been the target for 13 dams in 2004. However in a dramatic reversal for Chinese hydropower, former premier Wen Jiabao declared a moratorium on dam construction on the River Nujang in response to a strong environmental campaign led by Green Watershed, supported by several Chinese geologists.

The Mong Ton (aka Tasang) dam will be by far the largest on the Salween River in Burma, producing 7,100 megawatts of electricity, 90 percent of which will be exported to China and Thailand.

The massive reservoir will stretch across almost the entire length of Shan State flooding huge areas and deluging hugely important areas of biodiversity and forest. Villagers who attended the recent SMEC –run consultation in early April, held up anti-dam placards and handed out a statement to the Australian staff, raising concerns about how the dam would threaten their livelihoods and trigger renewed armed conflict.

HYDRO- DAMS FUELLING CONFLICT

Nang Wah Nu, a representative from Shan State in Parliament reported last year that preparation work has already begun on monster Mong Ton dam designed to deliver 7000 mw of power, but only 15% for the Myanmar.

The Shan parliamentarian lamented “no information had been provided to residents who fear their homes, rice fields and pagodas will be flooded”. She warned “Fighting could break out if the government does not discuss the project.”

Indeed fighting has broken out in the proximity of dam projects with more than 50 clashes recorded between armed ethnic groups and the army during the current period of peace talks according to the Burma Rivers Network coalition.

Fresh fighting has erupted in southern Shan State in March 2013, after the army launched an offensive against the Shan State Army-North to force its troops out of bases along the Thanlwin (Salween) located near dam sites in Nona Pha and Mong Tong. This forced the displacement of 2000 villagers in Tangyan township.

A spokesperson for Karen Rivers Watch reported that the army’s border guard force attacked the Democratic Karen Buddhist Army in May in an attempt to drive them away from the Hatgyi dam site. The villagers fled to refugee camps on the Thai border.”

Sai Khur Hseng, director of Sapwawa a Shan environmental network declared: “These conflicts have broken out despite the ceasefires. It is very clear that the Thanlwin (Salween) dams are fuelling war. If President U Thein Sein really wants peace, he should stop the dams immediately,”

The Myanmar government plans to sell electricity produced from the hydropower projects on the basis of agreements with five Chinese companies, one Thai company and three Myanmar companies. The ministry says Myanmar will get 15 percent of the electricity from the projects and the right to buy a further 25%.

These very serious and well- documented allegations have been raised in peace talks with the government.

Karen people protest against the Hat Gyi Dam and other dams on the Salween.

THE HYDROPOWER DEBATE: The World Bank versus the World Commission on Dams and the Oxford Study.

In January 2015 the World Bank and its financial arm the IFC-International Finance Corporation organised a conference in Yangon to promote hydropower as an engine for economic growth, and as a solution for dealing with the nation's energy problems held in Naypidaw.

The event was clearly aimed at tapping the huge influx of foreign investor's rich eager to grab a stake in exploiting the nation's rich natural resources.

Although heavily outnumbered by businessmen and bankers, a few ngos were allowed to raise serious challenges to the overwhelming pro-dam spirit of the conference. John Saw Bright a representative of Kesan –(the Karen environmental & social action network)made it clear to the conference , mega-dam projects like the controversial Myitsone dam have given dams a bad reputation in Myanmar.

A representative from Myanmar Peace Support similalrly observed "dams and hydropower do not have a beautiful name in Burma..."

THE WORLD BANK AND HYDROWER

At the Naypidaw conference in January 2015, the World Bank Group tried to counter the negative image of large-scale dams, with the simple mantra of "sustainable hydropower ""a slogan that has come to permeate all international discourse on dams.

Kate Lazarus from the IFC the financial arm of the World Bank commented, "a sustainable hydropower sector will help mitigate environmental and social risks, while realizing Myanmar's huge energy potential, contributing to economic growth and shared prosperity."(The Nation newspaper in Thailand)

Karin Finkelston, IFC's vice president for global partnerships argued that "electricity is fundamental to reducing poverty and improving living standards for Myanmar's people and hydropower is an important part of Myanmar's energy future – but it has to be done in an environmentally and socially sustainable way."

