

Down River

*The Consequences of Vietnam's
Se San River Dams on Life in Cambodia
and Their Meaning in International Law*



NGO Forum on Cambodia

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PREFACE

The NGO Forum on Cambodia seeks to advance debates and advocate for priority issues affecting Cambodians by highlighting the impact of development processes and economic, social, and political changes on affected communities. The Clinical Advocacy Project of Harvard Law School's Human Rights Program and the Harvard Law Student Advocates for Human Rights were invited by a group of non-governmental organizations (NGOs) in Cambodia to organize a team of legal researchers to conduct a field mission and provide legal analysis on hydropower development along the Se San River and its impact on downstream communities in Cambodia. More specifically, the investigation sought to update and verify initial unpublished evaluations that human rights attorney Michael Lerner conducted in 2002.¹ The results of the investigation follow in this report—including data from nearly fifty interviews with villagers and government officials in Cambodia conducted in March and April 2005.

This report, and the research upon which it is based, follows the basic model of human rights investigation and reporting used by major NGOs such as Human Rights Watch and Amnesty International.² The report focuses on international legal analysis rather than technical and scientific aspects of hydropower development. While the report raises technical and scientific issues, its aim is not to resolve definitively such matters that are better left to scientists, dam experts, or flood experts. Instead, the report analyzes the international legal obligations of Vietnam and Cambodia, and makes recommendations about how such obligations can and should be met.

The research team interviewed villagers from four riverside districts in Cambodia's Ratanakiri Province, using standard human rights interviewing techniques³ and aiming to obtain a representative sample of villagers' experiences. Officials interviewed included district and commune leaders, provincial authorities within the Departments of Agriculture and Water Resources, and government officials from the Cambodian National Mekong Committee and the Ministry of the Environment.

Unless otherwise indicated, all quotations represent statements made directly to the research team. All the interviews are on file with the authors.

LIST OF ACRONYMS

ADB	Asian Development Bank
CESCR	Committee on Economic, Social and Cultural Rights
CNMC	Cambodian National Mekong Committee
EIA	Environmental Impact Assessment
EVN	Electricity of Vietnam
GAA	German Agro Action
GMS	Greater Mekong Subregion
ICCPR	International Covenant on Civil and Political Rights
ICESCR	International Covenant on Economic, Social and Cultural Rights
ICJ	International Court of Justice
ILC	International Law Commission
IRN	International Rivers Network
IWC	United Nations 1997 Convention on the Non- navigational Use of International Watercourses
MRC	Mekong River Commission
MRCS	Mekong River Commission Secretariat
NGO	Non-Governmental Organization
NMC	National Mekong Committee
NTFP	Non-Timber Forest Products
PDR	People's Democratic Republic
TERRA	Towards Ecological Recovery and Regional Alliance
UDHR	Universal Declaration of Human Rights
UN	United Nations
WCD	World Commission on Dams

I-II.

EXECUTIVE SUMMARY
FINDINGS AND
RECOMMENDATIONS



I-II.

EXECUTIVE SUMMARY

For the better part of a decade, the story of the Cambodian communities along the Se San River in Ratanakiri Province has been one of development gone wrong. Since construction of Vietnam's US\$1 billion Yali Falls Dam, which lies 80 kilometers upstream from Cambodia's border, the Se San River's ecosystem has not been the same. The water no longer flows like a natural river nor ebbs with the seasons. As a result, villagers report that fish and many indigenous plants have virtually disappeared. Before the dam, these Se San communities subsisted on the rice they grew, the fish they caught, and the vegetables they both cultivated and gathered along the riverbanks. Today, their food security has vanished—only rice remains a consistent part of villagers' diets. They see a life worse than that of their parents.

Like the river on which they depend, the dam and subsequent projects have changed the ebb and flow of their lives. Entire communities remain in fear of the dam after intense surges caused by water releases claimed villagers' lives. Many people have lost property in the fluctuating waters. Villagers complain of illnesses from poor water quality; they now boil their water when they never did before. Some villagers used to pan for gold, but no longer dare stay in the river for fear they will be washed away due to periodic releases of water from the dam reservoirs upstream. Not surprisingly, the people who have lived this story want their situation to change. Among their demands, they seek to have the natural flow of the river restored, to be compensated for their losses, and to participate in decisions that deeply affect their lives. To date, their requests have been met largely with inaction by those most able to address their concerns.

This report documents the serious violations of international law caused by

Vietnam's construction of dams in the Se San watershed. In particular, the actions of Vietnam and its parastatal utility company, Electricity of Vietnam (EVN),* have breached international environmental law and riparian duties to use the river "equitably and reasonably," to avoid "significant harm," and to provide notice to downstream states and communities. Basic human rights such as the right to life and the right to adequate food have also been violated. Cambodia, for its part, has not protected its communities; nor has it sought or provided adequate remedies. International law establishes clear and specific environmental and human rights, and both countries must meet their obligations under law. Until both Vietnam and Cambodia provide a forum for the communities to be heard and to seek remedies for the impacts of the dams, the two nations will remain in violation of the international legal principles they are bound to respect.

The negative effects of the damming of the Se San River have been studied for years, and it is now time for the governments to establish a process for the Se San communities to have their claims and demands heard and addressed. International law envisions such a course. To do less will mean that life in communities along the Se San will continue to deteriorate, as will the ecosystem. The governments can do more, and under international law, they must.

FINDINGS AND RECOMMENDATIONS

Through a lens of international human rights and environmental law,** this report analyzes the experiences of Cambodian communities that have suffered repercussions from hydropower development in Vietnam along the Se San

* See generally Electricity of Vietnam, at http://www.evn.com.vn/default_e.asp ("Electricity of Vietnam (EVN) is a state-owned corporation that operates in the areas of generation, transmission, distribution and sales of electric power.").

** While the report focuses on international law, the authors view national and local institutions, laws, customs, and practices as critical to any lasting solutions surrounding disputes involving dams along the Se San River. International law is an important part of the equation, but it should not be viewed in isolation from local issues. Instead, international law is one way to reinforce, strengthen, and supplement local and national practices and institutions. Similarly, many different analytical approaches could be used to examine the issues surrounding the Se San River, ranging from anthropology to environmental science to hydrodynamics. The authors encourage such studies and see this report as contributing one discipline's strength to the dialogue surrounding disputes about the impact of hydro development along the Se San River.

River. Part III provides brief background information on the people and communities living along the Se San as well as the broader development issues occurring in the area. Part IV gives accounts of the villagers in their own words based on the investigative team's field mission in early 2005. It traces the communities' major concerns, including water releases and surges, lack of food security, and worries about declines in livelihoods. Part V details the community demands for redress. Part VI examines the actions of government and the Mekong River Commission Secretariat* in the context of the Se San. Part VII outlines the fundamental legal obligations of the governments and is followed finally by Part VIII, which assesses compliance concerning these international standards. Based on these assessments, this report makes the following specific findings and recommendations:

1. FINDING: *The dams continue to cause severe downstream impacts.* Downstream impacts date from at least the late 1990s and range from loss of life and property to degradation of the environment. While there have been no confirmed losses of life since June 2001, and fluctuations in water levels do not appear to be as severe as they were in 1999 and 2000, ongoing environmental problems such as lost fisheries and corresponding declines in food security reportedly have been worsening. Similarly, changes in the river continue to affect livelihoods adversely, and villagers also have been reporting worsening health, which they associate with poor water quality.

RECOMMENDATION: Vietnam and Cambodia should publicly acknowledge the existence of ongoing downstream impacts and take firm steps to improve the situation of affected communities as soon as possible.

2. FINDING: *Vietnam and Cambodia have violated international law.* Both Vietnam and Cambodia have failed to meet their international human rights and

* The Mekong River Commission Secretariat helps implement the Mekong River Agreement and provides technical assistance to the riparian member countries. The Mekong River Agreement is a regional treaty signed by Cambodia, Vietnam, Lao PDR, and Thailand in 1995 to address transboundary issues between the riparian governments. *See* Agreement on the Cooperation for the Sustainable Development of the Mekong River Basin, Apr. 5, 1995, 34 I.L.M. 864 (1995), available at <http://www.mrcmekong.org/pdf/95%20Agreement.pdf> [hereinafter Mekong Agreement]. The Mekong Agreement establishes a Mekong River Commission (MRC) with government representatives from each country to make decisions. *Id.*; *see also infra* section VI.C.3: Mekong River Commission Secretariat.

environmental legal obligations. The 1995 Mekong Agreement is a comprehensive regional treaty for management of the Mekong River Basin. Both Vietnam and Cambodia have previously worked with the Mekong River Commission (MRC) and within the Agreement's framework when dealing with hydropower development on the Se San River. The spirit and language of the Mekong Agreement, as well as principles of international environmental law, call for both immediate cessation of transboundary harms upon notification, and resolution of disputes within a timely manner. With Cambodian communities continuing to face adverse impacts from the dams in Vietnam and negotiations between the governments now entering their fifth year, these breaches of environmental and human rights law have become chronic failures on the part of both governments.

RECOMMENDATION: Both governments immediately should meet their legal obligations under the Mekong Agreement and international law by quickly working to cease cross-border harms. The communities should receive remedies for past, present, and future impacts from the dams. Additionally, the governments should negotiate a long-term agreement on cross-border water management issues.

3. **FINDING:** *Community involvement is lacking.* Local communities have consistently been excluded from decision-making processes about the construction of dams in Vietnam. While they are now mobilized and have made their concerns clear to the governments involved, they are still largely left out of negotiations about the Se San River, including future dam construction plans or discussions about remedies. An MRC Secretariat Report adopted in 1999 by the Mekong Agreement's Joint Committee, as well as guiding principles of international law, also require the involvement of parties affected by projects.

RECOMMENDATION: Specific processes should be established to provide community input into decision-making regarding infrastructure projects that will affect their lives. They should be given access to information about future construction plans and ongoing negotiations between Cambodia and Vietnam. Government officials, who are decision-makers, should hold regular public forums with communities to hear their concerns and receive their input until the Se San River issues are resolved. Allowances should be made for translation and interpretation into local languages.

The court systems, to the extent feasible, should be open to villager claims against the governments if they fail to take proper action.

4. FINDING: *Communities are bearing the burdens of scientific uncertainty.* Despite numerous studies on the Se San River in recent years, government officials from Cambodia and Vietnam continue to maintain there is not enough information to take action. Worse, the governments' own failure to require baseline studies and the resulting lack of pre-construction data has been used to justify further delay. International environmental law also does not require unassailable scientific proof of environmental damage to establish a violation, nor does it exempt government action in light of minimal degrees of uncertainty. Government delays and calls for more studies also disrupt villagers' lives. Delays do not only prevent the implementation of critical measures to minimize impacts and provide remedies, but the repeated intervention in community life that these studies entail takes people away from other important livelihood activities.

RECOMMENDATION: Vietnam should not be rewarded for its failure to conduct baseline studies or to notify Cambodia and its communities about the construction of the Se San dams. Under the Mekong Agreement, the burden of acting in the face of scientific uncertainty is placed on Vietnam, not Cambodia and affected communities, once Vietnam has been put on notice for causing harm. Sufficient evidence exists of severe downstream impacts, such as losses in life and environmental degradation, to warrant immediate remedial action. Rather than requiring villagers to demonstrate why further action is necessary, Vietnam must bear the burden of proving why additional action should *not* be taken.

5. FINDING: *Notification gaps remain.* As of 2005, there remain significant gaps in the implementation of the notification system that both governments agreed to in 2001. Since earlier investigations, the governments appear to have made some progress in installing and implementing a notification system for water releases. However, villagers report that notice is spotty and erratic and does not reach some communities at all.

RECOMMENDATION: Both governments must improve notification efforts to obtain long-term safety and to lessen communities' fears of water

surges. Governments should use better technology and expand the reach of the notification system. Notification should also include warning signs and educational efforts, particularly in local languages and in formats for illiterate populations. Communities should also actively be involved in monitoring water levels and fluctuations, so as to hone the effectiveness of the system over time.

6. FINDING: *In Cambodia, decision-making structures are unclear and under-resourced.* Within the Cambodian government, it is unclear exactly who has the power to make decisions about the Se San River and to respond to community claims. Starting in 2000, the power rested with the Se San Management Utilization Committee, which was negotiating with Vietnamese counterparts at the time. That committee has now been dissolved and replaced by a new Cambodian government committee in charge of all border dams such as those on the Se San; however, as of printing, this new committee apparently has no operating budget. It is also unclear how the new Border Dams Committee will negotiate with Vietnam. Similarly, the role of the Cambodian National Mekong Committee (CNMC), which is part of the MRC structure, is unclear. Government officials also generally complain of having few resources, and various committee members argue they are not the real decision-makers.

RECOMMENDATION: The Cambodian government should immediately clarify who has the authority to resolve the Se San River issues and negotiate with Vietnam on such matters. Those assigned responsibility should be given adequate resources to fulfill their duties.

7. FINDING: *Initial government to government cooperation yielded some successes, but momentum has been lost. Delays in government action have now been too long.* The governments of Cambodia and Vietnam have obligations to negotiate in “good faith” and in “a timely manner” to resolve the disputes surrounding the Se San River. Bilateral discussions began in April 2000 to resolve ongoing issues concerning the Se San after an investigation into water releases the same dry season; the informal discussions evolved into formal negotiations between the two Se San management committees in July 2001. The sessions have worked to create a notification system (which still has serious gaps) and share information, and have discussed various studies and terms of reference. However, they have yet to resolve

critical issues such as how to compensate downstream communities for past losses or restore the natural flow of the river. The bilateral meetings do not meet regularly enough to deal with such issues. To date, these joint annual sessions have only been held three times.

RECOMMENDATION: The governments of Cambodia and Vietnam should undertake more concerted efforts to deal with the concerns of affected communities. The joint bilateral sessions should have a clear mandate to resolve the outstanding issues. The governments should negotiate broad agreements to mitigate and/or repair environmental damage as well as to restore or regulate the flow of the river; without such agreements, it is unclear how studies will be used once completed.

The bilateral meetings should meet as often as possible, at least monthly, until the issues are permanently resolved or a specific process and timetable is in place to deal with claims. Between meetings, a process to facilitate ongoing communication should also be put in place to maintain momentum in negotiations.

8. **FINDING:** *Governments have failed to provide remedies.* Neither Vietnam nor Cambodia has provided remedies for past harms. The governments have also failed to establish a process for determining appropriate remedies. Over the past five years, the bilateral meetings to resolve issues between the governments have not placed remedies on their agenda. The financial scale of the remedies being demanded, which has been estimated to range between US\$1 and 3 million, is minimal in comparison to the money invested in the Se San dams—over US\$1 billion for Yali Falls Dam alone.

The MRC and its Secretariat have remained largely unengaged in Se San River issues in recent years. While the Secretariat is currently leading a water-quality study and has previously been involved in some facilitation of discussions between Vietnam and Cambodia, it has not worked proactively to push concerns of communities nor has it sought lasting solutions.

RECOMMENDATION: The governments of Vietnam and Cambodia should provide affected communities with a forum to have their concerns addressed. After years of delay on the part of both the Cambodian and Vietnamese governments, the communities along the Se San deserve an

arena in which their demands can be decided impartially. Claims should be heard in a timely manner and decisions made on claims. The claims resolution process should deal with monetary and non-monetary issues associated with past, present, and future concerns.

Cambodia and/or Vietnam should specifically request that the MRC Secretariat provide assistance in the countries' efforts to remedy the ongoing disputes concerning the Se San River; this would clarify the Secretariat's mandate and authority in this area.

III.



HISTORICAL BACKGROUND

III.

HISTORICAL BACKGROUND

A. The People and the Geography

The Se San River is one of the largest tributaries of the Mekong River. The source of the Se San lies in the central highlands of Vietnam and the river meanders into Cambodia's Ratanakiri and Stung Treng provinces before meeting the Mekong. Two other important rivers, the Se Kung and Sre Pok Rivers, join the Se San in Cambodia before meeting the Mekong; together, the three rivers are estimated to contribute more than fifteen percent of the Mekong's water.⁴ In Ratanakiri, the Se San River passes through four districts: O Yadao, Andong Meas, Ta Veng, and Veun Sai (see Map 1).

