

Analysis of International Environmental Laws Implicated by Decision to Approve Construction of the Xayaburi Dam

**Prepared for International Rivers &
Environmental Defender Law Center**

**Prepared by Steve Higgs
Perkins Coie LLP**

October 12, 2011

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Perkins Coie LLP

INTRODUCTION AND EXECUTIVE SUMMARY

This memorandum provides a legal analysis of several environmental laws and responsibilities that are implicated by the decision of the Lao People's Democratic Republic (“Lao PDR”) to approve the construction of the Xayaburi Hydroelectric Power Project (“Xayaburi Dam”) on the Lower Mekong River.

By global standards, the proposed Xayaburi Dam qualifies as a “large dam” at nearly 50 meters tall, 830 meters wide, with a reservoir reaching at least 30 meters in depth and stretching upstream between 60 to 90 kilometers.¹ Large dams present large impacts that must be anticipated, analyzed, communicated, and mitigated before they are built. These are the requirements of good governance and international environmental laws that apply when any government seeks to develop a major energy project with the potential to cause significant transboundary environmental impacts and hardships on people.

We recognize the importance of sustainable development to the people of Lao PDR and the role power generation can provide to achieve this objective. However, the pursuit of sustainable development requires that a government’s development decisions are critically analyzed, that adverse environmental and social impacts are seriously evaluated and disclosed, that project plans and impacts are openly discussed through meaningful public involvement, and that mitigation of known and foreseeable impacts are proposed and likely to be implemented.

Unfortunately, as summarized herein, the assessments of independent scientists and professionals demonstrate that, for the Xayaburi Dam, the government has failed, thus far, to meet these basic requirements and, without further analyses and consultations, will be unable to meet them. The project’s Environmental Impact Assessment (“EIA”), which should have formed the basis of an informed appraisal of the project, is inadequate and incomplete. The dam’s proposed fish ladders are ill-suited to accommodate the mega diversity and quantity of fish that likely use the dam’s impact area and experts conclude the project could cause the extinction of iconic species while driving others into endangered status. Neighboring governments who share this river – Cambodia, Thailand, and Viet Nam – raise their own concerns or recount concerns from their stakeholders that the dam’s impacts will cause unmitigated transboundary impacts on the environment in their respective jurisdictions. It is critically important to meet the international environmental expectations for this project because the Xayaburi Dam is the first of eleven proposed for the Lower Mekong River, which is a transboundary river of exceptional importance to neighboring countries and the international community.

The International Court of Justice (“ICJ”) has explained the central precept of international environmental law as follows:

[T]he environment is not an abstraction but represents the living space, the quality of life and the very health of human beings, including generations unborn. The existence of the general obligation of States to ensure that activities within their jurisdiction and control respect the environment of other States or of areas beyond national control is now part of the corpus of international law relating to the environment.²

This memorandum illustrates this precept through five points of international environmental law that Lao PDR has or may violate if it allows the construction of the Xayaburi Dam, as proposed, without redoing the project's EIA, reinitiating the public participation and consultation processes, evaluating and documenting the likely transboundary effects of the dam, and affording the three other lower Mekong governments an opportunity to properly conclude the Procedures for Notification, Prior Consultation, and Agreement ("PNPCA") process under the Mekong Agreement.³ We provide a sixth point of law to illustrate the fact that the other three lower Mekong governments (Cambodia, Thailand, and Viet Nam) have related rights and duties to protect the mutual uses of the Mekong River.

In summary, our review of several international environmental laws, and the factual premises stated herein,⁴ leads to the following conclusions:

1. The EIA for the Xayaburi Dam should be redone to conform to international expectations for a large dam on a transboundary river, which includes detailed analysis of the project's anticipated transboundary impacts.
2. Because the EIA was flawed and was not made available to the public prior to the public participation and consultation process, these processes were seriously compromised. Once the EIA is complete, the analysis should form the foundation for reasonable public participation and consultation on the dam in Lao PDR and in the three other lower Mekong countries.
3. The decision to approve the Xayaburi Dam, as proposed, will likely cause adverse impacts to biodiversity shared by other nations in contravention to Lao PDR's duty under the Convention on Biological Diversity.
4. The decision to approve the Xayaburi Dam, as proposed, will likely cause adverse harm to neighboring States, in contravention of Lao PDR's duty to prevent transboundary harms.
5. The decision to approve the Xayaburi Dam, as proposed, violates the precautionary principle because the decision fails to address the compelling uncertainties and concerns about the dam's impacts and fails to demonstrate that the proposed mitigation of these impacts is likely to succeed.
6. Cambodia, Thailand, and Viet Nam have rights and duties to prevent adverse impacts from the Xayaburi Dam to the Mekong River. These governments are entitled to financial remedies for the adverse impacts incurred in their respective jurisdictions.

These points of law can provide some context for the upcoming deliberations in November of 2011 when we understand the Mekong River Commission ("MRC") Council plans to meet to discuss the future of the Xayaburi Dam's PNPCA process and whether or not the dam may be built. To aid these deliberations, we conclude this memorandum with three recommendations

that one or more governments may implement to address any dispute about whether or how the dam will be built.

We emphasize here two cautionary notes with regard to the use of this legal analysis. First, this analysis addresses several international environmental obligations of Lao PDR, but, it does not address all international obligations, including all obligations arising under the Mekong Agreement or human rights law, nor does it focus on the domestic laws of Lao PDR or the other three riparian governments. With respect to the Mekong agreement, our July 5, 2011 letter highlighted several distinct and related responsibilities of Lao PDR which, in our view, should be considered the principal law to apply to resolve disputes about this transboundary river.⁵ With respect to all other potentially applicable laws, several are, unfortunately, more likely to be relevant if and when the environmental or socio-economic impacts occur.

Second, there is a pressing need for additional assessments from third-party advisors about the relevant facts to apply to the law because applications of the law are fact-driven. We have not performed our own detailed review of the EIA to determine whether it or other project decision documents comport with international expectations for a large dam. Rather, we relied on the written assessments of the EIA prepared by scientists and professionals⁶ as well as the MRC Secretariat's Prior Consultation Project Review Report.⁷ One of our key recommendations stated below is for more independent analyses of all the relevant project decision documents. For instance, focused analysis is warranted on the cumulative impact of this project in light of all the other projects proposed for the Mekong River tributaries and mainstream. Dams alter the physical, biological, and chemical properties in a river and can impact communities in complex ways that should be fully evaluated and understood before a dam is constructed.

DISCUSSION

1. The EIA for the Xayaburi Dam should be redone to conform to international expectations for a large dam on a transboundary river, which includes detailed analysis of the project's anticipated transboundary impacts.