But all this begs the question of what is sustainable and does mitigation work? The World Bank and the IFC neglect to define the limits of sustainability. The test of unsustainability and the grounds for rejecting a dam-project cannot be found anywhere in their literature. It has also never been clarified by the Mekong River Commission.

Rhetoric and assurances do not guarantee that millions of people living on Burma's great rivers, and their fisheries, farm crops, and their livelihoods, can be adequately protected from destruction, which normally follows in the wake of mega-dam operations.

In fact here the work of fisheries experts and scientists clearly demonstrates that World Bank policy runs counter to the conclusions of recent scientific reports including the World Commission on Dams and subsequent studies.

The most comprehensive study of hydropower dam impacts around the world concluded that most mega-projects had unleashed many problems and that the losses suffered usually outweighed the benefits.

The World Commission on Dams (2000) concluded ´Decentralised, small-scale options (micro hydro, home-scale solar electric systems, and wind and biomass system) based on local renewable sources offer an important near-term, and possibly long-term, potential particularly in rural areas far away from centralised supply networks."

Renewable Energy Association of Myanmar (REAM), a civil society group, pointed out that most of the population in Burma lives in remote and off-grid areas. If the government and the World Bank Group genuinely aim to bring electricity

to the local population, decentralized off-grid solutions are the best option, not large-scale hydropower dams for export.

International Rivers ngo view sustainable hydropower as a formula not for examining all energy options and defining criteria for stopping a deeply flawed dam from being built, but rather a recipe for building " better nicer dams" based on unproved technologies of mitigation.

Pai Deetes of International Rivers blogged "It is clear that the myth of "sustainable hydropower", as it is being sold by the World Bank will simply not be accepted in Burma.

Just recently an Oxford University research study corroborated these conclusions. "The evidence is conclusive: Large dams in a vast majority of cases are not economically viable. Instead of obtaining hoped-for riches, emerging economies risk drowning their fragile economies in debt owing to ill-advised construction of large dams," they said in a statement attached to the study, which was published on March 10: 2014 in the Energy Policy journal.

"The World Bank's claim that hydropower is "clean affordable, and reliable" is clearly contradicted by this study.

Bent Flyvbjerg, principal investigator for the Oxford University dam study, says dams "are not carbon neutral, and they're not greenhouse neutral". The vast quantities of concrete required to construct leave an enormous carbon footprint, he says.

Furthermore flooded vegetation under the reservoirs produces methane, a greenhouse gas roughly 20 times more potent than carbon dioxide, he says.

Co-author Bent Flyvbjerg, the founding chair of Major Programme Management at the school, said the findings against mega dams were so conclusive that only "fools" or "liars" would advocate for them.

Kunhing villagers protest against Mong Ton Dam. April 2015.

CONCLUSION

Before the government and civil society consider following the World Bank neo-liberal model of development they should also heed the latest revelations from a global media investigation.

"Dams, power plants and other projects sponsored by the World Bank have pushed millions of people out of their homes or off their lands or threatened their livelihoods" the investigation found

The UK Guardian, the Huffington Post and other media, are currently publishing a series of these investigation reports from the ICIJ (International Centre of Investigative journalism).

The ICIJ report concluded "The World Bank regularly fails to enforce its own rules protecting people in the path of the projects it bankrolls, with devastating consequences for some of the poorest and most vulnerable people on the planet."

Many of the poorest and most vulnerable people constantly subject to military harassment, and enforced resettlement are the ethnic peoples of the Salween River.

If the Myanmar government is serious about bringing peace to the ethnic regions and ending civil war in the country, they have to think again about imposing mega-projects on the ethnic states without providing them any benefits or compensation.

Building or not building dams is about far more than foreign investment, selling energy to neighbouring countries and protecting the environment. It is intimately connected with a more equitable sharing of political power and natural resources between the central government and its impoverished ethnic regions.