The Se San River is home to numerous minority groups and indigenous peoples. In Ratanakiri, for example, many of the inhabitants are Lao, Brou, Kreung, Kachok, Jarai, Tampuon, Kavet, and Chinese.⁵ Along the river, most inhabitants are not ethnic Khmer. In contrast, the national government, as well as 90 percent of the general population, is ethnic Khmer. The villagers and communities in the area have depended traditionally on the river for their livelihoods and food sources, and the river is the center of village life. One group of independent consultants working for the Asian Development Bank (ADB) and studying the dams described life this way:

To understand the impacts which are being experienced by downstream villagers one has to appreciate that the river plays a vital part in their lives. They use it for transport and fishing, they wash in it and play in it. On hot days in the dry season children spend almost the whole day on the river bank, splashing in shallows and playing with boats. Their

riverbank gardens are created within 1m of low dry season flows. Boats (except for the villages in the upper reaches in Vietnam) are the main means of transport for people to reach their gardens, croplands, forest production areas and fisheries. Visits to relatives, to markets, to clinics, and larger journeys start with a boat ride on the Se San River.⁶

Tens of thousands depend on the Se San River for their livelihoods.⁷ According to the same consultant's 2000 report, at least 2,500 households need to receive some sort of compensation for lost property or family members resulting from the dams in Vietnam.⁸

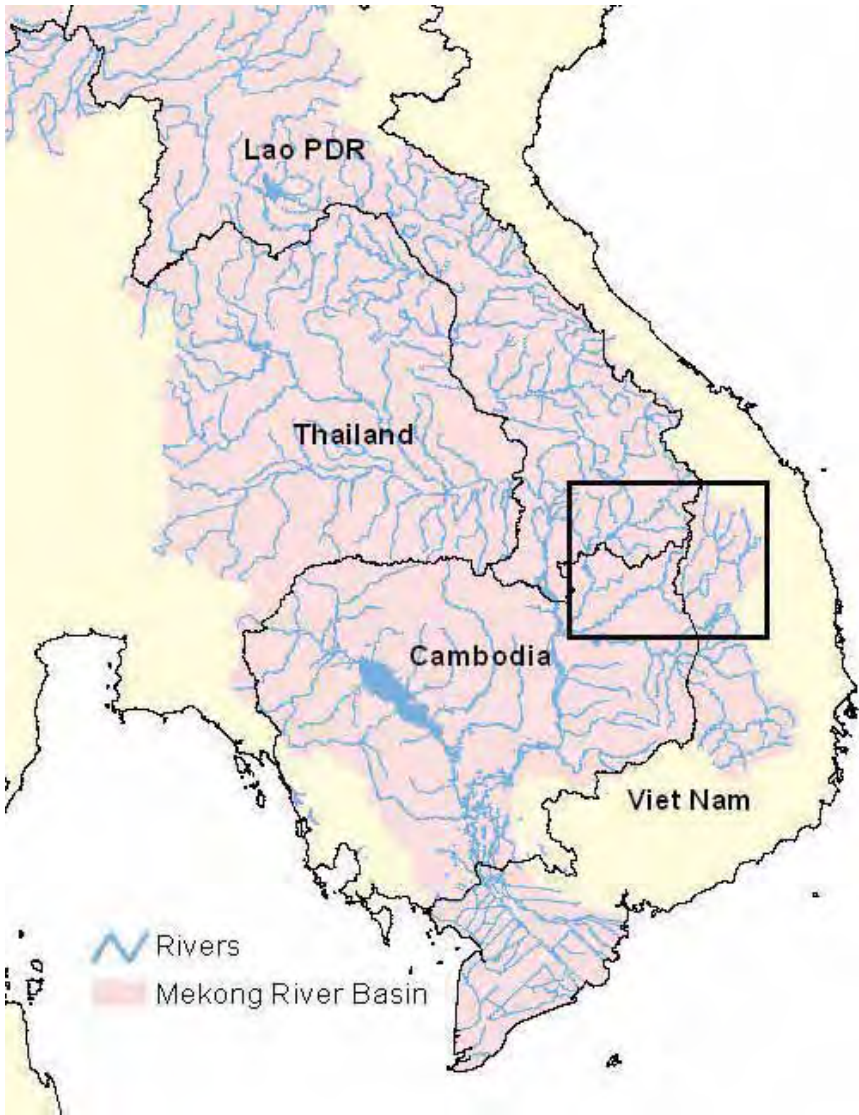
B. Dams on Se San River

Plans to dam the Se San River date back decades.⁹ With the assistance of the precursor to the MRC, construction of the Yali Falls Dam in Vietnam began in November 1993.¹⁰ It was, until recently, the largest dam in the Mekong watershed outside of China¹¹ and lies roughly eighty kilometers from the Cambodian border.¹² Vietnam built the 720-megawatt dam with loan assistance from Russia and Ukraine, and technical assistance from Switzerland, Sweden and organizations affiliated with those countries.¹³ The Song Da Construction Corporation built the dam at an estimated cost of US\$1 billion, and by 1996, the construction was affecting the river's flow.¹⁴ By 1998, the reservoir was in place, and the dam was fully operational by late 2001; it officially opened in April 2002.¹⁵

The Yali Falls Dam is part of a series of dams envisaged for the Se San in Vietnam (see Map 2): the Se San 3; the Se San 3A; the Se San 4; the Pleikrong; and the Thoung Kontum.¹⁶ Construction of the Se San 3 Dam, which is even closer to the Cambodian border, began in June 2002,¹⁷ and has been followed by subsequent building efforts on the Pleikrong and Se San 3A dams.¹⁸ Since 2000, the Yali Falls Dam and the other hydropower projects on the Se San have led to numerous studies about downstream impacts in Cambodia.¹⁹

MAP 1

THE SE SAN RIVER IN NORTH EASTERN CAMBODIA



MAP 2 THE SE SAN RIVER BASIN



TIMELINE

Nov. 1993	Construction of the US\$1 billion Yali Falls Dam begins.
1996	Major flooding hits northeastern Cambodia, including Ratanakiri and Stung Treng Provinces. Villagers report stories of a coffer dam at Yali Falls bursting. Dam construction begins to affect the river's flow.
1998	The Yali Falls Dam's reservoir is completed.
1999-2001	Water releases, spills, and surges from the Yali Falls Dam cause a series of deaths and other downstream damage in Vietnam and Cambodia.
Early 2000	Media report surges and deaths in Ratanakiri along the Se San River. The MRC Secretariat sends a mission to

investigate.

April 2000

The MRC Secretariat facilitates a meeting between Cambodian and Vietnamese officials at the Yali Falls Dam leading to steps for advanced warnings of releases. Flaws in the system persist: by 2005, some villagers report receiving erratic notifications, while others none at all.

A draft report by independent consultants, Worley WTL Ltd, finds major downstream impacts from the Yali Falls Dam, including in Cambodia. The draft report puts the Vietnamese government on notice about its international obligations; it calls for immediate remedial efforts to compensate communities, install warning systems, and restore the natural flow of the river. The draft report was never finalized, officially published, or accepted by Vietnam.

July 2001

The first formal bilateral meeting between the Se San Management Committees of Cambodia and Vietnam takes place to negotiate resolution of ongoing issues. To date, these formal joint meetings have taken place only three times. The meetings have discussed various environmental impact assessment and hydrodynamic modeling studies. They have not discussed remedies or compensation, nor agreed on broad principles to mitigate environmental damage or restore the flow of the river.

April 2002

The Yali Falls Dam officially opens.

Nov. 2002

A Vietnamese official acknowledges water releases and apologizes for downstream impacts.

2004

A joint water quality study by the MRC Secretariat and the Cambodian and Vietnamese governments begins and is due for completion in 2005.

June 2005

Villagers from Ratanakiri send a petition to the Cambodian government again listing their demands for action surrounding the dam. They have not yet received any compensation or other remedies.

C. Other Development in the Region

The adverse effects detailed in this report have taken place against a backdrop of sweeping environmental change that is also associated with other forms of development in the region. Attracted by Ratanakiri's rich soil, dense forests, and relatively sparse population, outside investors have been logging the region and pursuing cash crop development programs, such as cashew plantations.²⁰ These practices have increased greatly in the last decade and have led to a host of associated problems. Observers state that the loss of old-growth forests threatens a number of important villager activities, such as small scale swidden farming, and hunting and gathering of non-timber forest products.²¹

Moreover, the development of Ratanakiri is emblematic of extensive development efforts in the Mekong River Basin. For example, governments and the ADB have been pushing road building as well as energy and hydropower initiatives through the Greater Mekong Subregion (GMS) scheme.²² These development plans at both the regional and provincial levels, alongside the hydropower construction, have placed considerable strain on the traditional ways of living in Ratanakiri province. A 2001 report by consultants from Göteborg University characterized the natural resource management situation in Cambodia as "marked by widespread anarchy," meaning there is a "lack of political control over the areas and the natural resources that should be governed, and a lack of political will to establish such control."²³ Land issues have become a hotly contested issue in the area; NGOs have reported incidents of fraud in transfers of land from indigenous communities to developers.²⁴ Villagers also lack meaningful access to redress for such problems, in part because these villagers have been largely removed from the central governing administrations of Cambodia due to both physical isolation and politico-historical reasons.²⁵

IV.

In Their Own Words:
DOWNSTREAM IMPACTS
ON SE SAN VILLAGERS



IV.

In Their Own Words: DOWNSTREAM IMPACTS ON SE SAN VILLAGERS

Whether the cause is water surges, daily fluctuations in water levels, or regulated changes in seasonal flows, the ecosystem along the Se San River has been altered drastically by the Yali Falls and other dams. This has led subsequently to enormous corresponding impacts on the communities, many of which are indigenous and rely on the river and its surrounding environment for their subsistence and their cultural way of life. Villagers along the Se San River in Cambodia report numerous and severe harms from the dams, ranging from loss of life, livelihood, and property to declines in food supplies, health, and nutrition. The population also experiences a pervading sense of fear due to living downstream from the dams in Vietnam.

The villagers perceive the dams' adverse effects as permeating nearly all aspects of their lives. These affected communities continue to receive little information about the Se San dams and other development plans, and generally remain isolated from decision-making about the future of the region and from efforts to remedy past failures associated with the dams.

A. Water Releases and Surges

Water releases and surges from the dams have been well-documented.²⁶ Since the construction of the Yali Falls Dam, the surges have led to loss of life and property and also created a climate of fear among villagers. Cambodia, Vietnam, and the MRC have taken steps in recent years to minimize surges and notify villagers about releases in advance; while these measures have

improved the situation since mid-2001,* the notification system continues to have gaps, and neither government has taken adequate steps to investigate the deaths and lost property or to provide remedies to the villagers.

1. Loss of Life

It is undisputed that the dams in Vietnam have led to some deaths among communities in Cambodia. Officials in both Vietnam and Cambodia have acknowledged that water releases from the dam have claimed the lives of a small number of villagers.²⁷ Villagers report that the river presented little threat in the years before the dam and the erratic water releases. “When I was young, I’d never seen or heard of people dying in boats in the river,” recalled Keuil, who is now 34 years old and was born in a village on the river.²⁸

Estimates vary widely between official sources and villagers as to the number of deaths caused by the dam’s operation. On the conservative side, the Vietnamese government has acknowledged that a February 2000 water release caused the deaths of several villagers.²⁹ One Cambodian government official member acknowledged seven dam-related deaths.³⁰ However, fieldwork conducted along the river in Ratanakiri in 2000 reported results that differed greatly from these government accounts. The 2000 study found villagers reporting that 32 people had died due to water releases directly.³¹ A follow-up investigation in 2002 reported an additional three deaths from water releases.³² Additional studies conducted in Stung Treng province, downstream from Ratanakiri, also found losses of life.³³

Accounts that follow from field visits in March and April of 2005 did not uncover any new or recent deaths from water releases, but did confirm that

* No deaths were apparently reported from June 2001 until shortly before the release of this report, when reports surfaced of a recent surge killing at least one person and possibly several. The research team has been unable to confirm the precise series of events that led to these deaths, but it has been suggested that surges are to blame. See Sesan Protection Network, *Press Release: A Heavy Water Release From Vietnam’s Yali Falls Dam Floods Communities in Northeastern Cambodia*, Sept. 1, 2005 (attributing the floods to a release from the dam and citing one confirmed death), *but cf.* Cheang Sokha and Oum Vantharith, *Surging Flood Waters Headed Close to 2000 Levels*, Phnom Penh Post, Aug. 26–Sept. 08, 2005 (discussing flooding in the region but not mentioning the dam as a cause). Up until this recent accident, declining injury and death was generally attributed to several factors: 1) villagers have adjusted their lives and activities to better accommodate fluctuations and avoid danger, 2) the water fluctuations are reportedly not as severe as they once were (in large part due to the adjustments in dam operations), and 3) some notification efforts are reaching some villagers (though improvements are necessary in this area).

“A LETHAL TURBULENT CHANNEL”: A RIVER TRANSFORMED

Independent consultants, Worley WTL Ltd., for the Asian Development Bank described the violent change in the river when a large surge occurs:

Over the centuries a knowledge of river flows has been built up which has informed villages about safe practices and strategies for resource use, including recreational use. High floods in the dry season and rapid rates of change in river level are so rare that when they do occur they find villagers “unprepared”. . . . In some cases . . . people have been at the wrong place at the wrong time, and have drowned.

Two of the spills [in 1999 were] over 4000 m³/s. A flow of 4000 m³/s in a channel with a gradient of 0.5% is not survivable for people in the water. Even 500 m³/s in such a channel will probably kill all children and half the adults who are caught in the water.

What happens when a spill of this magnitude is initiated in the dry season is this: a river bed is transformed unexpectedly and quickly (in a few minutes) from an area which is safe to walk in, interesting to play in the shallow pools, productive to fish, generally crossed by wading and dotted with islands where people set up dry season fishing camps, into a lethal turbulent channel in which people *cannot survive*. Deep undertows can trap even strong swimmers in underwater circulation systems for many minutes. People swept down rocky chutes suffer numerous violent collisions with rocks which eventually kill them, or leave them too damaged to swim, so that they drown even in the relatively calm waters downstream of the chute. *See infra* endnote 6, WORLEY REPORT APRIL 2000, at 2-23.

surges and fluctuations in the river had killed many people.³⁴ Villagers travel along the river by boat for many reasons: fishing, traveling between rice fields and villages, social gatherings. The boats are typically small canoes, carved from a single tree and piloted by an individual with a single paddle. According to villagers, unexpected strong currents, which they attribute to releases from the dam, can capsize boats or force them into submerged rocks and sticks. Normally, the people piloting the boat are quite experienced.³⁵

One of the single deadliest accidents villagers reported occurred in Ta Veng Kroam Commune during an evening in February 2000 when three teenage girls died. The girls—Dam Rong, Dam Roi, and Bleng Dtuhm—along with others were returning home to Tampuon Reung Thom village from a dance in Phao village.³⁶ Bleng Chien, who was one of four people in the boat who survived the incident, recalled: “When we left from here, the water was low. But [a few hours later] when we left the other side [of the river], the water was big. The water was making a loud sound. . . . [T]he water was flowing fast, flowing strong like they opened [the dam] up.”³⁷ The mother of Nang Rong voiced her dismay that “[T]hey couldn’t find the girls’ bodies.”³⁸ The Vietnamese government officially acknowledged a dry season release that corresponds to this incident in Kroam Commune, but no warning was given to villagers, Cambodian officials, or the MRC Secretariat.³⁹ As of April 2005, the villagers had received no compensation. Nang Rong’s mother knows of no investigation into her daughter’s death: “Nobody ever came to ask about the boating incident. . . . I never received anything.”⁴⁰

“Every day people are scared of the water, the same feeling as if they have just seen a cobra or a tiger.”⁴⁹

Although the link between water releases and boat accidents is not always as well documented as the February 2000 example, the circumstances surrounding other deaths share parallel characteristics: skilled pilots experiencing sudden rises in fast-flowing water leading to accidents. Another

documented boat drowning occurred in June 2001 near the village of Kanat Douch. A group of villagers, including a man named Kasal Tawn, was collecting sand from an upstream island for construction. Kasal Toi, a village elder, recounted what happened while in their boats on the river: “My brother, Kasal Tawn, died in the river. When he went to take sand from the island, he tried to turn back during a [water] surge, but a whirlpool made the boat sink. There was a strong current. There were three boats, and I was in one of them.”⁴¹ The other people in the boat with Tawn grabbed onto objects in the river for support, but Tawn could not and died.⁴²

Aside from boating deaths, villagers have described incidents of children drowning or being swept away while bathing, playing, or working in or near the river. An elder from Kachoot village in Andong Meas District recalled that a ten-year-old child, named Theun Teum, died in the river several years ago: “[He] was going swimming. The water was slow when he got in.