Governments are required to undertake detailed environmental analyses, known as an environmental impact assessment or EIA. The International Energy Agency defines an EIA as:

[The] [i]dentification, description, and assessment of the direct and indirect effects of a project on: human beings, fauna and flora; soil, water, air, climate and the landscape; the interaction of these factors; and on material assets, and the cultural heritage.⁸

The requirement to perform a meaningful EIA is a threshold duty under international law before a government may advance any major development project with likely adverse transboundary impacts to the environment and human populations. This requirement was recently affirmed by the ICJ in its 2010 decision *Pulp Mills on the River Uruguay (Argentina v. Uruguay)*:

[I]t may now be considered a requirement under general international law to undertake an environmental impact assessment where there is a risk that the proposed industrial activity may have a significant adverse impact in a transboundary context, in particular, on a shared resource. Moreover, due diligence, and the duty of vigilance and prevention which it implies, would not be considered to have been exercised, if a party planning works liable to affect the régime of the river or the quality of its waters did not undertake an environmental impact assessment on the potential effects of such works.⁹

The Convention on Environmental Impact Assessment in a Transboundary Context illustrates well-accepted objectives for the EIA such as the need to:

- (1) “give explicit consideration to environmental factors at an early stage in the decision-making process by applying environmental impact assessment ... as a necessary tool to improve the quality of information presented to decision makers so that environmentally sound decisions can be made paying careful attention to minimizing significant adverse impact, particularly in a transboundary context,”
- (2) “establish[] ... an environmental impact assessment procedure that permits public participation and preparation of the environmental impact assessment documentation,” and
- (3) “undertak[e] [the EIA] prior to a decision to authorize or undertake a proposed activity [like a large dam].”¹⁰

The EIA for the Xayaburi Dam fails to meet these objectives. At least four separate evaluations of the EIA discuss its flaws as measured against international expectations for a development of

this magnitude. The project review by the MRC Secretariat also raised serious concerns about the environmental impacts of the project.

One highly critical evaluation was performed by scientists and dam experts (Baran et al.) in their detailed review of the fish and fisheries section of the project's Feasibility Study and EIA, with a particular focus on the fish passes proposed as an environmental impact mitigation measure. Notably, the standards for review reflected the guidelines issued by the Asian Development Bank, the International Association for Impact Assessment, the International Hydropower Association and the World Commission on Dams.¹¹ The authors concluded their assessment:

[T]he gaps of the assessment lead to the conclusion that the Xayaburi EIA does not meet the international standards for Environmental Impact Assessments. The Xayaburi EIA does not answer questions about the nature, magnitude and extent of possible impacts of the project, or concludes without evidence that these impacts would be insignificant.

As a consequence it is recommended to revise the Environmental Impact Assessment of the project so that transboundary impacts are covered and that questions about impacts and mitigation measures are answered in line with international best practice. Beyond the EIA, there is a need for a Cumulative Impact Assessment focusing on the possible impacts of the Xayaburi dam in addition to those of the 47 other dams that will be present in the Mekong Basin by 2015.

...
Overall the fish passage facilities proposed to mitigate the impact of the Xayaburi project on fish migration meet 4 out of the 30 guidance points of the MRC *"Preliminary design guidance for proposed mainstream dams in the Lower Mekong Basin"*, but they do not meet or do not provide evidence of meeting 19 out of these 30 points. The fish passage facilities are not based on experimentation, some of their features are not precisely detailed, and several of their characteristics are unlikely to be compatible with the passage of dominant Mekong fish species.¹²

Professor Lanza of the University of Massachusetts, Amherst, MA, USA, reached equally critical conclusions that "[t]he EIA is punctuated by a lack of clarity, includes many contradictory statements, and is not acceptable from a technical standpoint," "[t]he EIA is of such poor quality that it seems highly irresponsible that it is being offered to support the first dam proposed for the lower Mekong mainstream," "the EIA is incomplete and oversimplifies the dam's impacts on ecological resources, including water quality, aquatic ecology, fisheries and public health. The EIA is notable for the essential information *not* included in the report and the important environmental questions *not* addressed," and "[t]he EIA does not demonstrate an understanding of how rivers function and is focused on the amount of water flowing as a single dimension of the Mekong River ecology."¹³ Similarly, Dr. Hogan of the University of Nevada, Reno, USA, referred to the EIA as "grossly inadequate,"¹⁴ and PhD candidate Blake concluded "the EIA vastly underestimates the scale and magnitude of the impacts, in all sectors...."¹⁵

In its project review report, the MRC Secretariat also summarized a number of concerns about the project. For instance, the Secretariat's Fisheries Expert Group "concluded that the proposed design of the fish ladder for upstream migration and the provision for downstream migration of adult fish as well as larvae and fry will be ineffective." The MRC report also states that "[t]he likelihood that species longer than 150 cm can successfully bypass the dam upstream is low implying there is strong possibility of the naturally-migrating Mekong giant catfish becoming extinct," and that "[g]aps in knowledge – on the number of migratory fish species, their biomass and their ability to pass a dam and reservoir – lead to considerable uncertainty about the scale of impact on fisheries and associated livelihoods, both locally and in a transboundary context."¹⁶

The unmistakable conclusion from these evaluations is that the Xayaburi EIA is incomplete and inadequate and does not meet international expectations for an EIA of a major energy development with likely irreversible and significant transboundary impacts. The EIA should be redone because, as is, it could not have formed the basis of sufficient public engagement, consultation, or reasoned decision-making. Further, it is our understanding that construction of the dam has commenced, despite the fact that the EIA remains inadequate and incomplete. This too contravenes the international expectation that an EIA is to be complete prior to the time a decision to authorize a project has been made.

2. Because the EIA was flawed and was not made available to the public prior to the public participation and consultation process, these processes were seriously compromised. Once the EIA is complete, the analysis should form the foundation for reasonable public participation and consultation on the dam in Lao PDR and in the three other lower Mekong countries.

We explained in our July 5, 2011 letter that Lao PDR prematurely terminated the PNPCA process without allowing its neighbor countries to properly conclude that process. This action violated the Mekong Agreement and also contravenes well-established expectations of the international community that available information about the adverse impacts of a major development will be communicated to affected stakeholders, including neighboring governments, and that such stakeholders will have a reasonable opportunity to provide informed feedback on the decision.

As explained in the United Nations' World Charter for Nature, "[a]ll planning shall include ... assessments of the effects on nature of proposed policies and activities; all of these elements shall be disclosed to the public by appropriate means in time to permit effective consultation and participation."¹⁷ The international expectation therefore is that any government decision that will significantly impact the environment requires early disclosure of its effects to the public and neighboring States to facilitate reasonably effective participation and consultation in good faith on what the project involves, what will be the local and transboundary effects, whether the project should proceed, and if it does proceed, what mitigation will occur to offset its adverse effects.¹⁸ Such participation and consultation should include focused efforts by the government to ensure participation of populations that are frequently politically disadvantaged or marginalized in the decision-making process, such as women.¹⁹

Public engagement in environmental decision-making must also be sensitive to and reflect the context and needs of local populations. To this end, the MRC has explained that public participation in the context of the MRC's work in all four lower Mekong countries "is a process through which *key stakeholders* gain influence and take part in decision making in the planning, implementation, monitoring and evaluation of MRC programs and projects."²⁰ Key stakeholders are "those who can significantly influence or who are important to the success of the programme or project," which can include a range of parties such as directly affected people, indirectly affected people, the public sector, private developers, donors, non-governmental organizations, external advisors, and the business sector.²¹

Lao PDR's public participation and consultation processes for the Xayaburi Dam did not fully engage key stakeholders in a frank assessment of the impacts of the dam. For instance, the EIA (as flawed as it is) was not prepared in the Lao language or by the time Lao PDR performed many consultations with key stakeholders in its own jurisdiction.²² Thus, it is unclear what adverse impacts of the project were disclosed to these stakeholders because such impacts had not yet been fully documented or evaluated in the EIA. The sequence of this consultation likely undermined the ability of the affected public to participate in and to consult on the project's proposed design and potential alternatives, its foreseeable local environmental and social impacts, and the proposed actions to mitigate such impacts. People cannot be expected to provide informed comments or to make informed decisions about the potential impacts of a development on their lives unless they have the tools available to them and in their own language to understand these impacts and how they will be mitigated.