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BY NATHANIEL EISEN | MARCH 9, 2015 · 4:25 PM

Review: Great Gamble on the Mekong documentary

Khone Phapeng falls in southern Laos; photo by Tom Fawthrop

Fishers and farmers have for some time tried to block a proposed dam on the Mekong River in southern Lao People's Democratic Republic (Lao PDR). Most recently, they made their views known at a public consultation on the Don Sahong dam. In all likelihood, however, they will lose and the dam will be built. *Great Gamble on the Mekong,* a new documentary from filmmaker and journalist Tom Fawthrop, insightfully details the probable dire consequences of this dam, and the failure this represents for a once-promising extra-legal cooperative structure, the Mekong River Commission.

The Mekong runs from the Himalayas in Tibet through China, Burma, Thailand, Lao PDR, Cambodia, and Vietnam—the latter five forming the Lower Mekong Basin (LMB)—where it empties into the South China Sea. According to Fawthrop, it provides protein and food security for 65 million people in the form of fish for food and trade, and water and nutrients for home gardens and commercial farms. At the same time, the Mekong has long represented a potential source of renewable energy. China has already built six dams on the Upper Mekong, and plans to build at least 14 more.

Dams have been discussed and rejected on the Lower Mekong mainstream since the 1950s, though they have gone up on its tributaries in that time. In 1995 Thailand, Lao PDR, Cambodia and Vietnam signed the Mekong Agreement and formed the Mekong River Commission (MRC). The goal of the MRC is to facilitate cooperation in managing the resources of the Lower Mekong, but it has no final decision-making power.

The proposed Don Sahong dam at the center of this film would sit squarely across the main channel that migratory fish use to bypass the massive Khone Falls near the Lao border with Cambodia. It would be the second dam begun on the mainstream of the Lower Mekong—construction began on Xayaburi, another controversial dam, in 2012—with as many as 10 more to follow.

Cost-Benefit Analysis

The Lao government and the Finnish company Poyry it hired to oversee construction of Xayaburi claim that dam will provide clean energy to three million people in Thailand and one million in Lao PDR. The MRC claims dams on the Lower Mekong mainstream have the potential to reduce the severity of floods and droughts, and thatbuilding all 12 would generate $15 billion in economic activity, create 400,000 jobs, and reduce greenhouse gas emmissions by 50 Mtons CO2/yr by 2030. A study commissioned by the MRC, and completed by the International Centre for Environmental Management (ICEM) in 2010, concluded that the 12 dams could meet 8 percent of the region's energy needs by 2025.

The ICEM study is clear however that benefits will not be disbursed equally: "Mainstream hydropower generation projects would contribute to a growing inequality in the LMB countries. Benefits of hydropower would accrue to electricity consumers using national grids, developers, financiers and host governments, whereas most costs would be borne by poor and vulnerable riparian communities and some economic sectors...In the short to medium term poverty would be made worse...." Lao PDR does plan to use the revenues from selling the energy produced by its dams for rural roads, health care, and education, though during the "concession period" (estimated by ICEM at 25 years) after dam completion, the bulk of

revenues would go to the dams' financiers and developers.

According to the academics and nonprofit workers that Fawthrop interviews in *Great Gamble on the Mekong*, the exact impacts of the dams are impossible to predict, but they will likely be severe. "The Don Sahong dam will only push Cambodia and Vietnam closer to a food crisis," says Chhith Sam Ath, an employee of the World Wildlife Fund in Cambodia. In addition to flooding gardens along the river, and diminishing the fish stock, they predict that the entrapment of nutrients by the dams will hurt rice production in Vietnam, leading to higher global food prices.

The 2010 ICEM study concluded that building the 11 mainstream dams on the Lower Mekong would reduced "capture" (non-farmed) fisheries by 16 percent. Combined with the built and proposed dams on the Upper Mekong, and on tributaries in the Lower Mekong Basin, this number rises to 26-42 percent. New aquaculture associated with dams would only replace at most 10 percent of this loss. Lao PDR and its developers claim they can mitigate the losses of fish–Poyry claims fish gates will allow 80 percent of migratory fish to pass up and down streams, while MegaFirst, the Malaysian company planning to dam Hou Sahong, claims making adjacent channels wider and deeper will provide fish with a detour route.