“THE SPIRITS ARE ANGRY”: VILLAGERS LIVING IN FEAR

Padawl village in O Yadao district is one of the communities closest to the Yali Falls Dam. The basic outline of hardships reported in Padawl matches that of other villages in Ratanakiri: the ethnic Jarai villagers say they lost a great deal in the 1996 flood (Interviews #25, 29, and 31), more than one boat accident involving fatalities has occurred in the town, and others have died in surges (Interviews #26, 29, and 30). With the dam so close, villagers experience a severe lack of personal security.

The prevailing climate of uncertainty takes serious tolls on the day-to-day activities of the villagers in Padawl. Muah Le, a resident, said fear of surges prevents her from carrying out farming near the river (Interview #25). Gold panning, another source of income, also reportedly has ceased (Interview #30). Others, such as Puw Tho, have voiced concerns about children’s safety: “I worry about children playing in the river. When I was young, parents didn’t usually go with their children [to the river, but despite the danger now], children still go because they don’t listen” (Interview #30).

One villager, Kalanne Vunth, discussed the diminished security in Padawl at length: “When I was young there was a natural flow—low in the dry season and high in the rainy season, so I could only play in the dry season. . . . Now I’m scared to stay in the middle of the river even in the dry season” (Interview #27).

Jarai elder Sao Tom related that villagers question whether the community can safely remain by the riverside: “Some people don’t want to live along the river. They would like to move the village far away from the riverbank” (Interview #28). The community has moved when there is a spate of deaths in the village “because the spirits are angry” (Interview #30). Fear in Padawl remains pervasive, echoing villagers’ sentiments that ripple all the way down the Se San (Interviews #8, 13, and 14).

During his time [in the river], the water started to rise, and he died . . . because the water rose [unexpectedly]. [It was] not that far out. Just ten meters.”⁴³ Villagers interviewed in 2002 related additional incidents of children being swept away. One happened in early 2000 involving a six-year-old girl who was filling gourds with water from the river, and a second occurred roughly a year later, when a five-year-old boy was swept away while bathing.⁴⁴ In total, during the investigation for this report, villagers recounted thirteen deaths associated with surges and the dams.⁴⁵ These deaths, along with additional ones previously documented in other reports, bring reported deaths above thirty. This does not cover numbers of people who nearly died but were rescued during surges.⁴⁶ When asked about deaths from surges, no one interviewed knew of adequate investigation or compensation by government officials from either Vietnam or Cambodia. According to Pok Rum, who lost his mother and child in a surge when he lost control of his boat, the police came to file a report, but no government officials investigated and there was never any compensation provided.⁴⁷ Instead, Pok Rum lives with his fear: “I have nightmares and bad dreams about losing the rest of my family.”⁴⁸

2. Lost Property

Communities along the Se San have also struggled in recent years because the river has taken or destroyed so much of their property. Water surges from the upstream dams have ruined or carried away property at least since the late 1990s. Floods also remain a problem. Villagers report that Vietnam has not compensated them for their economic losses, and that supplemental aid from the Cambodian government has been limited and sporadic.⁵⁰ While many families were completely devastated by the 1996 flood, the accounts that follow focus on surges and water releases since that time.⁵¹

Since the 1996 flood, one local government official confirmed that “several floods occurred after the construction of the dam: in 2001, 2002, and 2003.”⁵² Villagers, too, report that releases from the dam causing surges were particularly bad from 1996 to 2003. As the severity of fluctuations has diminished in recent years, widespread property loss has been somewhat mitigated.⁵³

Many people mentioned that they frequently have lost fishing equipment,

* No reports to date have calculated how many villagers were saved from drowning as a result of surges. See *infra* endnote 46.

THE WAY IT USED TO BE: THE STORY OF LUNG YANG

I am Brou. Around 1955, under Sihanouk, we moved from the highlands to live in the lowlands. During the Pol Pot regime, the villagers in this area fled to Laos and Vietnam. I personally went and lived in Laos. In 1981, the refugees came back and lived in Ban Lung. In 1984, the government moved us back to this district of Ta Veng.

From 1984 into the 1990s, the water levels were normal. For example, you didn't see sandbars like now, and the water was several meters higher. Gardens along the river were everywhere during the dry season....

Now, I get my vegetables from Ban Lung. My house is near one family that brings vegetables from Ban Lung to sell. We never used to buy vegetables. We would never see vegetables from outside the area. We only got our vegetables from growing them naturally. When the water was normal, we would start to grow gardens around October each year.

Now, those people who live around the market and who have money buy vegetables. But in a village far away, they don't have a market. In these areas, people try to eat fish or animals if they can, but they have few vegetables in their diet.

Before, there were many fish in the river, too. There were also fish in ponds in the paddy fields, too. There were many kinds of fish as well. Other villagers from Veun Sai district would come up to Ta Veng district to fish. In one night, they would catch a lot and sell it in the market. Motos would come from town to buy the fish and bring it to market. People had fishing gear: big and small gear for different fish. The larger gear would catch fish as big as my thigh. The smaller gear would trap smaller fish. I had gear too. But now, I have gear in my house, but I just let the rats eat it. I don't repair it any longer because there's no reason to go fishing. Now, I don't eat fish regularly.

My son is currently off trying to catch fish upstream. He's on a tributary of the Se San, and it took him a whole day to get there. He'll be gone for four days, and if we are lucky, he will get some fish. If he is not lucky, he won't get any (Interview #5).

particularly nets, in the Se San's fluctuating waters.⁵⁴ Local government officials explicitly acknowledged this problem as well.⁵⁵ The story told by Non, a 29-year-old fisherman from Kanat Douch, demonstrates that this can happen even with relatively minor changes in water level: "One time, I found fish in my net and I kept my net in the river, but between the evening and the morning my net broke because the water rose about one meter."⁵⁶ Overnight use of fishing nets thus has been made difficult as the Se San's seasonal fluctuations have changed to daily ones.

More generally, the river's unpredictability affects the security of property for routine riverside chores, such as doing dishes or laundry. So Nguyen described an accident from 2004 in which she brought dishes and gourds to the river and ultimately lost both: "I wasn't thinking about the height of the water because it was low at the time," she remembered. "I was two or three meters from the basket when the water rose and the basket floated away. We were preparing gourds to be used as jugs, but . . . [they] washed away."⁵⁷

Whether it means losing loved ones, having to watch children more closely, giving up fishing, or tying up livestock,* the surges have changed people's lives.⁵⁸ In the end, many fear the river that was once their primary source of livelihood and the center of many daily activities.

B. No Fish, No Gold

Villagers speak of the way life once was: the way they used to catch fish the size of their thighs and sell it at market. They speak of a healthy ecosystem that no longer exists on the Se San River. Since the construction of the dams in Vietnam, fishing and riverbank agriculture have steadily declined. Villagers now report that fish are virtually nonexistent in the river. Surplus fish, along with gold panned in the river, used to provide important supplemental incomes, but now are largely elusive.

* Since the construction of the dam, riverside communities have reportedly learned to store livestock in more secure locations when the once let them roam freely. *See* Interview #2, *infra* endnote 53; *see also* Interview #9 with Ka Kim, Tseng Sai Village, Ta Veng District, March 29, 2005. Livestock are among the villagers' most valuable possessions. *See* Interview #10 with Kom Jhan, Plue Toch Village, Ta Veng District, March 29, 2005.

1. Threats to Food Security

The riverside villages are subsistence economies that depend heavily on the Se San's natural resource regime for their diet. Fish were once a staple source of protein, and vegetable gardens along the river provided important nutrients to the villagers' diets. Now, communities that previously caught, found, or grew virtually everything that they ate are unable to meet their needs adequately. A 2001 economic valuation study identified decreases in "livelihood income" in Ratanakiri of 87.2% and 53.9% for fishing and vegetable gardens, respectively.³⁷

Villagers report these trends are worsening. Non, a resident of Kanat Douch village, explained, "When they started making the Yali Falls Dam, I noticed that the fish population declined. Now I can't catch enough fish to feed my family. The water is too shallow for the fish to live."³⁸ Almost all villagers interviewed date the beginning of decreases either to the 1996 flood or the construction of the Yali Falls Dam. Many have noted that recently the fish populations have dwindled to almost nothing. "There are fewer fish from three years ago. Before, in one day you could catch ten to twenty kilograms of fish. Now sometimes you catch nothing," said Pow Pork of Phaiya village.³⁹ Some villagers have been forced to spend increasing amounts of time fishing for smaller yields,⁴⁰ while others have given up on fishing entirely: "I don't even use fishing equipment anymore. It's been two years since there's been anything."⁴¹

Earlier studies have documented extensively the effects on the fish population and explored the linkages between the Yali Falls Dam and these impacts.⁴² Officials in Cambodia have acknowledged this connection,⁴³ and a few conservation measures have been attempted, though with limited success. One provincial official explained, "The Agricultural Department and Fisheries Department have started to establish fishery communities in the river to protect fish. These are already set up in some places, but there are still no fish because of changing water levels and water quality."⁴⁴

These changing water levels are also directly responsible for serious reductions in riverbank agriculture. Pam, a 67-year-old Brou villager in Plu, recalled: "Before I could grow vegetables for eating by the river, tobacco and chili too, whatever we wanted. But now we can't because we don't know when the water is high and when it is low."⁴⁵ Villagers reported that diverse vegetation used to grow along the riverbanks, including onions, garlic, squash,

chilies, eggplants, tobacco, lemongrass, and morning glory. As with the fish declines, government officials who were interviewed for this report acknowledged the problems fluctuations create for riverbank agriculture. Despite this recognition, authorities have failed to develop and implement programs to remedy this problem.⁶⁸

No longer able to rely on the fertile riverbanks, some villagers have sought alternative solutions. One villager explained, “I try to use water from the river for a garden, but it’s small compared to what there was before along the riverbank.”⁶⁹ Chu Wen, a Jarai resident of Padawl village, described these alternative measures as more labor intensive and insufficient: “Our parents, before, had a better life than us. They never had to [worry about] vegetables. But now it is much harder—we can’t grow vegetables, or tobacco, near the river. . . . Now we are very worried that we can’t get fish, food, or grow anything. Maybe in the future our problems will get even worse.”⁷⁰

This combination of factors has affected both what type of food villagers eat and how much food they consume. Villagers from Kachoot recalled that they formerly ate meals many times a day, but now eat only twice. Their diet has shifted from vegetables, fish, and occasional bird eggs to rice flavored with cassava leaves, bamboo shoots, and edible greens.⁷¹ In many cases, villagers have replaced what they once acquired from the Se San with wild forest vegetables or often nothing at all: “When I moved here there were a lot of fish, but now there are no fish. I don’t eat fish now. . . . I eat rice, salt, lemongrass with sauce, and chilies.”⁷² Ramon Yang, who lives in Kanat Douch village, explained: “Now we do not have enough food to eat. We eat only rice with salt. When we fish, we don’t get fish. During a week, sometimes I never eat fish or meat. In a month, I may eat fish or meat, maybe once or twice and then just a little.”⁷³

Villagers now supplement their diet by buying or trading for staples they formerly produced themselves. Lon, for example, noted that he now “trade[s] chicken for food at the market.”⁷⁴ This practice, however, has failed to restore villagers’ diets to pre-hydropower levels. Others—particularly people in remote villages without easy access to local markets—reported seeking alternative foods in the surrounding forests instead. As Lmam Ye put it, “The forest is like our market. If Cambodian [Khmer] people have no food, they go to the market. If we have no food, we go to the forest.”⁷⁵ But forest products, too, are threatened by extensive logging and the rapid

encroachment of farms for cash crop production, especially cashews.⁷⁶

In the course of barely a decade, the food situation for villagers along the river has shifted from sustainable abundance to increasing scarcity. The river has ceased to be a meaningful source of food for the villagers. Whereas villagers previously ate a daily regimen of “fish as big as a man’s thigh”⁷⁷ and sold surplus catches at market, they now struggle to supplement a diet consisting of little more than rice. Higher proportions of rice mean greater dependence on seasonal harvests; a failed crop now puts villagers at greater risk of hunger. As one villager explained, “For me, there is less of all kinds of food. . . . A very big problem right now is that last year’s rains weren’t enough to produce rice of good quality.”⁷⁸ Villagers’ livelihoods are now increasingly tied to the cultivation of a crop that had formerly been a staple of their diet, but not the entirety of it. The dams’ effects on the river have made them vulnerable to seasonal harvests, reduced the availability of food, and fundamentally impaired their diets.

2. Lost Livelihoods

Villagers living along the Se San report that changes in the river also have adversely affected the activities they once depended on for additional income. An economic valuation study comparing data from 1999 with information villagers provided on pre-dam circumstances found an average decline in household income of 57%, from US\$109 to \$46 per month. In the aggregate, this amounted to a loss of over US\$2.5 million for 3,434 households living in the region in 1999.⁷⁹ Prior to changes in the river, villages reported that fishing, gold panning, and animal trading were all means of earning surplus wealth. Local government officials have acknowledged that changes in the river have caused people to lose income-generating activities.⁸⁰

Before the fish populations declined, villagers reported that whatever was caught beyond what they could consume was sold at market. In the dry season, when there is less work to be done in the rice fields, men routinely fished throughout the day. An ethnic Brou commune chief in Ta Veng recounted, “Life was very easy before. In the dry season it was really easy to find fish, and we could sell them for profit.”⁸¹ Pow Pork, who moved to Phaiya village twenty years ago and has six children, reported, “Before in one day you could catch ten to twenty kilograms of fish. Now sometimes you catch nothing. . . . I used to sell fish in the district.”⁸² Villagers in Andong Meas agreed that they “stopped having enough extra fish to sell after 1996.”⁸³



fishing with nets is more difficult due to water fluctuations



local fish catches are not abundant anymore



riverbank farming has suffered;
vegetables are not as available as they once were



children take a swim; many are now scared of the river



daily chores at the riverbank



boats are a traditional method of local transport



the Yali Falls Dam, 80 kilometers from
Cambodia's border



erosion along the riverbank



village elders play a vital role in the community structure

Another major source of income in the dry season was gold panning, especially in O Yadao and Andong Meas districts. Villagers reported that they no longer pan for gold because they fear water surges from the dams upstream. Sol Toy, a 40-year-old father of four, explained, “Before I used to find gold but not anymore because we’re scared of the surges. People here are still scared that they’ll be helpless when panning. They won’t be in boats and would get killed by a surge.”⁸⁴ Another man living in Sol Toy’s village listed 1998 as the point when people stopped panning due to fear.⁸⁵ Gold panning did not provide as much steady income as selling fish, but in good years it could generate even more money. “The river has gold and now people can’t find gold because they’re scared of surges,” reported Puw Tho, an ethnic Jarai. “People are poor from the dam because they don’t have money from gold. Some people who were lucky used to find enough gold for two or three buffalo.”⁸⁶ While some villagers listed the money earned from gold at 10,000 riel per month,⁸⁷ other villagers said that “in one dry season month, you could get about 350,000 riel [US\$87.50],” and in one good year people could earn enough to buy a new home.⁸⁸

The removal of income from fishing and gold panning has forced some villagers to trade domestic animals for food. “Now, we just grow chickens and pigs to buy things with,” explained So Ngyuen. “Sometimes the animals die, so it’s not a secure way to make money. Sometimes after they die we just cook the animals.”⁸⁹ Other villagers reported that the poor quality of river water contributed to the animal deaths, further limiting sources of income: “But now, sometimes our cows and buffaloes go drink in the river, get sick and die. They die quickly after they drink the water.”⁹⁰ Chiu Mul, who serves on the commune council in O Yadao, expressed frustration with these increased deaths, which he reported as starting seven years ago and only occurring in the dry season. “A long time ago, our parents had buffalo, chicken, and duck. They did not die. Why, now, when we, their children, raise chicken, cow, and buffalo, do they always die?”⁹¹

As changes in the river interrupt traditional sources of income, villagers are depending on less reliable and more taxing methods of production to sustain their livelihood. Rochom Troung, who came from a field that he was preparing during the dry season in order to tell his story, commented, “Before the dam, income came from fishing and gold panning, and we used the money to buy cows and animals, but now there’s no income. Please help restore our livelihood.”⁹²

C. Deteriorating Health

Villagers also associate the dams' construction with deterioration in water quality and correlating increases in illnesses as well as mounting numbers of deaths in recent years. The scientific connection between the dams, water quality, and health remains undetermined.⁹³ In the absence of baseline studies, tracing causality to the dams' construction and operation will remain difficult, but the villagers' accounts are consistent and widespread enough to raise questions about the water's health impact and warrant attention when considering any remedial action.