While the EIA was apparently discussed in three meetings in Lao PDR in August of 2010, it appears that only one of those meetings involved representatives of affected villages and, since the EIA presents an inadequate and incomplete analysis of the project's impacts, consultations based on this document cannot be considered adequate.²³ It is also our understanding that core decision-documents for the Xayaburi Dam such as the EIA and the Social Impact Assessment were not made available to these affected populations before these domestic consultations took place.²⁴ Further, it appears that those performing the surveys of people in villages affected by the dam did not make deliberate efforts to survey or consult with women and, by contrast, focused on interviews with males.²⁵

On a related point, because the EIA was flawed, the document also failed to provide a legitimate foundation for the consultations and engagement with other key stakeholders, including the leadership in neighboring Cambodia, Thailand, and Viet Nam. This failure further undercut the usefulness of information that was shared and the consultations that did occur in these countries.

3. The decision to approve the Xayaburi Dam, as proposed, will likely cause adverse impacts to biodiversity shared by other nations in contravention to Lao PDR's duty under the Convention on Biological Diversity.

The Mekong River is one of the world's most biodiverse and productive rivers. It is a global hotspot for freshwater fish as almost 1,000 species have been recorded in the river (second only to the Amazon). Among this biodiversity, the Mekong River is home to more species of giant freshwater fish than any other river, including the Critically Endangered²⁶ Mekong giant catfish

Pangasianodon gigas, the Critically Endangered giant *Pangasius sanitwongsei*, the Endangered seven-striped barb *Probarbus jullieni*, and the Endangered giant barb *Catlocarpio siamensis*.²⁷ The Mekong is also the world's largest and most productive inland fresh-water fishery supporting a total harvest of approximately 2.5 million metric tons per year valued at US\$3,600,000,000-6,500,000,000 dollars annually and migratory fish make up an estimated 40-70 percent of the harvest.²⁸

The preservation of this biodiversity and this fishery are of great regional and global significance. Alarming, independent experts have concluded that the Xayaburi Dam, if constructed as planned, would likely cause serious adverse impacts to this diversity and, more broadly, the fishery. Baran et al. estimate that in 2015, "nine of the 70 migratory species exploiting the [dam] impact area and/or its catchment will become classified as endangered, and that the construction of the Xayaburi dam will bring this number to 15," and that "one more catfish species (*Pangasius nasutus*) will join the two species currently critically endangered (*Pangasianodon gigas* and *Pangasius sanitwongsei*) because of the dam construction."²⁹ Hogan similarly concluded that "[a]ll available evidence suggests the Xayaburi dam will have serious negative impacts on the migratory and imperiled fish of the lower Mekong River and may drive the Mekong's two largest freshwater fish species, the Mekong giant catfish and the giant pangasius catfish to extinction."³⁰

In approving the construction of the Xayaburi Dam as proposed, Lao PDR is either unaware of the likely impacts to biodiversity from the project or intends to build the dam irrespective of these impacts. Under either view, the government's decision contravenes the species preservation and restoration requirements under the Convention on Biological Diversity ("CBD"). Under the CBD, biological diversity means "the variability among living organisms from all sources including ... aquatic ecosystems and the ecological complexes of which they are part: this includes diversity within species, between species and of ecosystems."³¹ Each party to the CBD affirms that "States are responsible for conserving their biological diversity and for using their biological resources in a sustainable manner."³² Under Article 3, no signatory can advance a development in its own territory that will impose adverse impacts on biodiversity in other States.³³

As the expert assessments of the Xayaburi EIA demonstrate, the EIA did not seriously analyze the likely impacts of the dam on biodiversity or species extinction. These assessments are too lengthy to fully recount here, but some grave concerns from Baran et al.'s findings are summarized below:

For the EIA generally:

- "the reservoir filling period (stretching over several years), the degree of water retention behind the dam ... and the impact of reduced flows on mainstream dry season water levels ... are not detailed nor discussed in the EIA, although these are factors that could heavily disrupt local fish resources, transboundary migrations and downstream fisheries."³⁴

- “2000 hectares of vegetation will actually be flooded by the dam reservoir and will decay over several years. In the EIA, the area studied is limited to the barrage area, corresponding to 21 hectares ... This represents a hundredfold underestimate of the upstream area impacted, and a flaw related to the impact of the project on downstream water quality. Actually the possible impact of decaying vegetation in the dam reservoir is not mentioned in the two pages dedicated to impacts on water quality downstream.”³⁵
- “[i]n the Xayaburi EIA, the creation of a permanent water body is ignored and there is no mention of the consequences for the fisheries resources of transforming at least 60 km of running river into a lake.”³⁶
- “the Xayaburi EIA ignores all transboundary aspects of possible impacts.”³⁷
- “the description of Mekong fish migrations in the EIA is extremely poor: the literature review consists of only 3 references, whereas other reviews have identified more than 28 studies and sources of information on Mekong fish migrations, all accessible during the EIA process. As a consequence, the EIA does not draw any conclusions about the importance of Mekong fish migrations in the project impact area.”³⁸
- “[o]ngoing research based on a review of over 70 databases, articles and species lists, shows that 229 fish species exploit habitats upstream of the planned dam site for spawning and/or dry-season refuges, 70 of them being migratory species. Among these are some rare and critically endangered species such as the Mekong Giant Catfish (*Pangasianodon gigas*). In contrast, the EIA only mentions an old list of 16 fish species, including 5 migratory species”³⁹

For the fish passages proposal specifically:

- “the definition of target species is absent from the Mitigation section of the EIA, resulting in an unsubstantiated choice of fish pass models.”⁴⁰
- “there is not a single detailed plan or drawing of the proposed [fish] passes in the EIA, making the proposal unclear.”⁴¹
- “the fish passage facility proposed does not make reference to any relevant experience elsewhere in the world, nor does it give a single bibliographic reference to justify the choices made.”⁴²
- “the EIA does not justify the fish pass design characteristics by any fish swimming behaviour or performance.”⁴³
- “the EIA does not specify how fish migrations will be affected during the construction period [noted to be eight years], and does not identify any mitigation measure during that period.”⁴⁴

- Another author, Dr. Hogan, concluded that one of the most important fish groups in the Xayaburi region (and the Mekong River as a whole) are Pangasiid catfish, which “may be capable of migrations between the Mekong delta and the Xayaburi site, meaning the impacts of the Xayaburi dam could be felt over a very large area from northern Thailand, to northeastern Thailand, southern Laos, Cambodia, and Viet Nam,” but that the “EIA ignores these transboundary impacts.”⁴⁵

These extremely critical remarks demonstrate that the Xayaburi EIA failed to seriously evaluate the impacts of the dam on fisheries, despite the fact that the Mekong River is the world’s largest inland fishery and the risks to the fishery are perhaps the most serious concern from this dam (the first of eleven planned for the Lower Mekong River mainstream). Because the EIA is inadequate and incomplete and because there is no convincing plan that the adverse impacts can be sufficiently mitigated such as by adequate fish passage, Lao PDR lacked a reasonable basis to approve the project, as proposed. Its decision therefore will likely “cause damage to the environment of other States” in contravention of Article 3 of the CBD.