Yet the fish gates Poyry plans to use have never been tested on the varieties of fish found in the Mekong, and fish passes need to be designed to take into account individual species' behavior and sensitivity to factors such as oxygen and nutrient levels. AsPoyry's senior project manager conceded, "whether the fish get across [the dam], you'll only see when it is built." Faulting Lao PDR for not testing the fish gates in the Mekong before building a dam, when you need a dam to test the gates seems unfair. But they could test the technology on a smaller, less impactful dam on a tributary.

The Political Process

In the face of this uncertainty, the ICEM report recommended putting off any mainstream dam construction until 2020, using the intervening years to more fully study the impacts of the dams on the Upper Mekong and on the tributaries of the Lower Mekong. In a five-year strategic plan issued in March 2011, the MRC Council also recommended more study, as well as a thorough Procedure of Notification, Prior Consultation and Agreement (PNPCA), the internal procedure of the MRC for member countries to consider and offer feedback on the proposals of other countries. Yet eight months later, Poyry announced that Lao PDR had met its obligations under the 1995 agreement and could proceed with construction of Xayaburi. A year after that, in November 2012, Poyry received an eight-year contract to supervise Xayaburi''s construction and engineering, and construction began. Poyry claimed at the time that it had updated designs to take into account the concerns of downstream nations. Yet in January 2013, Cambodia and Vietnam vigorously protested that their concerns had not been addressed, and demanded a halt to construction. They were unsuccessful.

A similar drama unfolded around the Don Sahong Dam. Last September, Lao PDR announced the start of the Don Sahong Dam, this time avoiding the PNPCA by claiming the project was not on the mainstream. After diplomatic outrage, the Lao government consented to a PNCPA, which began last July and is only required to run six months. Despite opposition from the governments and civil society in Vietnam and Cambodia, the Lao government has signaled its intention to proceed with the dam.

These dams are the first major test of the MRC's ability to handle conflict among its members. The MRC tasks members with "aiming at arriving at agreement" on projects that significantly impact water quality or flow but has no voting mechanism or penalties for not reaching agreement. The CEO of the MRC Secretariat, Hans Guttman, states in *Great Gamble* that if the parties don't arrive at an agreement, the country proposing such a project can still go ahead with it.

Resistance

Citizens of Cambodia, Thailand, and Vietnam have lobbied their respective governments to halt the dam. Hundreds of NGOs, both local and international (including World Wildlife Fund and International Rivers) have been trying to mobilize the opposition. Thai villagers filed a lawsuit against EGAT, the National Energy Policy Council, and three other government agencies in 2012, challenging the power-purchasing agreement they entered into with the Lao PDR government for electricity from Xayaburi. In June 2014, the Thai Supreme Administrative Court agreed to hear the case.

The international response, outside of the press, has been muted. MRC's international donors issued a joint statement in January 2013 urging further study before beginning dam construction, but have said little else. The UN and heads of state have been notably silent.

Fawthrop's film does not address how concerned Westerners can respond. The answer certainly feels fraught, given Laos' historical experience of French colonialism and U.S.military aggression, including the unexploded ordinance that still affects the country. Then there's the region's very real need for clean energy as well as the standard argument about the hypocrisy of industrialized nations telling any country to sacrifice growth for environmental protection.

This is the progressive's dilemma when it comes to foreign policy. Certainly any intervention should come in the form of carrots and not sticks: money and/or technology to develop less destructive sources of renewable energy; promotion of tourism to the region; UNESCO World Heritage Site recognition for Kohne falls, and so on, conditioned on implementing the ICEM report's recommendations.What *Great Gamble on the Mekong* makes clear, and what studies of other massive dam projects have proved is that this is a humanitarian issue, and that the poorest will likely suffer the most.

Great Gamble on the Mekong has some distracting elements. The claim that the Thai banks funding Xayaburi are "getting nervous" as a result of letters sent to them by anti-dam activists seems like wishful thinking. For the sake of their own credibility, the filmmakers shouldn't have included a cartoon set to Pink Panther music. Finally, the filmmakers should have addressed how some species got to be endangered before any dams were built. For example a WWF report says that overfishing was partly responsible for the decline of the great catfish. These critiques aside, this is an important and stirring film.