Because most villages lack freshwater wells or other sources of potable water, they continue to rely on the Se San to provide water for drinking, cooking, and bathing. One villager observed, "The water can be boiled for drinking, but we can't boil the river for bathing or swimming."⁹⁴ Another commented, "Our health is shaking like the water in the river."⁹⁵ Notably, in the few villages where NGOs or the government's Seila development program⁹⁶ has provided filters⁹⁷ or fresh water wells, villagers have reported some improvement.

The health effects the villagers associate with changes in the river cover a wide array of symptoms. Garman Gham reported, "Before we never got sick, but now the river makes us sick with stomach infections, eye irritations, and rashes."⁹⁸ Stomach aches, especially involving diarrhea, and skin rashes are the most commonly listed ailments, but villagers have also blamed poor water quality for headaches, fevers, and sore throats.⁹⁹

According to villagers, children are especially vulnerable to health problems caused by unclean water. Som Beem, who is 29, emphasized this point: "I have lost two of my own children. Last year, two babies in the village died of diarrhea."¹⁰⁰ Other villagers added that children are exposed more than adults to river water: "Children spend much longer in the river, swimming and playing. So they are more susceptible to infections."¹⁰¹

While no officials have acknowledged that any deaths from water-related illness correspond to the dams' operation, villagers along the Se San blame the Vietnamese dams for such deaths. During interviews conducted in 2005 for this report, villagers described thirteen drowning deaths¹⁰² but 53 from water-related sickness.¹⁰³ Nearly every village visited along the river for this report also lists some deaths due to water-borne illness; numerous villages

place the number at several dozen or higher. Sol Toy, a 40-year-old man living in a village that lists 38 deaths from illness since 1996, lamented, “People used to die before but it wasn’t from illness. It was from old age, from natural causes.”¹⁰⁴

Rochom Troung, the doctor in nearby Pataang village who has trained in Phnom Penh, reported that diarrhea has caused the deaths of otherwise healthy adults.¹⁰⁵ Kasal Heak, who lives in Andong Meas district, also reported, “The biggest problem isn’t changes in the water [level] but illness from the water. . . . In 2004, eight people died from illnesses stemming from the river.”¹⁰⁶ In his village, residents confirmed that eighteen people had died from illness since 2001.¹⁰⁷

Kasal Heak went on to explain that villagers who moved away from the river are not getting sick as often as those who remain. His village split into two several years ago. His current village, Kanat Douch, remained along the riverbank. “Some people in both villages die from the same illnesses, but over there one will die and here it’s five.”¹⁰⁸ In the nearby village of Kachoot, a 34-year-old teacher named Keuil also noted an increase in deaths from illness after he moved near the river: “Six people have died from illness since the village moved here three years ago. In the rice field [where the village had been formerly located], people got sick but we could cure them. No one died.”¹⁰⁹

Poor government health services exacerbate villagers’ sense of helplessness. Health-related problems may also be related to other environmental factors such as construction of new dams, mining, or declines in food security: poorer diets and nutrition may be impairing people’s overall health and their abilities to ward off illness. The MRC Secretariat is currently studying water quality along the Se San River, which should provide important data; however, the study does not involve consultations with the local population,¹¹⁰ who may offer valuable insight into the hydrologic regime.* Similarly, although local

* Interviews with the local population could provide important indigenous knowledge as well as additional information on health trends that may or may not be linked to water quality. For example, numerous villagers reported that health effects worsened several times a year when water became dusty or cloudy. *See* Interviews # 10, 14, 39, 40, and 43. Others have commented on a link between water that is oily and health effects. *See* Interviews #3 and 18. Such information could help to develop more effective hydrologic studies, as well as provide villagers with additional involvement around government responses to the dams.

officials are aware of health problems, those interviewed said that no action can be taken until the relationship between water and illness is studied further.¹¹¹

Meanwhile, people stressed that they believe as long as the river water remains of poor quality, problems will persist.¹¹² Villager reports are widespread enough to merit attention and response from government officials, especially given the consistent reports that the situation is worsening with time. Accounts indicate that a combination of factors is leading to a general decline in health, from possible changes in the water since the dam's construction, to limited access to health services¹¹³ and lack of knowledge,¹¹⁴ to poorer diets.¹¹⁵ Yet the government continues to ignore the claims that the health decline and the dams in Vietnam may be a vital part of the equation. As with loss of life and property and the decline in food security and livelihoods, the absence of villager participation in decision-making ensures that any remedial or prospective measures will not adequately incorporate the views of the people most directly affected by the dam and most familiar with the local riverine ecosystem.

V.

In Their Own Words:
VILLAGER DEMANDS
FOR REMEDIES



V.

In Their Own Words: VILLAGER DEMANDS FOR REMEDIES

Villagers' experiences with impacts on their lives from the Yali Falls and other dams have evolved into a series of demands for remedies. Broadly speaking, the communities are almost universally calling for restoration of the "natural flow" of the river. They also continue to seek reparation for past harm, and express a range of forward-looking demands, such as more involvement in decision-making (See Box below: Villager Demands). These demands have been formally presented to the Cambodian governments repeatedly, as recently as May 2005.¹¹⁶ In interviews with villagers in 2005, creative ideas emerged about how to solve the problems communities faced. In an effort to incorporate these villagers' voices into the development dialogue, the following section details their requests for investigation, compensation and reparations, and more involvement in natural resource management and decision-making.

One villager voiced his sense of urgency in no uncertain terms: "The government should help us in any way they can. Without help, we're just waiting to die because we are so poor."¹¹⁷

VILLAGER DEMANDS

1. Restoration of the natural flow
2. Compensation for past harms
3. No more dams until agreement with the villagers
4. Improvement of the notification system
5. Benefit sharing and economic development
6. Insurance if the dam breaks
7. Greater participation in environmental governance

A. Restore the “Natural Flow”

Villagers expressed many different ideas about how best to solve the problems of communities along the Se San. Despite their diverse viewpoints, however, every village—in fact nearly every person—made one particular request: restore the “natural flow” of the river by whatever means necessary.¹¹⁸ For some, “natural flow” could mean changing the operation of the dams such that water levels and quality return to normal.¹¹⁹ “Natural flow” also implies full or partial restoration of the pre-dam resource regime, including seasonal riverside agriculture and replenished fish stocks: “stop the starving and bring the fish back.”¹²⁰ A few, however, view decommissioning of the dam as the only adequate solution.¹²¹ Villagers also insist that no further dams be constructed along the Se San until a workable agreement has been reached.¹²²

B. Compensation for Past Harms

Many villagers agree that they have a right to compensation for property lost in floods and water fluctuations caused by the dam.¹²³ Pam, 67, said, “I would want the government to give everything back. . . . I would like everything to be fixed.”¹²⁴ Rem and Kamsut, two young Brou fishers in Tampuon Reung Thom village, also said they “would like equipment replaced” that has washed away in water surges or because of water fluctuations.¹²⁵ Others, like Tok Piew, said they would forgo replacement in favor of policies that better suit their needs in the future: “Vietnam doesn’t need to worry about payback. Just don’t build any more dams.”¹²⁶

C. Improvement of the Notification System

To avoid further loss and injury in the future, some villagers also requested improvements in the notification of releases from dams.¹²⁷ Jok Ork said, “I want always to be informed before surges and would like a better system [for doing so].”¹²⁸ Governing officials in Padawl village complained that notification of releases often arrived too late for them to prepare their communities.¹²⁹ Most villagers would prioritize eliminating fluctuations altogether over a more developed notification system, but notification remains an important alternative and precautionary measure (*See also infra* Section VI.B: Small Steps Forward: A Notification System and Studies).

D. Benefit Sharing: Economic Development for the Villages

Some villagers voiced sentiments that—since, up to now, regional development has mostly harmed them—a fairer solution would distribute some of the benefits of development to the villages. Villagers had a range of ideas on

how and what benefit sharing might look like. The most direct request was for electricity from the dams at no cost to the villagers.¹³⁰ Rochom Troung, a doctor in Pataang village, said: "If Vietnam wants to provide electricity, that's okay, but it should be free. Vietnam should balance the needs of the people on both sides of the dam."¹³¹ Kasal Toi, a village elder from Khanat Touch, asked for a rice bank in the village.¹³² Others requested better roads and more developed social services, such as hospitals or schools. Ma Lee's request in this regard seemed founded in a desire for greater equality in general: "Everyone in Cambodia must treat each other the same. We have made requests to the government and NGOs to build schools and roads, because if there is no road, we can't go to Ban Lung [the provincial capital] and if there are no schools, we can't study."¹³³ Some villagers, however, voiced dissatisfaction with the idea of development as compensation, and said that only a return to the former state of affairs would redress their wrongs. "I don't want stuff back or money for schools," Puw Tho insisted. "I just want the dams destroyed and the natural flow returned."¹³⁴

E. Insurance if the Dam Breaks

In O Yadao and Andong Meas districts, which lie closest to the dams in Vietnam, the fear of a dam breaking is particularly acute. Kasal Toi, a villager from Andong Meas, put it bleakly: "If the dam breaks, everyone will die. And then what?"¹³⁵ Even some local government officials shared villagers' sense of insecurity about the dam; as Soi Suna, deputy director of Ratanakiri's Agriculture Department said, "We don't know when it could break."¹³⁶ In this atmosphere, Rochom Troung, a doctor in Pataang village, suggested there should be some sort of insurance for people living downstream in case the dam breaks.¹³⁷ Some villagers in this area continue to ponder whether leaving the area is the wisest choice for them and their families.¹³⁸ An insurance arrangement might provide an innovative scheme for addressing their concerns.

F. Greater Participation in Environmental Governance

Finally, many villagers also desire more formal participation in decision-making processes, recognizing that their lack of inclusion is limiting their opportunities to affect change in policy.¹³⁹ Some believe greater attention in general to the situation in the villages is warranted: "Government employees never come to ask what happens in the village."¹⁴⁰ Sol Toy called for better monitoring by Vietnam of the downstream impacts of their dams: "I want to know why Vietnam hasn't investigated what happened," he said.¹⁴¹ Others view increased

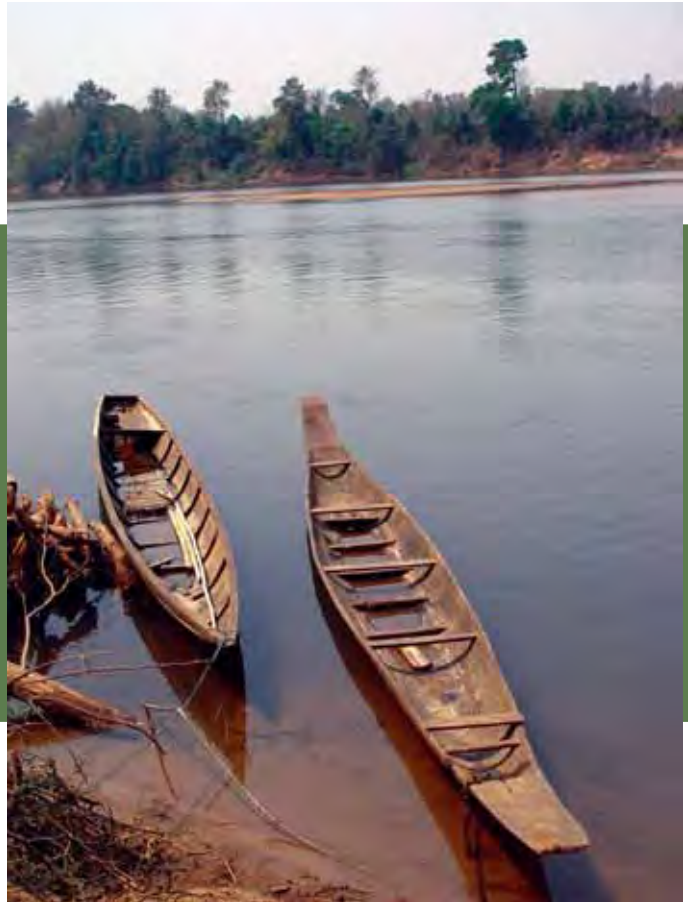
input in the development process as the key. Sao Tom, for example, expressed concern that villagers currently have no real way to object to how hydropower development upstream is implemented.¹⁴²

G. Conclusion

Se San villagers continue to press for government action to help them, and consistently demand that the governments of Cambodia and Vietnam offset the effects of dams that have been built to date. The villagers know what they want most—restoration of the river’s natural flow. They want no more dams built without their consultation and an agreement about past problems. In addition, they are asking for compensation, better notification, insurance, and benefit sharing. Finally, they want more involvement in all of these and other development decisions surrounding their lives. The next section examines how well the governments have responded to the community concerns.

VI.

GOVERNMENTAL AND
INSTITUTIONAL ACTION
AND INACTION



VI.

GOVERNMENTAL AND INSTITUTIONAL ACTION AND INACTION

This section catalogues government attempts to provide indigenous peoples along the Se San River with some relief from the impacts of the dams. Both Cambodia and Vietnam are aware of the experiences of the villagers, and they have been discussing and studying the situation in joint governmental meetings for years. However, their action remains slow, and many villager needs remain largely unaddressed.

A. Governments and Institutions on Notice

Due to flawed baseline studies,¹⁴³ it is theoretically possible that Vietnam was unaware of downstream impacts in Cambodia prior to the year 2000. In the year 2000, however, Vietnam was clearly put on notice about problems associated with the Yali Falls Dam's operation as well as the planned Se San 3 Dam. At the latest, notice to Vietnam came in April 2000 meetings facilitated by the MRC Secretariat with the Cambodian government,¹⁴⁴ and from a draft report from independent consultants, Worley WTL Ltd., dated the same month.¹⁴⁵

An MRC Secretariat field mission in early 2000 found that "there had been some negative effects caused by abrupt release of water from the [Yali] reservoir."¹⁴⁶ The April 2000 Worley Report was plain in its assessment:

The Yali Project's EIA [Environmental Impact Assessment] had not been adequately carried out, and the filling of the Yali reservoir and the commissioning of its turbines had already inflicted unacceptable levels of impact on

downstream societies and habitats. It was found that the intended operations of Yali will continue to have major downstream impacts.¹⁴⁷

It continued:

The present spills from the Yali reservoir have caused catastrophic impacts on populations and ecosystems in Vietnam, and critical to catastrophic impacts on populations and ecosystems in Cambodia.¹⁴⁸

It is certain that operations of the Yali and Se San 3 Hydropower Project cannot immediately follow their designated intentions without creating substantial but poorly understood negative impacts on river bank populations in Cambodia, and without inflicting substantial environmental damage on riverine and wetland habitats in Cambodia.¹⁴⁹

According to “ADB and general international standards,” the Worley consultants stated that such a situation was “unacceptable.”¹⁵⁰ Various problems were envisaged, including declines in fisheries and adverse effects on riverbank habitats and gardens.¹⁵¹ The Worley consultants also stated their interpretations of Vietnam’s international obligations to Cambodia and the violations taking place as a result of the Yali Falls dam:

The downstream flows at the Cambodian border need, under present international law, and also following the provisions of the [Mekong Agreement], to remain virtually unchanged, and to inflict no greater damage than natural flows. There is no room with this agreement, or in general international law, for a riparian state to unilaterally define “maintenance of flows” as being determined by particular statistical criteria. . . . There is little doubt that periods of low flow at the international border lasting for several hours, with magnitudes of flow reduction of more than 10%, would be legally defined as a breach of the Mekong River Agreement.¹⁵²

The consultants found it a “grave situation” that there had yet to be an

investigation or commencement of a compensation program.¹⁵³ They recommended several actions: 1) damages and loss compensation payments, with a three-month timetable and cost-estimate of US\$1,079,000; 2) water releases of “only natural flows” until a long-term agreement between Vietnam and Cambodia could be reached; and 3) warning and educational measures costing initially US\$150,000 and annually an additional US\$40,000.¹⁵⁴

“We are very sorry for the losses of the people living downstream on the Se San River in Cambodia. Caused, of course, by releasing water from the Yali Falls Dam’s reservoir in February 2000.”