On a related note, under CBD Article 7, Lao PDR “shall” also “(c) [i]dentify processes and categories of activities which have or are likely to have significant adverse impacts on the conservation and sustainable use of biological diversity, and monitor their effects through sampling and other techniques.” Under CBD Article 8(f), Lao PDR is also to “[r]ehabilitate and restore degraded ecosystems and promote the recovery of threatened species, *inter alia*, through the development and implementation of plans or other management strategies.” Both of these requirements speak to the importance of understanding and documenting the likely cumulative impacts of the Xayaburi Dam when added to all other existing and planned dams for the Mekong River.

Baran et al. explain that, “[b]y 2018, if the Xayaburi dam is built, it will be one of 48 dams in the Mekong Basin, and the biggest dam in the Lower Mekong Basin.” The authors point out that “[i]n Lao PDR the Nam Theun 2 project (1,075 MW), as well as the Nam Ngum 3 project (440 MW), have recently been subject to a CIA [Cumulative Impact Assessment]; however, the [Xayaburi] EIA reviewed makes no mention of the cumulative impacts of the 1,260 MW Xayaburi project.”⁴⁶ In other words, a CIA was performed for smaller dams (presumably with smaller impacts), but ironically none was performed for the larger Xayaburi Dam. We are also unaware of any deliberate research underway to determine the short or long-term effects of all of these 48 dams or any additional dams proposed. It also remains unclear what will be the result of any MRC or government efforts to rehabilitate and restore degraded ecosystems in the basin and to recover the species affected by existing dams.

These problems underscore the need for all of the lower four Mekong governments to implement the advice in the October 2010 Strategic Environmental Assessment of Hydropower on the Mekong Mainstream (“SEA”) for a 10-year moratorium on mainstream dam construction to resolve major uncertainties and concerns about such developments.⁴⁷ The 10-year moratorium on any new dam, including the Xayaburi Dam, would potentially enable Lao PDR to address its responsibilities under CBD Articles 3, 7 and 8 to prevent adverse impacts to biological resources shared by other States, to determine the effects of existing and planned dams on this biodiversity before new dams are built, and to determine the results of ecosystem rehabilitation and species

recovery efforts (including the recovery of endangered species that experts conclude likely use the Xayaburi Dam impact area) before new dams are built. Further analyses would also enable the project decision-documents, such as the EIA, to be revised to incorporate additional analyses of the foreseeable cumulative impacts of the Xayaburi Dam on the Mekong River and populations that rely on this river.

Without such knowledge, Lao PDR will likely be unable to meet its responsibilities under Articles 3, 7 or 8 of the CBD because the government's actions will likely impose adverse impacts on biodiversity and the government will remain unaware of the processes and activities which have or are likely to have significant impacts on this biodiversity.

4. The decision to approve the Xayaburi Dam, as proposed, will likely cause adverse harm to neighboring States, in contravention of Lao PDR's duty to prevent transboundary harms.

Under international law, Lao PDR must ensure that activities within its jurisdiction do not cause adverse impacts on the environment of other States.⁴⁸ This principle was affirmed by all four lower Mekong governments in the Mekong Agreement's Article 1 ("optimize the multiple-use and mutual benefits of all riparians") and Article 3 ("protect the environment ... from ... harmful effects resulting from any development plans"). This principle is also grounded in the World Charter for Nature, under which States shall "[e]nsure that activities within their jurisdictions or control do not cause damage to the natural systems located within other States or in the areas beyond the limits of national jurisdiction,"⁴⁹ Principle 2 of the Rio Declaration on Environment and Development ("Rio Declaration"), under which "States have ... the responsibility to ensure that activities within their jurisdiction or control do not cause damage to the environment of other States or of areas beyond the limits of national jurisdiction," and Article 10 of the Treaty of Amity and Cooperation in Southeast Asia.⁵⁰ Thus, under the Mekong Agreement and other sources of international law, Lao PDR has an obligation to protect against and to prevent damage to the neighboring environments of States and their populations.

The landmark ICJ decision, *Gabcikovo-Nagymaros Project (Hungary/Slovakia)*, illustrates this principle in practice. In this case, the ICJ concluded that the operation of a so-called Variant C option for a major lock system led Czechoslovakia to appropriate for its own use between 80 and 90 percent of the Danube River before returning these waters to the main bed of the river, despite the fact that the Danube is a shared international watercourse. While the Court concluded that Hungary, in a 1977 treaty, had agreed to the damming of the Danube and the diversion of its waters into a bypass canal, that was in the context of a joint operation and a sharing of its benefits. The ICJ concluded that Hungary's suspension and withdrawal of that consent constituted a violation of Hungary's legal obligations, but "that cannot mean that Hungary forfeited its basic right to an equitable and reasonable sharing of the resources of an international watercourse" and that "Czechoslovakia, in putting Variant C into operation, was not applying the 1977 Treaty but, on the contrary, violated certain of its express provisions, and, in so doing, committed an internationally wrongful act."⁵¹ The ICJ supported its findings by pointing to what it considered the long-standing law of transboundary rivers:

In 1929, the Permanent Court of International Justice, with regard to navigation

on the River Oder, stated as follows:

“[the] community of interest in a navigable river becomes the basis of a common legal right, the essential features of which are the perfect equality of all riparian States in the user of the whole course of the river and the exclusion of any preferential privilege of any one riparian State in relation to the others” (*Territorial Jurisdiction of the International Commission of the River Oder, Judgment No. 16, 1929, P.C.I.J., Series A, No. 23, p. 27*).

Modern development of international law has strengthened this principle for non-navigational uses of international watercourses as well, as evidenced by the adoption of the Convention of 21 May 1997 on the Law of the Non-Navigational Uses of International Watercourses by the United Nations General Assembly.⁵²

Applying this reasoning to the Xayaburi Dam, Lao PDR lacks authority to dam the mainstream Mekong River if that action will externalize adverse impacts on the neighboring governments of Cambodia, Thailand, and Viet Nam without their consent. Each of these riparian governments has already reached a treaty agreement with Lao PDR (the Mekong Agreement) to protect the rights of each riparian government to a reasonable and equitable share of the river’s resources. Lao PDR therefore cannot approve a development that may destroy a vital migratory fish corridor because it does not own the fishery and it lacks the right to jeopardize this fishery for its own development prerogative. The Mekong Agreement reflects the principle of international law that, on a transboundary river, there is perfect equality among all riparian States to the use of the river. This is why under the Mekong Agreement’s PNPCA process, prior consultation “is neither a right to veto the use nor unilateral right to use water by any riparian without taking into account other riparians’ rights.”⁵³

5. The decision to approve the Xayaburi Dam, as proposed, violates the precautionary principle because the decision fails to address the compelling uncertainties and concerns about the dam’s impacts and fails to demonstrate that the proposed mitigation of these impacts is likely to succeed.