Nathaniel Eisen is a freelance author interested in the intersections of trade, human rights, security policy, and the environment. Information about the documentary Great Gamble on the Mekong can be found at www.tomfawthropmedia.com. Copies of the DVD can be ordered from eurekacuba@gmail.com. This post was first published on the Foreign Policy in Focus blog on 12/26/2014. It is reposted here with the permission of the author.

BY AREEYA TIVASURADEJ | JANUARY 16, 2015 · 5:03 PM

Meet the Salween

I heard the name "Salween" before. I didn't know exactly where it is. I knew it was somewhere close.

Somehow its name portrays a feeling of fearless turbulence. Perhaps, it's the sound of "S" and the rhyme between "ween" and a Thai word "wian" from the word "wonwian" meaning lingering and wandering which makes me think of the word "namwon" meaning whirlpool.

There is a legend about the two great sister rivers of Southeast Asia: the Salween and the Mekong.

And this is how the story goes:

One day, the two rivers decided to go to sea. They agreed to travel through the mountains together and stopped whenever

they wanted to. The Mekong slowly spanned its waterline through the landscape while the Salween hurried its way to claim the frontline.

After rushing ahead, the Salween decided to stop for a quick nap to wait for the Mekong. Days passed and the Mekong was still absent. The Salween thought the Mekong took a chance when it was sleeping to get ahead—to be the first to see the ocean. Angry and feeling betrayed, the Salween rushed through the channels and aimed to destroy any rock that stood in its way. Its wild speed was felt by those living nearby. The Mekong, on the other end, finally arrived at where the Salween was napping. Not seeing its younger sibling did not push it to move any faster. The Mekong continued to crawl and collect waters along the way; it even went off-route to carry fish and water into Tonle Sap before it finally reached the sea.

It is said that many communities believe in this story, though I have only heard it from two people. The anecdote may vary. Though it does resemble the turtle and the hare tale, but stories and legends are much better tools to narrate and describe the difference between the two.

Perhaps, it is the Salween's anger that makes it the last free flowing river in China and Southeast Asia until 2015.

The Salween is originated from the marshland in the Himalayan Plateau—the same glacial area where the Mekong and the Brahmaputra start their mightiness. It travels over 2,200 kilometres through southwest China, Thailand, and Myanmar. Most of the areas it nourishes are occupied by ethnic indigenous communities. In Yunnan alone, the Nu River (as the Chinese called the upper Salween) feeds at least 22 ethnic groups. The same reality applies to downstream communities at the border between Thailand and Myanmar and major ethnic states in Myanmar (where Burmese names it "Thanlwin"). I remember someone told me that the Salween's turbulence is reflected by perpetual ethnic tension in the most recent open country of ASEAN.

The plan to dam the free flowing Salween is not new. 13 cascade dams for the Nu River were proposed in 2003 as part of China's 10th Five Year Plan. Chinese environmentalists immediately called the government to halt the project. Their voices were listened, but the hiatus is now over and the proposed 13 hydropower projects are back on the table.

Thailand's eyes on damming Myanmar's Thanlwin/Salween is also not new. Nearly ten years ago, Thai environmentalists became aware of 7,110 MW Ta Sang Hydropower Project, a Thai national dam at the cost of Burmese environment. The news of Ta Sang Dam has been silent but a recent loosely done EIA report and signed MOA for the 1,360 MW Hat Gyi Dam prove that the intention isn't going away.

7 is the number of proposed dams on the Thanlwin/Salween. Over 20,700 MW will be generated to Thailand and China. The newly built transmission lines that would come with the new dams would gracefully pass over the electricity and wealth to Myanmar's neighboring countries. Its people would have to look up to the electricity they are not entitled to use while watching their houses and livelihoods inundated by the reservoir.

But the real battle has only started. In June, 2014 Myanmar government switched on the green light for Chinese Hanergy Holding Group Company to tackle its hydropower project in Shan State. Kunlong Dam will stand tall to hold back the Salween while producing 1,400 MW of electricity to be sent back to China.