—Tran Minh Huan, Director General, Department of International Cooperation, Vietnam National Mekong Committee, Nov. 2002¹⁵⁵

B. Small Steps Forward: A Notification System and Studies

With Vietnam, Cambodia, and the MRC Secretariat all aware of the downstream impacts in Cambodia that were resulting from water releases by the Yali Falls Dam, the year 2000 saw a flurry of activity that has since stalled and has now settled into a story of long delays and institutional inertia.

1. Establishing Notification

After its field mission and investigation into downstream effects in Cambodia, the MRC Secretariat worked with the Cambodian and Vietnamese governments to visit the Yali Falls Dam in April 2000.¹⁵⁶ Out of the meetings during this visit emerged five recommendations (which were to be approved by higher authorities as soon as possible):

1. Information on reservoir operation, in particular water release, under normal and extreme conditions, should be exchanged sufficiently in advance through appropriate channels. Similarly, information on [the] river situation in Cambodia should be transmitted in the same manner.
2. Water release from the [Yali] reservoir should be gradually varied, so that people along the Se San River can recognize changes in water level and take precautions accordingly.
3. Under normal circumstances, about 15 days advance notice on changes

should apply, through national Mekong committees (NMCs), relevant provincial authorities and the MRCS.

4. Under emergencies and extreme flood situations, warning should be immediately dispatched directly to relevant levels.
5. The environmental mitigation studies, if needed, should be discussed later, with the participation of the Mekong River Commission.¹⁵⁷

The Vietnamese government subsequently ordered EVN to follow these five recommendations.¹⁵⁸

2. Notification in Practice

Since 2000, according to government officials, a notification system has been instituted to mitigate losses from water fluctuations by informing villagers when releases will occur.¹⁵⁹ In theory, the notification scheme follows a clear line from the Cambodian National Mekong Committee (CNMC) in Phnom Penh or from Vietnam, to the local Water Resource Ministry in Ratanakiri, to the districts, communes, villages, and individual villagers.¹⁶⁰ To this end, the government has furnished intercom systems to facilitate communication between the province and the district,¹⁶¹ and similar devices have started to show up in certain villages.¹⁶² In 2005, villagers' highly varied comments about the level of notice they receive¹⁶³ indicate that information is getting through on an erratic basis. As recently as August 2005, a local NGO reported a breakdown in notification, which may have contributed to injuries and deaths that deserve further investigation. Thus, five years since agreement on notification, serious flaws remain despite the progress that has been made.¹⁶⁴

Government officials at the district and provincial ministry level generally reported this system as functioning well: Deputy Director of the Water Resource Department, Chan Bun Thogun, felt villagers had sufficient notification of water releases, though he could not say exactly how many days for preparation each villager received.¹⁶⁵ In recent years, some local governments have also reportedly held occasional district or smaller meetings to educate people about the water instability more generally—"The government tells us to be careful of the water and of our things and our children," Pul from Ta Veng District reported.¹⁶⁶

The actual level of notice provided by the current system varies widely,

however, and in virtually no place has it managed to cover all water releases. On the one hand, when asked whether the government was able to notify them of surges now, Pul responded, “The government knows very well—sometimes the government tells [us] that two days later there will be a big flow from Vietnam.”¹⁶⁷ Kusul Peng of Kanat Douch, on the other hand, stated he “never receives warnings from the government” about surges.¹⁶⁸ The village doctor in Pataang, another village in O Yadao district, also said he had never been contacted about water releases.¹⁶⁹

Often, the situation appears to be one of flawed notice: many villagers reported notification of some, but not all, surges, or notification that arrived too late to be useful.¹⁷⁰ For example, Klun Hen, the chief of Padawl, affirmed he had received information from the provincial government about water releases. He added, however, that the information often did not accurately predict when water surges would occur—with the rise in levels sometimes occurring two days after the notified date—and in other instances warned him too late, so that he and his community had “no time to prepare for the surge.”¹⁷¹

Importantly, the lack of faith in the notification system continues to keep villagers away from the river and may be linked to their unwillingness to practice riverbank cultivation, previously an important source of vegetables in their diet.¹⁷²

3. Other Initiatives

The Cambodian government and NGOs have also instituted some small-scale development projects. Some appear to be a specific response to problems along the Se San River. For example, Deputy Agriculture Director Soi Suna in Ratanakiri Province explained that there is now a fisheries project underway, but he admitted that it has had limited success to date.¹⁷³ Some villagers also report that wells have been built in some villages as alternatives to unsafe river water.¹⁷⁴ Other initiatives seem to be part of more general governmental efforts in the area. The Seila program, which is responsible for pilot development projects in villages across the country, is attempting to empower local government more generally.¹⁷⁵

C. Delay and Inertia

The April 2000 recommendations that include an agreement to establish a notification system were reached quickly, but the intergovernmental agreements

made no mention of compensation or specific remedies for affected communities. Despite the governments' initial celerity, the momentum of early 2000 has since been lost. Since April 2000, the two countries met annually to discuss the Se San until 2003; there has not been a formal bilateral meeting since this time, and it is unclear when the next meeting will be. Although such meetings could serve as a potentially fruitful forum for addressing the negative impacts of the dams on downstream populations, they have mainly focused on various Environment Impact Assessments (EIAs) and hydrodynamic modeling studies. They have not discussed remedies or compensation nor agreed in principle to restore the river's flow or mitigate or repair environmental degradation; without such agreements, it is not clear how studies will be utilized once they are completed.

1. Bilateral Negotiations

The first formal bilateral talks took place in July 2001 in Vietnam.¹⁷⁶ The MRC Secretariat helped to facilitate the bilateral meetings. The meetings primarily focused on exchange of information and various proposed studies. The July 2001 meeting addressed the five measures agreed to in April 2000, as well as terms of reference for a planned EIA and hydrodynamic model study.¹⁷⁷ Subsequent meetings in 2002 and 2003 have similarly discussed the terms of reference for the two studies.¹⁷⁸ A fourth official bilateral meeting should have taken place in 2004. Officials, however, have yet to establish an exact date in 2005 for the meeting, or authorize the necessary resources for it to take place.¹⁷⁹

Thus, the five years of bilateral negotiations have led only to exchanges of information, several studies, and the installation of a notification system (which remains flawed). Meeting minutes indicate no agreements or specific negotiations about natural flow or installation of a flow regulator, for example.¹⁸⁰ Additionally, compensation or other remedies for communities have not even been on the agenda at the meetings.^{181*}

2. Cambodian Officials

Within the Cambodian government, it is somewhat unclear exactly who has the power to make decisions about the Se San River and community claims.

* There also is no formal or routine way that the joint Vietnamese-Cambodian meetings incorporate information or viewpoints from the affected communities. Affected communities are not currently invited to present their views at such meetings.

Starting in 2000, the power rested with the Se San Management Utilization Committee, which was negotiating with Vietnamese counterparts in bilateral discussions at the time.¹⁸² This committee has now been dissolved and replaced by a new Cambodian government committee in charge of all border dams such as the Se San.¹⁸³ However, this new Border Dams Committee apparently has an insufficient operating budget, though at the time of writing, a request was pending with the Council of Ministers.¹⁸⁴ The CNMC also has a mandate under the MRC, though its exact role with the Se San disputes is now unclear. The interplay between the Border Dams Committee, the Council of Ministers, and the CNMC has created a confusing atmosphere surrounding the Se San issues. This confusion and the lack of dedicated resources for the issues has contributed to delays and inertia, including the scheduling of the fourth bilateral meeting with Vietnam.¹⁸⁵

Similarly, some government officials also are relying on studies to justify delays. For example, although local officials are aware of health problems, those we spoke to said that no action can be taken until the relationship between water and illness is studied further. The District Governor of O Yadao, Heng Bunthan, said: “I know that people complain about skin rashes, though I don’t think that it’s 100% from water quality. There have to be more studies done.”¹⁸⁶ Water quality tests conducted by Vietnam in 2001, which were initiated because of mounting complaints, did not find problems with the water quality, and Cambodia accepted these results.¹⁸⁷ Chan Bun Thogun, the Deputy Director of the Water Resources Department in Ratanakiri Province explained that the department is waiting for the results of the pending MRC Secretariat study before taking any action.¹⁸⁸ Meanwhile, the health problems persist with little relief for the villagers.¹⁸⁹

3. Mekong River Commission and Secretariat

It appears that efforts by the MRC have also been largely stalled.¹⁹⁰ The MRC Secretariat, which is the administrative body responsible for implementing decisions of the MRC’s political organs, the Joint Council and Committee, has been involved with the Se San to some degree.¹⁹¹ Except for assistance with a water quality study, it has done little in recent years to move the process along despite construction of additional dams on the Se San, clear violations of international law, and lingering claims for reparations by communities.

The Mekong Agreement established a regional framework to assist the

countries with the implementation of the Agreement. The MRC has been criticized for being largely ineffective on conflict resolution; one problem is that the Secretariat's mandate has been limited by the MRC's political bodies, the Council and Joint Committee, which has resulted in a narrow interpretation of the Agreement to mean the Secretariat need only play a role of reacting to formal government or Joint Committee requests.¹⁹² It has not been proactive in its governance actions, instead taking on technical support projects only when officially asked by governments. It has facilitated several joint meetings between Cambodia and Vietnam, and in 2000, it conducted a mission to the field to investigate problems along the Se San. The MRC Secretariat is also currently studying water quality along the Se San River, which should provide important data; however, the study does not involve interviews with the local population.¹⁹³ To date, no studies incorporating local perspectives have been conducted or planned.

As a general matter, the MRC Secretariat has done little to reinvigorate discussions and negotiations or monitor implementation, as the momentum on the issue has waned. For example, the original April 2000 recommendations specifically reference the MRC Secretariat with regard to the fifteen-day notification scheme, but the MRC apparently has had little or no role in monitoring its implementation.¹⁹⁴ In short, the MRC Secretariat, and the Commission's political bodies, bear some responsibility for the ongoing international law violations surrounding the hydropower projects on the Se San.¹⁹⁵

D. Conclusion

The Cambodian and Vietnamese governments have acknowledged the plight of people in Ratanakiri, and have taken some limited steps to improve conditions in villages along the Se San. In Cambodia, there is at least some awareness of the issue at most levels of government. The governments' initial efforts, such as the notification system, should serve as the basis for further progress, but little has been achieved in the last few years. National and regional decision-makers have done little recently, and, to date, have not effectively engaged villagers on how best to preserve their ways of life or how to compensate them for what they have lost.

Other than the warning system and efforts to reduce water fluctuations, the governments have apparently taken little action in the past five years since the issue came to the attention of decision-makers. Even for delicate matters such as the water flow regime or compensation issues, enough time has lapsed that good faith negotiations should have resulted in more concrete results.

VII.



INTERNATIONAL
LAW AND POLICY

VII.

INTERNATIONAL LAW AND POLICY

The accounts of villagers, reports of NGOs, and acknowledgments of government officials all indicate that the Yali Falls Dam has led to a series of violations of the rights of downstream communities along the Se San River. The main actors in Vietnam involved in the construction and maintenance of the dam have not met international human rights obligations or international environmental standards. Similarly, Cambodian officials have not fully fulfilled their obligations to prevent harms for their citizens, to investigate, nor to provide remedies for those who have suffered as a result of the dam. This section analyzes the effects of the dam on Se San River communities in Cambodia through the lens of international law and policy.

Despite years of documentation and research about the serious impacts on downstream communities along the Se San River in Cambodia, the governments of Cambodia and Vietnam have taken only limited actions to address what has happened to the villagers, the violations of their rights, and the disruption of their traditional way of life. Both Vietnam and Cambodia—as states—have responsibilities under the Mekong Agreement and international environmental law. As riparian states of the Se San River, they have legal obligations to use the waters “equitably and reasonably” and to cause “no significant harm.” International human rights law also provides a basis for right to life claims and community demands. The construction and operation of the dams have not been “equitable” or “reasonable,” and they have caused “significant harm,” arguably by violating human rights norms as well as through environmental degradation. In addition, Vietnam is bound to provide “notice” of actions and events that could cause harm in another state. Cambodia also has a general obligation to prevent harm to its citizens. Furthermore, the

International Covenant on Economic, Social and Cultural Rights (ICESCR), to which both countries are parties, requires states to improve individuals' rights progressively, such as the right to adequate food.

Both states also have the duty to resolve disputes in a timely manner and to provide remedies for their citizens. While there may be no permanent tribunal or court to address the concerns and claims of the Se San communities and villagers,* international law does envision a right to remedy.¹⁹⁶ Article 35 of the Mekong Agreement also provides for mutually agreed upon "mediation . . . to proceed according to the principles of international law."¹⁹⁷ In 2000, the World Commission on Dams (WCD) also specifically recommended that mechanisms for reparations should be developed for existing dams such as the Yali Falls Dam.¹⁹⁸

The international legal obligations and rights of the major actors are explored here in light of: 1) the general principles of state responsibility and international environmental law, with a careful consideration of the Mekong Agreement and Commission; 2) the existing obligations of Cambodia and Vietnam arising from international human rights law; and 3) the communities' right to remedy in light of their losses from the dams in Vietnam.

A. International Environmental Law and Policy

In 1995, Vietnam and Cambodia, along with Lao PDR and Thailand, signed the Mekong Agreement. The multilateral treaty, founded in the "spirit of cooperation and mutual assistance,"¹⁹⁹ established the principles for future development of the Mekong River Basin and created an international body, the Mekong River Commission (MRC), to oversee the implementation of these principles. Beyond the provisions of the Agreement, certain aspects of international environmental law create further obligations on State parties engaged in projects that affect an international watercourse.²⁰⁰

* Despite the violations of international standards, currently there is no clear legal forum for the villagers to bring their complaints. Locally and nationally, Cambodia's limited judicial remedies provide no apparent opportunity for the villagers, and fears of corruption diminish the integrity of any possible case. Regionally, Asia has no human rights mechanism and the Mekong Agreement provides no specific mechanism for resolving disputes or hearing complaints of communities or individuals. Internationally, the International Court of Justice (ICJ) could theoretically provide a forum for Cambodia to complain against Vietnam, but jurisdiction is voluntary and thus unlikely.

1. The Mekong Agreement in Context

The Mekong Agreement is a regional multilateral treaty that codifies many governing principles of international environmental law, and it is best understood in this broader context.²⁰¹ The Mekong Agreement does not attempt to supplant preexisting international environmental law through any of its provisions. In a number of provisions, the treaty explicitly invokes norms of international law.²⁰²

Principles of legal interpretation as well as customary usage mandate that the Mekong Agreement's individual provisions be read to include all tributaries connected to the Mekong River ecosystem, such as the Se San. The Agreement's Preamble, along with most Articles, refers to the "Mekong River Basin," though this term is never explicitly defined. International law requires that a treaty be interpreted "in good faith and in accordance with the ordinary meaning to be given to the terms of the treaty in their context and in light of its object and purpose."²⁰³ The Helsinki Rules of 1966, the definitive statement on international watercourse law prior to the promulgation of the UN's 1997 Convention on the Non-navigational Use of International Watercourses (IWC), state that "[a]n international drainage basin is a geographical area extending over two or more States determined by the watershed limits of the system of waters ... flowing into a common terminus."²⁰⁴ Furthermore, a standard dictionary defines a basin as "the entire tract of country drained by a river and its tributaries."²⁰⁵ Scholars commenting on the 1995 agreement have reached similar conclusions.²⁰⁶ Given this widespread and consistent evidence of what constitutes a basin for purposes of law, the Mekong Agreement's "object and purpose," if not its plain language, includes effects on the Mekong's tributaries.

In addition to the language of the treaty, the repeated involvement of the MRC, the treaty's implementing body, with hydropower projects along the Se San demonstrates that the Agreement's scope incorporates tributaries.²⁰⁷ Cambodia and Vietnam have also specifically worked through the MRC to attempt to resolve their disputes about the Se San River, thus indicating acceptance of the Agreement's jurisdiction over the matter.²⁰⁸

2. Principles of Environmental Law

International environmental law has developed enormously in the past several decades. The Rio Declaration, for example, emerged from the 1992 United Nations Conference on Environment and Development ("Earth Summit").