Under the Rio Declaration, governments are to follow Principle 15’s “precautionary approach” “to protect the environment” and “[w]here there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation.”⁵⁴ The government’s decision to approve the Xayaburi Dam based on the gaps in the EIA (discussed above) contravenes the precautionary principle in at least two ways.

First, Lao PDR does not appear to have taken any action to address the compelling recommendation of the SEA for a 10-year moratorium on mainstream dam construction to better understand and anticipate the short and long-term effects of any mainstream dam development. The SEA was to “directly enhance[] the baseline information and assessment framework for subsequent government review of project-specific EIAs prepared by developers. It [was] also [to] inform[] how the MRC can best enhance its support to Member Countries when the formal

process under the 1995 Mekong Agreement for prior consultation on any individual mainstream proposal is triggered (i.e., the ... PNPCA).”⁵⁵

Unfortunately, this did not occur for the Xayaburi Dam because the SEA was released after the development of key decision documents for the dam – the Feasibility Study, the EIA, and the Social Impact Assessment. The SEA’s recommendation for a 10-year moratorium on dam construction is consistent with the “precautionary approach” to better understand the impacts of new dam construction before such impacts are a forborne conclusion. Lao PDR’s decision to approve the Xayaburi Dam cuts in the opposite direction in contravention of the precautionary approach.

Second, as discussed above, independent scientists and professionals have documented grave concerns that the proposed fish ladders for the Xayaburi Dam are ill-suited and unlikely to pass the diverse range of species that currently use the Xayaburi Dam impact area as a migratory corridor. Employing a “precautionary approach,” any proposed fish passage technologies for any mainstream dam should have a well-established track record of success in similar contexts before being proposed for the mainstream. This is consistent with the loud alarm bell from the author’s of the SEA who concluded that “[t]he Mekong mainstream should never be used as a test case for proving and improving full dam hydropower technologies.”⁵⁶ Yet, the untested fish ladders proposed for the Xayaburi Dam are precisely the “test case” the SEA implores should never be performed.

In summary, Lao PDR failed to exercise precaution to better understand the effects of mainstream dam development before approving the construction of the Xayaburi Dam. The government also did not exercise precaution to ensure the dam’s proposed fish passage technologies will likely pass this river’s unique diversity of fish. Lao PDR and the other three riparian countries should adhere to the precautionary principle by agreeing to the SEA’s recommendation for a 10-year moratorium on dam construction.

6. Cambodia, Thailand, and Viet Nam have rights and duties to prevent adverse impacts from the Xayaburi Dam to the Mekong River. These governments are entitled to financial remedies for the adverse impacts incurred in their respective jurisdictions.

i. Duty to object to developments that threaten the multiple uses of the Mekong River.

Article 3 of the Mekong Agreement requires each signatory “[t]o protect the environment, natural resources, aquatic life and conditions, and ecological balance of the Mekong River Basin from pollution or other harmful effects resulting from any development plans and uses of water and related resources in the Basin.” This directive applies to all signatories and to any development, irrespective of where the development occurs. Thus, under the Mekong Agreement, each party agrees and expects that all other signatories will exercise their right to object to a proposed riparian’s use where such use seriously threatens to destroy the shared ecosystems of the river and to compromise the social and economic conditions of people within their jurisdictions who rely on the river.

Through such objections, the signatories can each effectuate what is probably their most important duty under the Mekong Agreement, which is Article 1's requirement for each government "[t]o cooperate in [the] .. utilization, management and conservation of the water and related resources of the Mekong River Basin ... in a manner to optimize the multiple-use and mutual benefits of all riparians and to minimize the harmful effects that might result from natural occurrences and man-made activities." The duty to protect the Mekong River and to object to developments that will undermine the multiple uses of the river is grounded in the Mekong Agreement as international law, but this duty is also grounded in the domestic constitutions of Cambodia,⁵⁷ Lao PDR,⁵⁸ Thailand,⁵⁹ and Viet Nam.⁶⁰

Cambodia, Thailand, and Viet Nam have each raised or recounted significant concerns from their stakeholders about the proposed Xayaburi Dam. Cambodia suggested that the prior consultation period be extended and explained in its PNPCA report, "[t]here is a recommended need for a comprehensive study and assessment of transboundary environmental impacts including the cumulative impact assessment."⁶¹ Thailand restated its stakeholder concerns that "the environmental impact assessment did not significantly delineate the impacts on ecosystem and the flow regime as well as the transboundary impacts to Thailand," and that "due to insufficient information for consideration ... to extend [the] timeframe of PNPCA, not [to] be restricted at 6 months."⁶² Viet Nam's PNPCA report raised striking concerns about the project:

With these deep and serious concerns, Viet Nam found the limited timeframe of the Prior Consultation was not adequate to facilitate the achievement of the process's objectives. Based on the findings mentioned above, Viet Nam therefore strongly requests that the decision on the Xayaburi Hydropower Project as well as all other planned hydropower projects on the Mekong mainstream be deferred for at least 10 years, as overwhelmingly recommended by social communities, national and regional NGOs and many development partners. The deferment should be positively seen as a way to provide much-needed time for riparian Governments to carry out comprehensive and more specific quantitative studies on all possible cumulative impacts caused by the planned cascade of dams on the Mekong mainstream, especially those of trans-boundary nature to the Mekong River, including the Mekong Delta parts of Viet Nam.⁶³

As demonstrated, all three governments raised concerns that not enough information is available to reasonably evaluate the transboundary impacts of the dam. Further, to our knowledge, the call for more consultation among the governments and with the affected public through the PNPCA process has not been met. If one or more of these governments holds the view that the Xayaburi Dam will cause "harmful effects resulting from any development plans and uses of water and related resources in the Basin," it has a duty to object to the proposed use in order to protect the existing multiple uses of the Mekong River.

ii. Financial compensation to address the adverse impacts of the dam in other jurisdictions.

If the Xayaburi Dam is built, Cambodia, Thailand, and Viet Nam are each entitled to compensation for any damages experienced within their jurisdictions as a result of the dam. As

the ICJ has recognized, “[i]t is a well-established rule of international law that an injured State is entitled to obtain compensation from the State which has committed an internationally wrongful act for the damage caused by it.”⁶⁴ This right to remedy is also based in Articles 7⁶⁵ and 8⁶⁶ of the Mekong Agreement.

States also have a related duty to act on behalf of their citizens to redress and remedy the environmental harms experienced by their citizens, irrespective of where such harms originate. This duty is acknowledged by the World Commission on Dams recognizing that “[e]xisting international laws have articulated a legal premise for a right to remedy, or reparations which is also reflected in the national legislative frameworks of many countries ... [t]he responsibility for initiating the process of reparation rests with government. The affected people may also file claims with the government” and that “[i]t is the State's responsibility to protect its citizens, including their right to just compensation.”⁶⁷ This duty is also reflected in Principle 10 of the Rio Declaration stating in pertinent part that “States shall facilitate and encourage public awareness and participation by making information widely available. Effective access to judicial and administrative proceedings, including redress and remedy, shall be provided.”⁶⁸

The key to effectuate the right and to fulfill the duty to redress and remedy of environmental harms is for the affected State to document the adverse impacts of the project in its own jurisdiction. Article 7 of the Mekong Agreement requires “proper and valid evidence” of these impacts. Thus, if either Cambodia, Thailand, or Viet Nam hold the view that the Xayaburi Dam will cause adverse impacts in its jurisdiction, it should support a program to demonstrate the future impacts of the dam. While not a simple exercise given the numerous other activities in and impacts to the Mekong River, this can conceivably be undertaken by commissioning an independent assessment of the current environmental conditions in the project vicinity followed by independent expert analyses as to how those conditions are likely to be altered within a government’s jurisdiction as a result of the dam. The assessment may also include an economic analysis of the potential financial losses attributable to those impacts (e.g., impacts to the fishery, sediment loss, degraded water quality). This baseline can later be used to measure the environmental and socio-economic impacts that can reasonably be attributed to the dam.