Large-scale hydropower projects—along with many other environmentally and socially detrimental projects—never prove beneficial to local communities. "The few should sacrifice for the many" is the excuse project proponents always use to dignify their grand prize. However, in this case, "the few" we're talking here isn't small in number but their political voice and power to decide how and who would control the river they rely on.

"We call the Thanlwin, 'the River of Peace'" said Ko Ye, an activist from Dawei who has been fighting against Thailand-proposed mega development project in his hometown. "Because if this river is dammed or falls under one group's control, the ethnic war in Myanmar will never stop.

BY ALAN POTKIN | JANUARY 15, 2015 · 3:13 PM

Letter to the Mekong River Commission on the Don Sahong Dam

The following is a letter written by Mekong river expert and conservationist Alan Potkin submitted today to the Mekong River Commission's online stakeholder consultation concerning the Don Sahong dam. The construction of the Don Sahong dam on the Mekong's Hou Sahong channel in Siphandon, Laos is a project sparking extreme controversy in the Mekong region. Despite Vietnam's and Cambodia's condemnation of the dam along with a massively successful petition campaign gaining more than 250,000 signatures and increasing local and international coverage of the controversial project, construction for the dam is likely to begin by the end of the year.

Indeed "now is the time to separate fact from fiction"...

Notwithstanding his Googleable scientific publications being exclusively in quantitative algology, rather than in any aspect of ichthyology (not least fish taxonomy, physiology, and reproductive or migratory behaviors), I had consistently argued that we should accept that Dr Peter Hawkins, Don Sahong's Environmental Manager, was speaking and acting in good faith until proven otherwise...

Until this latest announcement by him that the altered dry season hydrology above and below Siphandone, following the new release regime
from the Lançang Jiang cascade of hydropower dams in Yunnan PRC, will now make it "easier for fish to migrate" through alternate channels other than Hou Sahong during the dry season.

Well, maybe yes and maybe no.

According to years of fieldwork conducted there by Dr Tyson Roberts and Profs. Ian Baird and Water Rainboth, amongst others,
no less than 150 species of fish transit through, or are resident, in Siphandone. Other than their basic taxonomy, almost nothing is known in
sufficient empirical detail about any ofthem to understand exactly what ecological and behavioral cues initiate bi-directional migration and successful reproduction: Water temperature? Current velocity and/or stream stage? Phases of the moon? Subtle chemical alterations? Angle of the sun in the sky/polarization of insolation?

How much change in elevation per unit of lineal distance could be encompassed within a particular species' genetically-determined
metabolic parameters and swimming musculature to still be a manageable pathway?

All essentially unknown!

The planet's best understood migratory fishes are the salmonidae of the northern hemisphere, which in any given inland waterway probably never exceed four or five different species having themselves much in common. Yet even now ichthyologists are far from certain over exactly how salmonids are capable of navigating to, and infallibly identifying, precisely that reach of river/tributary wherein they were originally spawned, perhaps even a decade earlier, with most of those intervening years as adults spent offshore in the oceans.

And if any or all of that that were known in exact and correct detail about one or two or three of the most economically and nutritionally
important Mekong species, there would yet be another 140 species, at least, which might be responding to completely different sets of stimulae and environmental cues.

I would be delighted to have these assertions proven false by aquatic ecologists holding credible expertise far greater than my own.

Once again, I would note that available to whomever might successfully navigate far upstream into several of our interactive eBooks, notably
"Mekong-Orwell" —mostly about the Pak Mun debate Xayaboury and Don Sahong— there are linked online videos showing the
rather underdeveloped state-of-the-art of "fish friendly" turbines, and showing the general impassibility of even a 70cm artificial obstruction erected across the migratory pathways of one of the most robust and powerful N. American fish species, but one which lacks any evolutionary history of jumping.

Thanks as always, for all due consideration.

Access the interactive media links below to learn more about Alan Potkin's work on Mekong issues.
http://www.sethathirath.com/mekong_actual_outcomes1.final_cfp.pdf
http://www.sethathirath.com/nam_phit/digital_mekong_planning.pdf
http://www.sethathirath.com/mekong_orwell_eBook/pak_mun_homepages.pdf
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