Building on principles outlined at the Stockholm Conference of 1972, the Declaration aims to “protect the integrity of the global environmental and developmental system.”²⁰⁹ The principles stand as the preeminent guidelines for the obligations of states in handling issues of environmental concern and are directly applicable to the dispute over the Se San.²¹⁰ There are also several sources of international law that are particularly relevant to the use of international watercourses; these include principles outlined in International Court of Justice (ICJ) opinions as well as the IWC.²¹¹

a. Equitable and Reasonable Use

One of the fundamental principles of international law regarding states that share international watercourses is the doctrine of equitable use, which acknowledges that upstream and downstream countries have equal claims to a river’s resources. This idea was outlined by the Permanent Court of International Justice in 1929 when it identified “a common legal right, the essential features of which are the perfect equality of all riparian States in the use of the whole course of the river and the exclusion of any preferential privilege of any one riparian State in relations to the others.”²¹² This customary norm has since been codified in numerous international agreements, most significantly in the IWC.²¹³

While the principle of equitable and reasonable use is well established in international law, it is also present in the Mekong Agreement. Article 5 calls for states “[t]o utilize the waters of the Mekong River system in a reasonable and equitable manner in their respective territories, pursuant to all relevant factors and circumstances.”²¹⁴

b. No Significant Harm

Another guiding principle codified in both the IWC and the Mekong Agreement is “the obligation not to cause significant harm.”²¹⁵ This principle is closely related to the doctrine of equitable and reasonable use insofar as they both require upstream states to factor in the consequences of their actions on downstream neighbors.²¹⁶ The ICJ has repeatedly asserted that international law recognizes a duty for states not to injure the environment outside their border:

[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.²¹⁷

This same principle was codified in Principle 21 of the Stockholm Declaration and Principle 2 of the Rio Declaration. Moreover, in the case that first enunciated this principle, the 1941 Trail Smelter arbitration between the United States and Canada, compensation was required and an injunction was granted against the offending facility, resulting in changes to the operation of the facility and installation of pollution controls.²¹⁸

The “no significant harm” principle²¹⁹ has two separate components: preventive actions and remedial measures. On the preventative side, states are obliged to make all efforts in the planning, construction, and operation of watercourse projects to minimize negative effects both on the environment in general and on downstream neighbors specifically.²²⁰ The Mekong Agreement is particularly clear on this point. Article 7 requires that states “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.”²²¹

Where a riparian state receives valid evidence that it is causing substantial damage to a neighbor, the Mekong Agreement requires that “the alleged cause of harm . . . cease immediately,” pending further investigation.²²² Once the harm is announced, the state parties involved “shall determine all relative factors, the cause, extent of damage and responsibility for damages caused by [the offending] State in conformity with the principles of international law relating to state responsibility.”²²³ Because the Mekong Agreement invokes the principles of international law when state responsibility is at issue, and since state responsibility in this context is intrinsically linked to compliance with international environmental law, the determination of a party’s responsibility to its downstream neighbor depends on conformity with international environmental law principles.²²⁴ International law generally does not distinguish between sovereign actions and those of state-owned companies for purposes of state responsibility.²²⁵

c. Duty to Provide Notice

International environmental law requires that whenever a state plans an action that could affect its neighbors, it provide timely notification along with adequate technical information in order to allow for response. This principle has been recognized in the Lac Lanoux Arbitration²²⁶ as well as in the IWC, the Rio Declaration,²²⁷ the World Commission on Dams Report, and the International Law Commission's 2001 Draft Article for the Prevention of Transboundary Harm from Hazardous Activities. The standard proposed in the IWC is a minimum of six-months notice for comment with the potential for extension.²²⁸ The Mekong Agreement also states in Article 5a that "[o]n tributaries of the Mekong River . . . intra-basin uses and inter-basin diversions shall be subject to notification to the Joint Committee [of the MRC]."²²⁹

One of the key components of notification is the EIA, a report that the state prepares analyzing all potential environmental consequences of a proposed action.²³⁰ EIAs are mandated by the Rio Declaration (Principle 17), the IWC, and the 2001 Draft Articles,²³¹ not to mention Vietnam's own environmental laws.²³² The Draft Articles on Transboundary Harm explain that EIAs are necessary "to assess the possible transboundary harms of [an] activity,"²³³ and the IWC says that they are "to enable the notified States to evaluate the possible effects of the planned measures."²³⁴ While the precise content requirements are not specified as they will vary from project to project, the general principle, which is made particularly clear in the commentary to the Draft Articles,²³⁵ is that EIAs must provide a thorough assessment of *all* potential risks associated with a project.

d. Access to Information

The original Mekong Agreement itself did not have provisions relating to the responsibilities of states as concerns public participation, but the MRC Joint Committee approved a report in March 1999 that outlines clear responsibilities on member states towards "key stakeholders."²³⁶ Key stakeholders, which unequivocally include "directly affected people," are to be involved in "information gathering, information dissemination, consultation, and participation that culminate in some level of decision making power."²³⁷ The Rio Declaration also set out clear principles for all nations whether or not they bear direct responsibility for harms. Principle 10 provides that all concerned citizens should have access to information in order to participate in decision making. To facilitate this, states must "encourage public awareness and participation by making information widely available."²³⁸

e. Settlement of Disputes: “Timely Manner” and “Good Faith”

In Articles 34 and 35, the Mekong Agreement envisages a role for the MRC and governments in resolving differences and disputes where a country claims to have suffered an environmental wrong and either the activity does not cease immediately or substantial damages have already occurred. The first step is for the MRC to “make every effort to resolve the issue.”²³⁹ However, the Agreement itself is vague on what actions the MRC should take.

If the MRC is unable to resolve the dispute, the next step is for “the Governments to take cognizance of the matter for resolution by negotiation through diplomatic channels *within a timely manner*.”²⁴⁰ Failure to negotiate in good faith is a violation of international law. As declared in the Lac Lanoux Arbitration, “[c]onsultations and negotiations between the two states must be genuine, must comply with the rules of good faith and must not be mere formalities. The rules of reason and good faith are applicable to procedural rights and duties relative to the sharing of the use of international rivers.”²⁴¹

Article 35 of the Agreement also provides the government with alternatives besides diplomatic negotiation for dispute resolution. “Should the Governments find it necessary or beneficial . . . they may . . . request the assistance of mediation through an entity or party mutually agreed upon, and thereafter to proceed according to the principles of international law.”²⁴²

B. International Human Rights Law and Policy

Along with the obligations created by international environmental law, both Vietnam and Cambodia have duties arising under international human rights law. The two countries are signatories to, or have shown support for, all three major documents that comprise what is commonly known as the “International Bill of Rights”: the Universal Declaration of Human Rights (UDHR), the International Covenant on Civil and Political Rights (ICCPR), and the International Covenant on Economic, Social and Cultural Rights (ICESCR).²⁴³ The latter two documents, which are binding treaties, in conjunction with other types of law, such as customary international law, outline broad categories of rights that states are required to uphold.

1. The Right to Life

The ICCPR establishes protections for individuals against State incursions into certain fundamental rights, such as life, liberty, and security of the person.²⁴⁴

Many of these rights are so widely accepted by states as to constitute customary international law; some of the norms rise to the level of peremptory, or *jus cogens*, norms, which are nonderogable and binding on all states.

The right to life is enshrined in both the ICCPR and customary international law. The Human Rights Committee, which issues authoritative interpretations of the rights contained in the ICCPR, has stated that the right to life “is the supreme right from which no derogation is permitted. . . . It is a right which should not be interpreted narrowly.”²⁴⁵ In other words, states have no legitimate justification for violating the right to life. They are also responsible, under the ICCPR, for protecting people in their jurisdictions against wrongful death.²⁴⁶ Additionally, Article 2 of the ICCPR mandates states’ duties to remedy violations of civil and political rights. Thus, Cambodia is legally obligated to investigate and remedy any violations of the right to life within its jurisdiction.²⁴⁷

Notably, the right to life is on the small list of recognized, nonderogable human rights norms.²⁴⁸ This is of particular relevance to transboundary human rights situations, such as that of the Se San dams, because it means that a state’s duty to respect the right to life does not simply stop at actions originating within its own national borders.²⁴⁹ Though the ICCPR’s terms provide for a state’s responsibility to respect its terms vis-à-vis those under its jurisdiction, the *jus cogens* norm contains no such limitation. Thus, customary international law mandates that Vietnam, Cambodia, and all other countries respect the right to life extraterritorially.

2. Economic, Social and Cultural Rights

The ICESCR safeguards a variety of human rights, many of which concern the maintenance of an adequate standard of living. The Committee on Economic, Social and Cultural Rights has posited three forms of obligation for social and economic rights: “the obligations to *respect*, to *protect* and to *fulfill*.”²⁵⁰ Simply put, the obligation to respect entails the obligation not to interfere with anyone’s enjoyment of the right; the obligation to protect encompasses the obligation to prevent others from interfering with people’s enjoyment; and the obligation to fulfill means taking steps progressively to realize the right.

In addition to establishing minimum standards, economic, social and cultural rights are also often seen as rights that state parties must progress towards

over time. This is partially in response to concerns that different states have different resources and abilities to meet the needs of their citizens. Nonetheless, except in exceptional circumstances, it is critical that states do not *regress* or go backwards in their efforts to strive to uphold economic, social and cultural rights.²⁵¹ It should also be noted that, while it is relatively easy to determine whether a state has interfered with someone's enjoyment of a right, it is more difficult to decide when a state is failing to realize the right progressively. Failures of the duty to "respect" an economic, social or cultural right are more clearly determinable than failures to "fulfill" that same right.

The ICESCR has no geographic limitation on its application. In fact, the Committee on Economic, Social and Cultural Rights has expressly affirmed shared international responsibility for social and economic rights, like the right to food: "In implementing this commitment, States parties should take steps to respect the enjoyment of the right to food in other countries, to protect that right, to facilitate access to food and to provide the necessary aid when required."²⁵² Similarly, "States parties have to respect the enjoyment of the right to health in other countries."²⁵³

a. Right to Food

Article 11 of the ICESCR provides the "right of everyone to an adequate standard of living for himself and his family, including adequate food, clothing and housing, and to the continuous improvement of living conditions."²⁵⁴ As elaborated in General Comment 12 on the right to food, this right incorporates the concepts of "adequacy and sustainability of food availability and access."²⁵⁵ The Committee further explained that "the notion of sustainability is intrinsically linked to the notion of adequate food or food security, implying food being accessible for both present and future generations."²⁵⁶ This right, according to the Committee, need not track a rigid calorie amount or other nutritional requirement; rather, "The right to adequate food is realized when every man, woman and child, alone or in community with others, has physical and economic access at all times to adequate food or means for its procurement."²⁵⁷ Despite this flexibility, the Committee suggests that changes in food supply should not negatively affect people's dietary composition or intake.²⁵⁸ The right contemplates both economic and physical accessibility of food.²⁵⁹ Notably, in this regard, the Committee has stressed the importance of protecting indigenous peoples' traditional forms of access to food.²⁶⁰

b. Right to Health

The ICESCR also requires States to respect, protect, and fulfill the right to health: “Every human being is entitled to the enjoyment of the highest attainable standard of health conducive to living a life in dignity.”²⁶¹ This encompasses both access to adequate healthcare and the right to a healthy environment.²⁶² As with other economic, social and cultural rights, the right to health incorporates notions of availability, accessibility, acceptability, and quality.²⁶³ With respect to indigenous peoples, “development-related activities that lead to the displacement of indigenous peoples against their will from their traditional territories and environment, denying them their sources of nutrition and breaking their symbiotic relationship with their lands, has a deleterious effect on their health.”²⁶⁴ As with the right to food, the right to health contemplates a nonderogable minimum acceptable standard for the right to health.²⁶⁵ In a similar vein, for all rights in the ICESCR, retrogressive measures are strongly presumed to be unreasonable.²⁶⁶ “States parties have to respect the enjoyment of the right to health in other countries.”²⁶⁷

c. Right to Water

A more recently enunciated social and economic right is the right to water, which “entitles everyone to sufficient, safe, acceptable, physically accessible and affordable water for personal and domestic uses.”²⁶⁸ According to the Committee on Economic, Social and Cultural Rights, this right emanates from the right to an adequate standard of living.²⁶⁹

Using language similar to that of the other economic, social and cultural rights, the Committee’s general comment addresses issues of water availability, quality, and accessibility.²⁷⁰ Regarding international obligations to respect the right to water, the Committee has held that “any activities undertaken within the State party’s jurisdiction should not deprive another country of the ability to realize the right to water for persons in its jurisdiction,” citing the IWC in this regard.²⁷¹ General Comment 15 further states, “Steps should be taken by States parties to prevent their own citizens and companies from violating the right to water of individuals and communities in other countries.”²⁷² As with the other core rights, there is a minimum acceptable level at which the right can be realized without constituting a violation.²⁷³

Again, the General Comment on this right expressed particular concern for the traditional uses of water by indigenous peoples.²⁷⁴ It stresses the importance that “indigenous peoples’ access to water resources on their ancestral lands is

protected from encroachment and unlawful pollution.”²⁷⁵ In a similar vein, it states that “water should be treated as a social and cultural good, and not primarily as an economic good. The manner of the realization of the right to water must also be sustainable, ensuring that the right can be realized for present and future generations.”²⁷⁶

C. The Right to Remedy

International law establishes a right to remedy for international norms violations surrounding existing dams.²⁷⁷ The November 2000 World Commission on Dams (WCD) also states:

Existing 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.... The responsibility for initiating the process of reparation rests with government. The affected people may also file claims with the government. . . . It is the State’s responsibility to protect its citizens, including their right to just compensation.²⁷⁸

The WCD’s Thematic Review on Displacement, Resettlement, Rehabilitation, Reparation and Development simply states: “There is no doubt that the issue of reparations is both complicated and costly. But then so is building dams. There is no need to make a case for reparations: it is more a question of ‘how’ than ‘why.’”²⁷⁹ In 2000, the WCD recommended in its strategic priorities that “outstanding social problems” should be “identified and assessed” for existing dams, and that “processes and mechanisms” should be “developed with affected communities to redress them.”²⁸⁰

Governments have the responsibility to initiate the reparations process—a process that should include multiple stakeholders, and particularly affected peoples.²⁸¹ Beyond governments, multiple players—including public and private financial institutions, organizations, and corporations—may also have legal or moral responsibility attached to the harms associated with any given dam project.²⁸² Dam-affected communities, such as the Se San communities, echo such recommendations in their demands for mechanisms and reparations.²⁸³

VIII.

ASSESSMENT OF
GOVERNMENT
COMPLIANCE



VIII.

ASSESSMENT OF GOVERNMENT COMPLIANCE

The actions of the governments of Vietnam and Cambodia must be measured against the basic international environmental and human rights frameworks outlined in the previous section. Similarly, any analysis must evaluate whether the governments have adequately met their obligation to provide a right to remedy for affected communities. This section assesses the governments' actions to date in light of the impacts on communities and their requests for remedies as well as the obligations under international law. In sum, the assessment shows that neither Vietnam nor Cambodia has met its international obligations, and their failure to act to remedy the situation of affected communities continues to put them in breach of fundamental norms of both environmental and human rights law.

A. Vietnam

1. International Environmental Law and Policy

Vietnam and EVN have repeatedly violated provisions of the Mekong Agreement as well as binding dictates of international environmental law. Downstream effects of the dam violate the obligation to prevent significant harm and also exceed an equitable and reasonable use of the river. The notification and EIAs that were, and continue to be, provided do not meet the standards of international law. Furthermore, the country's responses to complaints of environmental harm do not meet the requirements of the Mekong Agreement or international law.