In summary, the duty to protect the Mekong River and the people who rely on it is not limited to Lao PDR, but includes neighboring governments.

RECOMMENDATIONS

We understand there is a November 2011 MRC Council meeting to discuss and attempt to resolve the concerns of Cambodia, Thailand, and Viet Nam with respect to Lao PDR’s decision to approve the construction of the Xayaburi Dam. To assist with the parties’ deliberations, we list below three recommendations to initiate prior to the time of the Joint Council meeting which, over time, could inform and help to resolve any disputes over conflicting uses to the Mekong River.

1. Commission additional independent analyses of the project decision-documents, including the EIA, and the likely transboundary impacts of the Xayaburi Dam. In this conflict-charged situation, there is no substitute for independent analyses on the likely environmental and

socio-economic impacts of this development. More comprehensive and independent analyses, supported by field investigations by experienced professionals of the present conditions at the proposed dam site, can serve as the foundation for dispute resolution efforts, and further documentation on how the project decision-documents should be revised. Further, it is critically important that additional analysis be performed on the likely transboundary impacts of the dam. This analysis should be incorporated into a new EIA and, once this is done, the EIA should be used as the basis for meaningful public engagement and consultation with affected people in all four lower Mekong countries.

2. Engage the CBD Conference of the Parties to discuss the global implications of biodiversity loss that could arise from this project. To seek to prevent or mitigate the effects of biodiversity loss from the proposed dam, any of the lower four Mekong governments can advise the CBD Secretariat and request a meeting of the parties to the CBD pursuant to CBD, article 23, paragraph 2. Under this provision, “[e]xtraordinary meetings of the Conference of the Parties shall be held at such other times as may be deemed necessary by the Conference, or at the written request of any Party, provided that, within six months of the request being communicated to them by the Secretariat, it is supported by at least one third of the Parties.”
3. Pursue and support negotiations in good faith over whether to approve the Xayaburi Dam. Cambodia, Lao PDR, Thailand, and Viet Nam signed the Mekong Agreement with the expectation that the Treaty is enforceable under international law. If the four governments reach an impasse on whether to support the construction of the dam, the parties should work to resolve their differences pursuant to the dispute resolution procedures in Chapter V of the Mekong Agreement. As the governments work through discussions on the future of the Xayaburi Dam and its implications for the Mekong Agreement and the Mekong River, it will remain critical for each government to effectuate the principle of good faith, as embodied in Article 26 of the Vienna Convention on the Law of Treaties according to which “[e]very treaty in force is binding upon the parties to it and must be performed by them in good faith.”⁶⁹ On a related note, there is nothing in the Mekong Agreement that precludes any of the Treaty signatories from suggesting a resolution to any dispute over the river through third party assistance or adjudication. For instance, any of the lower Mekong governments can request that Lao PDR join them in a concurrent track of dispute resolution under CBD, Article 27 (negotiation, mediation, arbitration, adjudication before the ICJ, or conciliation).

Endnotes

¹ See Eric Baran, Michel Larinier, Guy Ziv Gerd Marmulla, *Review of the Fish and Fisheries Aspects in the Feasibility Study and the Environmental Impact Assessment of the Proposed Xayaburi Dam on the Mekong Mainstream*, at 8 to 10 and note 4 (31 March 2011) (hereafter “Baran et al.”) (Table 1 of this report summarizes the main characteristics of the Xayaburi Dam, including length, height, and the estimated reservoir range. The report cites to the International Commission on Large Dams’ definition of “large dams” as dams with a height of 15 meters or more).

² *Legality of the Threat or Use of Nuclear Weapons, Advisory Opinion*, 1996 I.C.J. 226, 241-242, para. 29 (8 July 1996) (emphasis added).

³ The Mekong Agreement is formally known as the Agreement on the Cooperation for the Sustainable Development of the Mekong River Basin, 34 I.L.M. 864 (1995). The Mekong Agreement is the most significant environmental treaty forged between the four lower Mekong countries of Cambodia, Lao PDR, Thailand, and Viet Nam.

⁴ This analysis assumes that Lao PDR remains the only government that has determined that the PNPCA process under the Mekong Agreement has concluded, that the project-decision documents such as the Feasibility Study, the EIA, and the Social Impact Assessment will not be substantially rewritten, and that construction of the Xayaburi Dam is underway including construction on roads and transmission lines near the dam site. If there are changes to these facts, the legal conclusions herein may differ.

⁵ See Aaron T. Wolf, *Criteria for Equitable Allocations: The Heart of International Water Conflict*, NATURAL RESOURCES FORUM 23, 3-30, at 15 (1999) (noting that there are about 261 international watersheds and that, despite the inherent difficulties of negotiating local treaties for each, such treaties are the best representation of local needs and settings and also carry the highest priority in international law).

⁶ These assessments are available at: <http://www.internationalrivers.org/en/node/6424>.

⁷ MRC, Prior Consultation Project Review Report, Proposed Xayaburi Dam Project – Mekong River (24 March 2011) (“MRC Prior Consultation Project Review Report”).

⁸ International Energy Agency, *Survey of Existing Guidelines, Legislative Framework and Standard Procedures for EIA of Hydropower Projects. IEA Technical Report*. The International Energy Agency-Implementing Agreement for Hydropower Technologies and Programmes, at 35 (2000).

⁹ *Pulp Mills on the River Uruguay (Argentina v. Uruguay)*, at 60-61, para. 204 (20 April 2010), available at <http://www.icj-cij.org/docket/files/135/15877.pdf>; see also Convention on Biological Diversity, 1760 U.N.T.S. 79, 31 I.L.M. 818, Art. 14, *opened for signature* 5 June 1992) (hereafter “CBD”) (Article 14 concerns a duty for impact assessment and minimizing adverse impacts); United Nations Conference on Environment and Development, Rio Declaration on Environment and Development, 31 I.L.M. 874 (1992) (hereafter “Rio Declaration”) (stating under Principle 17 an EIA “shall be undertaken for proposed activities that are likely to have a significant adverse impact on the environment and are subject to a decision of a competent national authority.”)

¹⁰ Convention on Environmental Impact Assessment in a Transboundary Context, 1989 U.N.T.S. 309, Cls. 7 and Art. 2, paras. 2 and 3, *opened for signature* 25 February 1991. Lao PDR is not a signatory to this Treaty, but this Treaty does demonstrate views of several States on the function an EIA serves for development projects with known or foreseeable transboundary impacts.

¹¹ Baran et al. at 4.

¹² Baran et al. at 5-6.