The degradation of the Se San's ecosystem, particularly in Cambodia, has been continuously documented since 2000.²⁸⁴ For example, the fish population

has steadily declined and the riverbank vegetation has largely disappeared. In signing the Mekong Agreement, Vietnam pledged “[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.”²⁸⁵ Based on the evidence compiled in the several reports on Ratanakiri, including this one, Vietnam has violated the letter as well as the spirit of the Agreement.

a. Equitable and Reasonable Use

The extent of the ecosystem damage that has been wrought on the Se San exceeds equitable and reasonable use. Although the Mekong Agreement does not define equitable and reasonable uses, factors to consider are outlined in the IWC, and almost all of them have either been directly violated by the dams’ effects or violated through Vietnam’s indifference to downstream communities in the process of constructing and operating the dam.²⁸⁶ The ICJ discussed equitable and reasonable uses in the 1997 Case Concerning the Gabčíkovo-Nagymaros Project. There, Slovakia built a dam that diverted the waters of the Danube away from Hungary, its downstream neighbor. The Court stated:

Czechoslovakia, by unilaterally assuming control of a shared resource, and thereby depriving Hungary of its right to an equitable and reasonable share of the natural resources of the Danube—with the continuing effects of the diversion of these waters on the ecology of the riparian area of the Szigetkoz—failed to respect the proportionality which is required by international law.²⁸⁷

While the issue between Cambodia and Vietnam is unilateral control leading to ecosystem degradation and not water diversion, the logic of proportionality still holds. The fact that Vietnam has also violated international human rights norms provides more evidence that the use was unjustified.²⁸⁸

b. No Significant Harm

The Mekong Agreement, in Article 8, requires member states to “address and resolve all issues, differences and disputes” in conformity with international law principles “where harmful effects cause substantial damage to one or more riparians from the use of and/or discharge to waters of the Mekong River.”²⁸⁹ International law reinforces the requirement to prevent and address

all harms arising from projects with transboundary effects.²⁹⁰ In April 2000, the Vietnamese government publicly announced that the Yali Falls Dam, without providing notification to Cambodia, had been releasing huge amounts of water, causing flooding and surges. Vietnam accepted accountability for five deaths, though estimates provided by villagers stand around several dozen.²⁹¹ Under international law's broad view of harms, the deaths that have resulted from these upstream water releases are violations of the duty to prevent harm. Vietnam has not provided compensation for any of these deaths, and it has not claimed accountability for the majority of water-release deaths reported by villagers, nor has it addressed other substantial environmental consequences of the dam.²⁹²

c. Notification

Releasing water from dams without providing notification first is itself a violation of the Mekong Agreement. While Vietnam did institute a system of notification in the spring of 2000, all releases before then, including the one responsible for the five acknowledged deaths as well as any others, violated the terms of the Mekong Agreement. The Asian Development Bank (ADB), among other institutions, has recognized this violation; an internal report by ADB consultants concluded, "Vietnam, by not properly informing downstream riparian stakeholders regarding the time and scale of water discharge from the Yali Dam, has violated the 1995 Mekong River Commission agreement."²⁹³

Vietnam is also responsible under international law for violations of the general duty to notify before inaugurating projects that cause transboundary effects.*

* While Vietnam has given formal notice of recent hydropower projects to Cambodia, the purpose of such notification, to encourage dialogue and public participation, has been continually frustrated. See DANGEROUS WATERS, *infra* endnote 1, at 26-27 ("Vietnam officially gave notification of Sesan 3 to Cambodia and the MRC in 2000, but that notification was inadequate. . . . In the case of the Sesan 3A dam, Vietnam violated the MRC's new Preliminary Procedures on Notification, Prior Consultation and Agreement. . . . The notification was not only late; it was also incomplete. The notification omitted some information required by the Preliminary Procedures, including data on the duration of and timing for water use."); *cf.*, "Regarding the construction of hydro-power plant on Sesan river", *infra* endnote 17 ("Vietnam always proactively promotes full and strict observation of regulations and agreements within the framework of the MRC cooperation. Vietnam had taken initiative in notifying Cambodia and the MRC of the hydropower projects on the Se San river as stipulated in Article 5 of the Agreement.").

Part of the notification process involves producing and disseminating EIAs. While Vietnam has conducted EIAs for its hydropower projects along the Se San, the scope and detail of these EIAs have been so insufficient as to constitute a violation of international law.

The EIA that Vietnam commissioned for the Yali Falls dam considered only “downstream effects” for eight kilometers below the dam. The study, conducted in 1993 by the Swiss company Electrowatt and funded by the Swiss government, concluded that “[t]he downstream effects of the project will only be severe between the dam and the powerhouse, which is a very confined location [about six kilometers] . . . [d]ownstream of the powerhouse the river regime will not alter very greatly.”²⁹⁴ Regarding potential impacts on the river further downstream, the report noted that “small effects should disappear before the water reaches the border of Cambodia.”²⁹⁵ Admittedly, at the time of the EIA, Cambodia remained politically unstable and may not have been safe for outside consultants; however, this excuse does not explain why the EIA failed to consider the additional seventy kilometers downstream of the dam *within* Vietnam. While not necessary a facial violation of international law, the EIA’s failure to recognize potential downstream impacts undermined the cautionary and informative purpose it was supposed to serve.²⁹⁶

The situation with EIAs improved little between the construction of the Yali Falls Dam and of the Se San 3 Dam. In 2000, the ADB commissioned an environmental assessment while considering whether to fund the proposed project. The results of that report, which were leaked to the press, found serious downstream impacts to the entire riverine ecosystem in Ratanakiri. Nonetheless, Vietnam eventually secured funding without contribution from the ADB. According to the MRC, Vietnam began preparation for construction—building roads and work shelters—in July 2002 before an official EIA had been carried out.²⁹⁷

d. Remediation of Harm

Vietnam has also failed to meet the obligations of the Mekong Agreement and international law regarding remedial measures. The Mekong Agreement requires that “States shall cease immediately the alleged cause of harm until such cause of harm is determined”²⁹⁸ after being notified with proper evidence of substantial damage. While unannounced water releases largely ceased after Cambodia notified Vietnam of downstream problems in early 2000,

Vietnamese authorities failed to take necessary measures capable of mitigating environmental and other harms from the dams. Instead, Vietnam has insisted on conducting a series of water quality studies before enacting further remedial measures.²⁹⁹ Such a wait-and-see approach violates the Precautionary Principle, which is becoming accepted as customary international law.³⁰⁰ As Principle 15 of the Rio Declaration states, “Where 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.”³⁰¹ Vietnam has ignored this fundamental principle of international law in refusing to take remedial actions without concrete scientific evidence.

Vietnam will not be seriously implementing the Mekong Agreement and the concomitant obligations of international law until it provides compensation for affected communities, takes remedial action to combat ecological harms, and changes its notification and planning procedures to allow for meaningful participation by concerned communities.³⁰²

2. International Human Rights Law and Policy

a. Right to Life

Vietnam bears direct responsibility for the deaths connected to water surges in Ratanakiri. Villagers said that surges led to fatalities in boat accidents; other reports found that people died by being swept away.³⁰³ Vietnam’s operation of the dam in the early stages caused these violations. According to the April 2000 Worley Report assessments, the early stages of operation of the dam involved releases of water at unsafe levels. Vietnam also neglected even to investigate the distribution or concentration of riverside populations in Cambodia during construction or operation of its hydropower projects. Moreover, Vietnam persisted in its failure to warn the downstream communities of releases that caused fatal surges until one accident led Cambodia to protest Vietnam’s behavior in 2000, and finally to the institution of the currently extant warning system.³⁰⁴ Furthermore, to comply with international standards, Vietnam must provide a remedy for the violations of the right to life.

b. Economic, Social and Cultural Rights

The existence of a border between Vietnam’s dam and the villages along the Se San does not shield Vietnam from legal responsibility for violations of social and economic rights, as the ICESCR is extraterritorial in scope. At a

minimum, Vietnam's actions constitute failure to *respect* the economic and social rights of the villagers in Ratanakiri. For example, the dam has decimated fish populations, the primary source of the villagers' protein. It has made riverbank agriculture extremely difficult. All of these have severely undermined the villagers' right to food, and thus the communities' food security has eroded (or regressed) substantially because of Vietnam's action and inaction. Investigating the downstream situation, and the heavy reliance of the villagers on riverbank agriculture, also would have made it clear that altering the river's natural flow decreased villagers' food security.

B. Cambodia

1. International Environmental Law and Policy

Although Vietnam bears the primary responsibility for violations of international environmental law, Cambodia has also violated principles of international law in failing to provide clear information to its citizens on environmental harms and in not pressing for the redress and remedy of such harms. To date, Cambodia has done little to aid citizens who have been injured by the dam. In 2000, it formally complained to the Vietnamese government about problems from unannounced water releases, which led to the institution of a warning system between the two countries.³⁰⁵ Cambodia also has some involvement in a water-quality study that is expected to finish in 2005.³⁰⁶ Aside from this, Cambodia has not taken significant action in response to the harms produced by Vietnamese dams.³⁰⁷

a. Access to Information

In the context of the Se San, Cambodia has not sufficiently pressed for Vietnam to provide all relevant information on environmental harms resulting from hydropower projects or on plans for the continuing development of the river. Cambodia has made little effort to disseminate information about the dam to the communities affected, as the MRC's Joint Committee Report requires,³⁰⁸ and it has allowed on-going Vietnamese water quality studies to stand in for meaningful ground-level investigation of environmental effects.

b. Remediation in a "Timely Manner"

Cambodia has a further obligation under international law to push for the redress and remedy of environmental harms. Principles 10 and 13 of the Rio Declaration mandate that citizens shall have access to effective proceedings for remedies. The Cambodian government has not investigated fully villager

reports of environmental harms, and no compensation has been provided for deaths that have been acknowledged officially.

The Mekong Agreement calls for governments to resolve disputes “within a timely manner” under Article 35, but in the five years since complaints were first officially made, Cambodia has yet to request formally compensation from Vietnam and has allowed it to avoid remedying the harms it has caused. Furthermore, while the Mekong Agreement states that harm must cease immediately until the causes can be determined,³⁰⁹ Cambodia has not pushed for the implementation of this provision to redress environmental harms during the time that water quality studies have been carried out.

The Precautionary Principle allows Cambodia to forgo such scientific studies for the purposes of remediation.³¹⁰ Because no baseline information exists for the Se San ecosystem, scientific studies alone will not be sufficient to determine environmental harms. International scholars recognize this problem. As one scholar noted, “The absence of pre-project or baseline information regarding the standard of living of the affected population should not be a deterrent in the determination of what constitutes just reparation. The principle of rehabilitation in development mode requires that reparation to the negatively affected people measure up to the major benefits generated by the project.”³¹¹ In this context, Cambodia should push for remedies based on the documented evidence provided by villagers and other studies.

2. International Human Rights Law and Policy

a. Right to Life

While Cambodia played no role in the construction or operation of Vietnam’s hydropower projects, the government bears responsibility for the villagers’ deaths insofar as it has a duty to ensure that the rights to life of its own citizens are protected. General Comment 6 of the Human Rights Committee is instructive regarding states’ affirmative duties to protect the right to life. As the Committee has stated, “The expression ‘inherent right to life’ cannot properly be understood in a restrictive manner, and the protection of this right requires that States adopt positive measures.”³¹² Cambodia bears responsibility, simply stated, for protecting the lives of its own citizens and in obtaining compensation when their rights to life are violated.

Cambodia has neglected to fulfill several aspects of this obligation. Real

protection of the residents of Ratanakiri mandates disseminating *effective* warnings regarding releases to villagers, which is not currently the case.³¹³ The Cambodian government may also bear responsibility for deaths from villagers' declining health situation. The government has not actively sought redress for villagers' losses of life. To date, it appears that only minimal protest has been lodged against Vietnam for the deaths caused by the operation of the dam.³¹⁴ Cambodia's failure to take adequate measures to protect its people from the harms of the dams, to investigate the losses of life, and to improve the health situation of the villagers all constitute failures to uphold fully the villagers' right to life.

b. Economic, Social and Cultural Rights

Additionally, despite Vietnam's primary causal responsibility for the deterioration of the villagers' economic, social and cultural rights, the positive and progressive nature of rights under the ICESCR obliges Cambodia to take affirmative steps to safeguard, and improve, the livelihoods of the villagers. Cambodia's failures can best be characterized as failures to *protect* and to *fulfill* these rights. Protection implies a minimum level of monitoring and protest by Cambodia regarding the impacts of these dams.³¹⁵ Fulfillment requires even more concrete steps. By ratifying the ICESCR, Cambodia accepted the duty to take extra steps to realize these rights when necessary—in this case, possibly by restoring the old natural resource regime, or via alternative measures to maintain the food security, clean water, and health of the villagers. Further, the violations of the right to health have been exacerbated by the fact that, at the time of this writing, villagers lacked adequate access to medical care. Doctors and hospitals in the area are scarce, and often lack appropriate supplies. Infrastructure to reach better-developed areas of the country is limited and, in the most remote areas, nonexistent. Efforts to promote an adequate level of food for villagers through fish conservation measures are steps in the right direction, as is the food aid provided to villagers. But the remedial measures are, the Committee on Economic, Social and Cultural Rights has determined, not enough: "a State party in which any significant number of individuals is deprived of essential foodstuffs, of essential primary health care, of basic shelter and housing, or of the most basic forms of education is, *prima facie*, failing to discharge its obligations under the Covenant."³¹⁶ Concrete efforts to remedy the harms suffered in these communities—to restore their rights to food, water, and livelihood—are required to bring Cambodia into compliance with the ICESCR.

IX.

CONCLUSION



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CONCLUSION

In April 2005, the deputy prime minister of Vietnam declared, “As a country member of the Mekong Agreement, the Vietnamese Government has always pledged to seriously implement clauses of the signed agreement.”³¹⁷ As the widespread violations of international law and the Mekong Agreement demonstrate, this sentiment rings hollow. The evidence contained in numerous villagers’ accounts establishes clear and ongoing violations of international environmental and human rights law in Ratanakiri on the part of both Vietnam and Cambodia. To review the main problems: villagers have died in surges; they have lost property; they have seen their food supply dwindle and their fish stocks dissipate; they are increasingly sick; they cannot farm along the riverbank; and they live in constant fear.

Both countries also bear specific obligations as riparian governments and signatories to the Mekong Agreement; they are entrusted with safeguarding the environment and rivers such as the Se San. International environmental law establishes principles of no significant harm, equitable use, notification, and prevention of harm. Inadequate EIAs, infrequent and nonexistent monitoring of the situation downstream, reckless operation of the dams, and a lack of political will to take action have all undermined these fundamental principles. The result has been untold harm in Ratanakiri province and to the local communities that rely on the river for their subsistence.

This neglect has, in turn, placed both countries in breach of fundamental principles of human rights law. Vietnam’s poor operation of the Yali Falls Dam, and Cambodia’s failure to prevent (or even to protest meaningfully) these actions have violated the villagers’ rights to life, to food, to health, to

water; and numerous subsidiary rights that both countries swore to uphold when they ratified the ICESCR and the ICCPR.

Villagers' right to a remedy as yet remains unsatisfied. Vietnam has effectively made no overtures to provide reparations to the Cambodian government or the people of Ratanakiri—indeed, it has only rarely acknowledged the harms it has caused. Both governments insist upon further studies before taking action, which appears to be little more than delay tactics aimed at preventing meaningful resolution of the issues. Failure to document the situation before dam construction should in no way prevent remedial action from taking place now when harms are well-established and even admitted by the governments. Through inaction, Cambodia has neglected the well-being of its people, not just in permitting these delays on the part of Vietnam, but in its own failure to take adequate remedial steps during the past five years of negotiations with its neighbor.

We again call on the governments of Cambodia and Vietnam to acknowledge the effects of the Yali Falls Dam and other hydropower projects on the Se San ecosystem—and we call on them to move promptly to fix these problems. Specifically, we recommend that the governments provide the Ratanakiri communities with remedies for past, present, and future impacts from the dams. Additionally, the governments should negotiate a long-term agreement on cross-border water management issues. The governments should establish a concrete process or mechanism for resolving claims and determining appropriate redress; this should include specific timetables so as to avoid further delays, which have plagued the issue to date. As a general matter, the governments should also improve access to information and the involvement of communities in decision-making. The notification system should similarly be improved to use more advanced technology that is more accessible to local communities. To date, the flawed notification system exemplifies that more resources need to be given to those who are seeking to address the problems of affected communities along the Se San River. In the final analysis, however, the governments need to muster more political will to resolve these issues and improve the lives of downstream communities along the Se San River.

ENDNOTES

¹ MICHAEL LERNER, DANGEROUS WATERS: VIOLATIONS OF INTERNATIONAL LAW AND HYDROPOWER DEVELOPMENT ALONG THE SESAN RIVER, (unpublished manuscript, December 2003), Phnom Penh, Cambodia [hereinafter DANGEROUS WATERS]. Mr. Lerner provided us with invaluable insights and information for our investigation, including access to his unpublished research.

² See, e.g., Amnesty International, *About Us*, at <http://web.amnesty.org/pages/aboutai-faq-eng#4> (last visited Oct. 13, 2005) (discussing general methodology of human rights investigation and reporting.)