¹³ Guy R. Lanza, Review of the Ch. Karnchang Public Company Limited Environmental Impact Assessment (EIA), Xayaburi Hydroelectric Power Project, Lao PDR, at 2 (April 2011).

¹⁴ Zeb Hogan, *Imperiled Giant Fish and Mainstream Dams in the Lower Mekong Basin: Assessment of Current Status, Threats, and Mitigation*, pp. 8-9 (15 April 2011) (stating “[t]he developer’s EIA is grossly inadequate and does not accurately describe the true environmental cost of the Xayaburi Dam,” and that “[a] new environmental impact assessment is necessary that fully addresses the impact of the Xayaburi dam on threatened and migratory fish. The risk of permanent damage to Mekong biodiversity and fisheries production is too great, and the cost too high, to move forward based on inadequate information.”)

¹⁵ David J.H. Blake, *Comments Concerning the Environmental Impact Assessment and Social Impact Assessment Documents Provided for the Xayaburi Hydroelectric Power Project*, Lao PDR, at 22-23 (undated) (stating “the EIA covers far too limited geographical scope to adequately document impacts that are widely expected to be felt for many hundreds of kilometers upstream and downstream. The dam has potentially serious transboundary impacts and implications extending downstream to Thailand, Cambodia and Viet Nam, which are not considered in the EIA and SIA,” “the EIA vastly underestimates the scale and magnitude of the impacts, in all sectors, but especially the fisheries and aquatic resources components, which is of such fundamental importance to the food security and livelihoods of over two million people living along the mainstream Mekong,” and “[a]s they presently stand, the EIA and SIA reports are rather short-sighted, often factually incorrect and technically inadequate documents that fall short in their supposed task of investigating, predicting and analysing likely spatial and temporal project impacts on livelihoods of affected persons, and thus are in no position to recommend suitable mitigation and compensation measures. The entire process appears to have been conducted as a mere tick-box exercise, rather than with any serious intent to ascertain actual social and environmental impacts. At the same time, the consultants responsible for

writing the EIA seem remarkably ill-qualified to conduct an EIA for a major mainstream dam project on such an important transboundary river system.”)

¹⁶ MRC Prior Consultation Project Review Report at ii.

¹⁷ World Charter for Nature, G.A. Res 37/7, U.N. GAOR, 37th Sess., at 455, Part III, para. 16 (28 October 1982) (hereafter “World Charter for Nature”).

¹⁸ See also Principle 10 of the Rio Declaration (emphasis added) (stating “[a]t the national level, each individual shall have appropriate access to information concerning the environment that is held by public authorities, including information on ... activities in their communities, and the opportunity to participate in decision-making processes. States shall facilitate and encourage public awareness and participation by making information widely available...”) and Principle 19 (stating “States shall provide prior and timely notification and relevant information to potentially affected States on activities that may have a significant adverse transboundary environmental effect and shall consult with those States at an early stage and in good faith.”)

¹⁹ See Convention on the Elimination of All Forms of Discrimination against Women, 1249 U.N.T.S. 13, art. 7 (b), *opened for signature* 1 March 1980 (the right to participate in formulating government policy) and art. 14, para. 2 (a) (the right to participate in development planning); see also Principle 20 of the Rio Declaration (stating “[w]omen have a vital role in environmental management and development. Their full participation is therefore essential to achieve sustainable development.”)

²⁰ MRC, Public Participation in the Context of the MRC, at 3 (undated) (emphasis in original).

²¹ MRC, Public Participation in the Context of the MRC, at 8-9 (undated).

²² Lao PDR and the projector developer apparently organized public consultation activities on the project when developing the SIA between 2007 and 2010. The EIA and SIA were not complete on the project until August of 2010. MRC, Prior Consultation Project Review Report, Vol. 2 Stakeholder Consultations related to the proposed Xayaburi dam project, at 15 and Annex 4: Report of Public Consultations in Lao PDR (24 March 2011) (“MRC Prior Consultation Review Report”).

²³ See MRC Prior Consultation Review Report, Annex 4, Table 7.

²⁴ See MRC Prior Consultation Review Report at 2 (noting “As of 14 February 2011, the submitted main text of the Project Feasibility Study is available for public download under www.xayaburi.com. Other submitted documents including the Environmental Impact Assessment were not available under the public domain at the time of writing this draft report [published 24 March 2011].” This appears to be well after the stakeholder consultations in Lao PDR occurred.)

²⁵ Blake at 15.

²⁶ This is a designation by the International Union for Conservation of Nature (IUCN) under the IUCN Red List, which is widely recognized as an objective global approach to evaluate the conservation status of plant and animal species. For more information on the IUCN Red List, visit <http://www.iucnredlist.org/>. A taxon is listed as “Critically Endangered” or “Endangered” when it is considered to be facing an extreme or very high risk of extinction in the wild. For more detailed listing criteria. See IUCN, *IUCN Red List Categories and Criteria: Version 3.1*. IUCN Species Survival Commission. IUCN, Gland, Switzerland and Cambridge, UK. at 16 – 20 (2001).

²⁷ Hogan at 1 (internal citations omitted).

²⁸ Hogan at 1 (internal citations omitted).

²⁹ Baran et al. at 21.

³⁰ Hogan at 1.

³¹ CBD, Art. 2, Cl. 1.

³² CBD, Preamble, Cl. 5.

³³ CBD, Art. 3 (stating “States have, in accordance with the Charter of the United Nations and the principles of international law, the sovereign right to exploit their own resources pursuant to their own environmental policies,

and the responsibility to ensure that activities within their jurisdiction or control do not cause damage to the environment of other States or of areas beyond the limits of national jurisdiction.”)

³⁴ Baran et al. at 15.

³⁵ Baran et al. at 16.

³⁶ Baran et al. at 23.

³⁷ Baran et al. at 23.

³⁸ Baran et al. at 17 – 18 (internal citations omitted).

³⁹ Baran et al. at 18.

⁴⁰ Baran et al. at 26.

⁴¹ Baran et al. at 26.

⁴² Baran et al. at 26.

⁴³ Baran et al. at 27.

⁴⁴ Baran et al. at 30.

⁴⁵ Hogan at 8.

⁴⁶ Baran et al. at 23.

⁴⁷ Strategic Environmental Assessment of Hydropower on the Mekong Mainstream, prepared for the Mekong River Commission by the International Centre for Environmental Management, at 24 (October 2010).

⁴⁸ *Legality of the Threat or Use of Nuclear Weapons*, at 241–242, para. 29. This principle is also grounded in two closely-related theories on the applicable law of a transboundary river – the limited territorial sovereignty theory and the community theory. Under the former, “a State may make use of the waters flowing through its territory to the extent that such use does not interfere with reasonable use of waters by the downstream States.” Under the community theory, “the water of a drainage basin should be managed as a unit, without regard to national territorial boundaries. The various co-riparians should manage and develop the drainage basin jointly, and share the benefits derived therefrom.” Aaron Schwabach, *The Sandoz Spill: The Failure of International Law to Protect the Rhine from Pollution*, 16 *ECOLOGY L. Q.* 443, 456 and 458 (1989); see also William W. Van Alstyne, *International Law and Interstate River Disputes*, 48 *CAL. L. REV.* 596, 616 (1960), quoting H.A. SMITH, *THE ECONOMIC USES OF INTERNATIONAL RIVERS*, 150-151 (1931) (“[E]very river system is naturally an indivisible physical unit, and as such it should be so developed as to render the greatest possible service to the whole human community which it serves, whether or not that community is divided into two or more political jurisdictions.”)

⁴⁹ World Charter for Nature, Part III, para. 21(d).

⁵⁰ Treaty of Amity and Cooperation in Southeast Asia, 27 *I.L.M.* 610 (24 February 1976), available at: <http://www.asean.org/1217.htm> (Under Article 10, “[e]ach High Contracting Party shall not in any manner or form participate in any activity which shall constitute a threat to the political and economic stability, sovereignty, or territorial integrity of another High Contracting Party.”) See also Convention on the Law of the Non-Navigational Uses of International Watercourses, 36 *I.L.M.* 700, Part IV. Art. 20, opened for signature 21 May 1997 (hereafter “UIW”) (“Watercourse States shall, individually and, where appropriate, jointly, protect and preserve the ecosystems of international watercourses.”) and IUW, Part II, Art. 7 (“1. Watercourse States shall, in utilizing an international watercourse in their territories, take all appropriate measures to prevent the causing of significant harm to other watercourse States. 2. Where significant harm nevertheless is caused to another watercourse State, the States whose use causes such harm shall, in the absence of agreement to such use, take all appropriate measures, having due regard for the provisions of articles 5 [equitable and reasonable utilization and participation] and 6 [factors relevant to equitable and reasonable utilization], in consultation with the affected State, to eliminate or mitigate such harm and, where appropriate, to discuss the question of compensation.”)

⁵¹ *Gabcikovo-Nagymaros Project (Hungary/Slovakia)*, 1997 *I.C.J.* 7, 54, para. 78 (1997).

⁵² *Gabcikovo-Nagymaros Project (Hungary/Slovakia)*, at 56, para. 85 (emphasis added).

⁵³ Mekong Agreement, Chp. II, Cl. 8.

⁵⁴ *See also* World Charter for Nature, Part II, 11 (emphasis added) (further illustrating this principle "Activities which might have an impact on nature shall be controlled, and the best available technologies that minimize significant risks to nature or other adverse effects shall be used; in particular: (a) Activities which are likely to cause irreversible damage to nature shall be avoided; (b) Activities which are likely to pose a significant risk to nature shall be preceded by an exhaustive examination; their proponents shall demonstrate that expected benefits outweigh potential damage to nature, and where potential adverse effects are not fully understood, the activities should not proceed; (c) Activities which may disturb nature shall be preceded by assessment of their consequences, and environmental impact studies of development projects shall be conducted sufficiently in advance, and if they are to be undertaken, such activities shall be planned and carried out so as to minimize potential adverse effects...."); David A. Wirth, *The Rio Declaration on Environment and Development: Two Steps Forward and One Back, or Vice Versa?*, 29 GA. L. REV. 599, 634 (1995) (internal citation omitted) (explaining "Precautionary approaches are inherent in the concept of sustainable development, presumably because precaution is part of the burden of proof necessary to establish that particular development decisions meet the needs of today while simultaneously satisfying present environmental constraints and preserving the ability of future generations to meet their own needs.")

⁵⁵ SEA at 4.

⁵⁶ SEA at 24.

⁵⁷ Article 59 of the Constitution of the Kingdom of Cambodia (1993, amendments 1999) provides that "[t]he State shall protect the environment and balance of abundant natural resources and establish a precise plan of management of land, water, air, wind, geology, ecological system, mines, energy, petrol and gas, rocks and sand, gems, forest and forestry products, wildlife, fish and aquatic resources."

⁵⁸ Article 19 of the Constitution of the Lao People's Democratic Republic (2003) states "[a]ll organizations and citizens must protect the environment and natural resources: land surfaces, underground, forests, animals, water sources and the atmosphere."

⁵⁹ Section 85 of the Constitution of the Kingdom of Thailand (2007) states that "[t]he State shall act in compliance with the land use, natural resources and environment policies as follows: ... (5) conducting the promotion, conservation and protection of the quality of the environment under the sustainable development principle, and controlling and eliminate pollution which may affect health and sanitary, welfare and quality of life of the public by encouraging the public, the local communities and the local governments to have participation in the determination of the measures." *See also* Section 73 ("Every person shall have a duty to ... conserve natural resources and the environment as provided by law.")

⁶⁰ Article 29 of the Constitution of the Socialist Republic of Vietnam (1992, amendments 2001) provides that "State organs ... and all individuals must abide by State regulations on the rational use of natural wealth and on environmental protection. All acts likely to bring about exhaustion of natural wealth and to cause damage to the environment are strictly forbidden."

⁶¹ Cambodia Mekong River Commission Procedures for Notification, Prior Consultation and Agreement Form/Format for Reply to Prior Consultation, at 3 (13 April 2011).

⁶² Thailand Mekong River Commission Procedures for Notification, Prior Consultation and Agreement Form/Format for Reply to Prior Consultation, at 2 (April 2011).

⁶³ Viet Nam Mekong River Commission Procedures for Notification, Prior Consultation and Agreement Form for Reply to Prior Consultation, at 3 (15 April 2011).

⁶⁴ Gabcikovo-Nagymaros Project (Hungary/Slovakia) at 81, para. 152; *see also* Principle 16 of the Rio Declaration (National authorities should "endeavour to promote the internalization of environmental costs and the use of economic instruments, taking into account the approach that the polluter should, in principle, bear the cost of pollution, with due regard to the public interest and without distorting international trade and investment.")

⁶⁵ Article 7 (emphasis added) (the parties agree "[t]o make every effort to avoid, minimize and mitigate harmful effects that might occur to the environment, especially the water quantity and quality, the aquatic (eco-system) conditions, and ecological balance of the river system, from the development and use of the Mekong River Basin

water resources or discharge of wastes and return flows. Where one or more States is notified with proper and valid evidence that it is causing substantial damage to one or more riparians from the use of and/or discharge to water of the Mekong River, that State or States shall cease immediately the alleged cause of harm until such cause of harm is determined in accordance with Article 8."

⁶⁶ Article 8 (emphasis added) (the parties agree "[w]here harmful effects cause substantial damage to one or more riparians from the use of and/or discharge to waters of the Mekong River by any riparian State, the party(ies) concerned shall determine all relative factors, the cause, extent of damage and responsibility for damages caused by that State in conformity with the principles of international law relating to state responsibility, and to address and resolve all issues, differences and disputes in an amicable and timely manner by peaceful means as provided in Articles 34 and 35 of this Agreement, and in conformity with the Charter of the United Nations."

⁶⁷ World Commission on Dams, *Dams and Development: A New Framework for Decision-making*, at 229-230 (November 2000) (internal footnote omitted, emphasis added).

⁶⁸ This is also consistent with Principle 13 of the Rio Declaration, which states: "States shall develop national law regarding liability and compensation for the victims of pollution and other environmental damage. States shall also cooperate in an expeditious and more determined manner to develop further international law regarding liability and compensation for adverse effects of environmental damage caused by activities within their jurisdiction or control to areas beyond their jurisdiction."

⁶⁹ Vienna Convention on the Law of Treaties, Art. 26, 1155 U.N.T.S. 331, *opened for signature* 23 May 1969.