³ See generally DERMOT GROOME, THE HANDBOOK OF HUMAN RIGHTS INVESTIGATIONS Ch. 7, "Interviewing Witnesses" (Human Rights Press 2000).

⁴ DANGEROUS WATERS, *supra* note 1, at 7 (citing IAN BAIRD, HYDROPOWER DEVELOPMENT ON THE SE SAN RIVER IN VIETNAM, AND DOWNSTREAM IMPACTS IN NORTHEAST CAMBODIA (2000) at 1); see also GREATER MEKONG SUBREGION ATLAS OF THE ENVIRONMENT 43 (ADB/UNEP 2004).

⁵ See, e.g., DANGEROUS WATERS, *supra* note 1, at 7.

⁶ WORLEY WTL LTD., SE SAN 3 HYDROPOWER PROJECT: YALI/SE SAN 3 ENVIRONMENTAL AND SOCIAL IMPACT ANALYSIS STUDY 2-22 to 2-23, (Asian Development Bank – PPTA 31362-01-VIE, RMR Draft Copy, April 2000) [hereinafter WORLEY REPORT APRIL 2000]. In an April 2000 report, known as the Worley Report, an Australian consulting company hired by the ADB singled out EVN, the Vietnamese utility, as the party responsible for harms associated with the Yali Falls Dam.

⁷ Determining exact estimates of populations is difficult. International Rivers Network (IRN) quotes a figure of more than 55,000 people in Cambodia and Vietnam that have suffered from the operation of the dam. See International Rivers Network, *Damming the Sesan River: Impacts in Cambodia and Vietnam*, IRN BRIEFING PAPER 4 (Oct. 2002) [hereinafter IRN Briefing Paper 4]; see also THE FISHERIES OFFICE, RATANAKIRI PROVINCE & THE NON-TIMBER FOREST PRODUCTS (NTFP) PROJECT, A STUDY OF THE DOWNSTREAM IMPACTS OF THE YALI FALLS DAM IN THE SE SAN RIVER BASIN IN RATANAKIRI PROVINCE, NORTHEAST CAMBODIA, 3 (May 29, 2000) [hereinafter DOWNSTREAM IMPACTS] (stating that over 20,000 people in Ratanakiri Province "have experienced serious ecological and socio-economic impacts" due to the dam).

⁸ WORLEY REPORT APRIL 2000, *supra* note 6, at ES-20.

⁹ DANGEROUS WATERS, *supra* note 1, at 8 (citing BAIRD, HYDROPOWER DEVELOPMENT, *supra* note 4, at 4) (noting plans dating to 1968).

¹⁰ The precursor to the MRC was known as the Interim Mekong Committee. They assisted with coordination and planning of the Yali Falls Dam. See DANGEROUS WATERS, *supra* note 1, at 8 (citing CHRIS LANG ET AL., DAMS INCORPORATED: THE RECORD OF TWELVE EUROPEAN DAM BUILDING COMPANIES, 2000, at 45); see *infra* Section VII.A.1.c for discussion of flawed EIA.

¹¹ The 1080 megawatt Nam Theun II dam, which is currently under construction in Laos, will be the largest dam in the region. See International Rivers Network at <http://www.irn.org/programs/mekong/namtheun.html> (last visited Oct. 13, 2005).

¹² DANGEROUS WATERS, *supra* note 1, at 4.

¹³ "The dam was financed by Vietnam, with help in the form of loans and equipment from Russia and the Ukraine. . . . [T]he Swiss government provided US\$1,090,000 . . . to fund the Environmental Impact Assessment. . . . The Swedish aid agency SIDA contributed approximately US \$3.2 million to the Swedish company Skanska to provide assistance." *Id.* at 8. Sweden's assistance was specifically to ensure that safety standards were met during

construction.

¹⁴ *Id.* at 4.

¹⁵ *Id.* at 8.

¹⁶ IRN Briefing Paper 4, *supra* note 7.

¹⁷ *Id.*

¹⁸ See Towards Ecological Recovery and Regional Alliance (TERRA), *Another Dam on the Sesan*, WATERSHED Vol. 9, No. 2 (November 2003–March 2004) at 8 (indicating construction of the Pleikrong dam began in November 2003, and the dam is scheduled to be operational by 2007); see also “Regarding the construction of hydro-power plant on Sesan river: Answer to Correspondent by Mr. Le Dzung, the spokesman of the Vietnamese Ministry of Foreign Affairs on 18th August 2004” at http://www.mofa.gov.vn/en/tt_baochi/pbnfn/ns041022154200 (last visited Oct. 13, 2005).

¹⁹ See, e.g., DOWNSTREAM IMPACTS, *supra* note 7; BAIRD, HYDROPOWER DEVELOPMENT, *supra* note 4; BRUCE MCKENNEY, ECONOMIC VALUATION OF LIVELIHOOD INCOME LOSSES AND OTHER TANGIBLE DOWNSTREAM IMPACTS FROM THE YALI FALLS DAM TO THE SE SAN RIVER BASIN IN RATANAKIRI PROVINCE, CAMBODIA (Jan. 2001); CENTER FOR NATURAL RESOURCES AND ENVIRONMENTAL STUDIES, STUDY INTO IMPACT OF YALI FALLS DAM ON RESETTLED AND DOWNSTREAM COMMUNITIES (Feb. 2001); IAN BAIRD *ET AL.*, A COMMUNITY-BASED STUDY OF THE DOWNSTREAM IMPACTS OF THE YALI FALLS DAM ALONG THE SE SAN, SRE POK AND SEKONG RIVERS IN STUNG TRENG PROVINCE, NORTHEAST CAMBODIA (Mar. 2002) [hereinafter COMMUNITY-BASED STUDY]; ANDREA H. CLAASSEN, ABUNDANCE, DISTRIBUTION, AND REPRODUCTIVE SUCCESS OF SANDBAR NESTING BIRDS BELOW THE YALI FALLS HYDROPOWER DAM ON THE SESAN RIVER, NORTHEASTERN CAMBODIA (Sept. 2003); CULTURE AND ENVIRONMENT PRESERVATION ASSOCIATION, RESEARCH REPORT ON IMPACTS OF THE YALI FALL DAM 2004 (unpublished draft article, on file with the authors).

²⁰ See MALIN HASSELSKOG *ET AL.*, ADDRESSING ANARCHY: DECENTRALIZATION AND NATURAL RESOURCE MANAGEMENT IN RATANAKIRI PROVINCE, UPLAND CAMBODIA 17 (June 2001) (mentioning Ratanakiri’s “fertile soil, thick forests and ample water resources” and noting the “drastic increase in population, intensive logging, and the allocation of concessions for small and large plantations”); see also International Development Research Centre, *Staking a Claim in Cambodia’s Highlands* (March 30, 2001), available at http://www.idrc.ca/en/ev-5424-201-1-DO_TOPIC.html (last visited Oct. 13, 2005).

²¹ See Oxfam Mekong, *Mekong Land and Forests—Cambodia Information*, at http://www.oxfammekong.org/graphics_pages/land_and_forest/Countries/Cambodia.htm (last visited Oct. 13, 2005).

²² See Bank Information Center, *GMS Update #1—The Greater Mekong Subregion and MDBs: Basic Facts and Updates*, at http://www.bicusa.org/bicusa/issues/GMS_Update11.pdf (last visited Oct. 13, 2005).

²³ See HASSELSKOG *ET AL.*, ADDRESSING ANARCHY, *supra* note 20, at 14.

²⁴ See, e.g., Human Rights Watch, *Cambodia: Landmark Indigenous Land Rights Case To Be Heard in Ratanakiri Provincial Court—Background Briefing Memo*, available at <http://www.hrw.org/backgrounder/asia/landrights-bck.htm> (last visited Oct. 13, 2005).

²⁵ See HASSELSKOG *ET AL.*, ADDRESSING ANARCHY, *supra* note 20, at 16 (“Historically, irrespective of regime, the area constituting current Ratanakiri has been marginal in relation to the political and economic centers.”).

²⁶ See, e.g., DANGEROUS WATERS, *supra* note 1, at 20–23; see also Bou Saroeun, *Viets Say Sorry for Se San Flow*, Phnom Penh Post, Apr. 28, 2000.

²⁷ See DANGEROUS WATERS, *supra* note 1, at n. 15 (“We are very sorry for the losses of the people living downstream on the Sesan River in Cambodia. Caused, of course, by releasing

water from the Yali Falls Dam's reservoir in February 2000." Tran Minh Huan, Director General, Department of International Cooperation, Vietnam National Mekong Committee, in an oral statement at a workshop at Ubon Ratchathani University, November 8, 2002; *see also* Interview #47 with Environment Ministry Official, Phnom Penh, March 30, 2005 (Unless otherwise indicated, all quotations represent statements made directly to the research team. All the interviews are on file with the authors.).

²⁸ Interview #46 with Keuil, Kachoot Village, Andong Meas Commune, April 2, 2005.

²⁹ *See* DANGEROUS WATERS, *supra* note 1, at n. 15; *see also* WORLEY REPORT APRIL 2000, *supra* note 6, at Table 2.24 (16-21) (listing more than a dozen deaths).

³⁰ Interview #47, *supra* note 27.

³¹ DOWNSTREAM IMPACTS, *supra* note 7, at 3.

³² DANGEROUS WATERS, *supra* note 1, at 20.

³³ COMMUNITY-BASED STUDY, *supra* note 19, at 7.

³⁴ In all, those interviewed described thirteen deaths they linked to the dam. This number is not meant to be a definitive number of actual deaths caused by the dam; the research goal for this report was not to confirm all reported deaths. *See* Interviews #4, 5, 6, 7a, 13, 14, 16, 18, 21, 24, 26, 29, 30, 31, 32, 35a, 36, 38, 40, 43, 44, and 46 (March-April 2005). Villagers also reported that deaths from illness, which they attributed to poor water quality, continue to mount. *See infra* section IV.C. for discussion of illness-related deaths.

³⁵ *See* Interview #16 with Pok Rum, Ke Kouang Village, Ta Veng District, March 30, 2005 (stating that the pilot of a boat that capsized crossed the river "every day"); *see also* Interview #46, *supra* note 28 (stating "He was an experienced boatman").

³⁶ Interview #7a with Bleng Preu Non, Tampuon Reuang Thom village, Ta Veng District, March 29, 2005; *see* DANGEROUS WATERS, *supra* note 1, at 21 (describing the same incident).

³⁷ *See* DANGEROUS WATERS, *supra* note 1, at 21 (interview with Bleng Chien, June 1, 2002).

³⁸ Interview #7a, *supra* note 36.

³⁹ DANGEROUS WATERS, *supra* note 1, at 21.

⁴⁰ Interview #7a, *supra* note 36.

⁴¹ Interview #36 with Kasal Toi, Kanat Douch Village, Andong Meas District, April 1, 2005; *see also* DANGEROUS WATERS, *supra* note 1, at 22 (describing the same incident).

⁴² Interview #36, *supra* note 41; *see also* DANGEROUS WATERS, *supra* note 1, at 22.

⁴³ Interview #44 with Meng Ti et al., Kachoot Village, Andong Meas District, April 2, 2005.

⁴⁴ DANGEROUS WATERS, *supra* note 1, at 22-23.

⁴⁵ *See supra* note 34 for a list of interviews citing loss of life.

⁴⁶ Rochom Troung, while recounting the boat drowning in 2000 of a village elder named Leutch, commented: "In 1996, when the dam broke, four people almost died in the water. They were drowning but were saved. They were in a boat but people found them before they died." Interview #33 with Rochom Troung, Pataang Village, O Yadao District, April 1, 2005. Rumam Suong described a 1996 boat accident that caused three deaths, but five others survived after the boat sank. "Villagers saw [what was happening] and came to get them in another boat. . . . So the villagers took a boat out and pulled the five people out of the water [and] into another boat." Interview #31 with Rumam Suong, Padawl Village, O Yadao District, April 1, 2005.

⁴⁷ Interview #16, *supra* note 35 (In 1996, Prang Vien, a 60-year-old grandmother, and Rum Ka, her three-year-old grandson, died in a boat accident. One person who survived the accident, Pok Rum, son and father, respectively, of the two victims, explained: "In the early morning, I was taking my children, wife, and mother in a boat across the river to my farm. When I brought them across in the morning the water was low and I could see the sticks and

shrubs at the bottom of the river. When I returned from the farm, the water was much deeper and cloudier. In the evening, my boat hit sticks that I could no longer see, and it overturned after hitting these submerged trees and shrubs. I couldn't avoid it. The water was flowing very fast. . . . Three days later, we found my mother and child. The bodies [were] 20 kilometers downstream. . . . I have nightmares and bad dreams about losing the rest of my family.”).

⁴⁸ *Id.*

⁴⁹ Interview #28 with Sao Tom et al., Padawl Village, O Yadao District, March 31, 2005.

⁵⁰ Some of the efforts of the Cambodian government are discussed below. See *infra* section VI.

⁵¹ 1996 saw widespread floods in Ratanakiri and other northeastern Cambodian provinces, and while there are unconfirmed reports of a coffer dam breaking which may have exacerbated the floods, this report focuses attention on post-1996 claims. In the midst of Ta Veng village, a water stain reaching halfway up the wall of the district government's office still marks the spot where the water level stayed for approximately a week during the 1996 flood. According to district governor Chen Buhn, locals resettled to two nearby hills during that time, returning to their ruined households after the water levels had receded. Interview #1 with Chen Buhn, Ta Veng District, March 28, 2005.

Many families along the Se San lost everything in the 1996 floods. See, e.g., Interview #39 with Ramom Yang et al., Kanat Douch Village, Andong Meas District, April 2, 2005 (“In the 1996 floods, each family lost at least one or two buffalo and cows. Many houses swept away with their jars, cooking and household materials. We never saw the government come and collect information; nor did the government give us anything. Because of our difficulties, we decided to move our village.”); Interview #44, *supra* note 43 (“We lost everything.”); Interview #1, *supra* (“The hardest hit people were the less well off, with houses made of lighter wood or bamboo. Sturdier houses survived the flood.”).

The floods also devastated the rice crop for that year. See, e.g., Interview #18 with Wing Yeub et al., Ke Kouang Village, Ta Veng District, March 30, 2005 (“I lost rice in the fields, and three months worth of rice that had already been harvested and was stored in my house.”); Interview #13 with Jok Ork, Pleu Doiuc Village, Ta Veng District, March 29, 2005. Villagers in certain districts received some rice from the Red Cross as flood aid during this time, but residents of more remote villages, like those in O Yadao district, reportedly did not. See Interview #33, *supra* note 46.

Livestock losses were acute as well. A large component of people interviewed reported losing many animals at this time, either during the flood or to illness in the months immediately following the incident. See, e.g., Interviews #3, 5, 6, 8, 13, 21, and 26 (March–April 2005).

⁵² Interview #22 with Soi Suna, Deputy Director of the Department of Agriculture, March 31, 2005.

⁵³ See, e.g., Interview #2 with Chang Long, Tampuon Rueng Tom Village, Ta Veng District, March 28, 2005.

⁵⁴ See, e.g., Interview #3 with Pan Ni, Tampuon Rueng Tom Village, Ta Veng District, March 29, 2005; Interview #7 with Ram and Kamsut, Tampuon Rueng Tom Village, Ta Veng District, March 29, 2005; Interview #14 with Tok Peiw, Da han June and Ti Leung, Ke Kouang Thom Village, Ta Veng Leu Commune, March 29, 2005; Interview #18, *supra* note 51; Interview #20 with Pul, Doi and Kam Mi, Ta Veng Kroam Commune March 30, 2005.

⁵⁵ See Interview #22, *supra* note 52; Interview #34 with Heng Bunthan, District Governor, O Yadao District, April 1, 2005.

⁵⁶ Interview #43 with Non, Khanat Touch village, Andong Meas District, April 2, 2005.

⁵⁷ Interview #41 with So Nguyen, Khanat Touch village, Andong Meas District, April 2, 2005.

⁵⁸ Some claims involve both deaths and loss of property. Pok Rum, for example, recounted to us how his desperate effort to prevent his family from drowning during a boat accident, caused by a surge some months after the 1996 flood, left no room for concern about his family's possessions at the time. Nonetheless, he added, because he and his family had to carry their household goods with them every day to the fields, they lost virtually everything to the river. After Pok Rum returned to work, he borrowed lost equipment from another villager; he stated that it took him "about five years" to replace the lost items. Pok Rum and his surviving family members remain impoverished to this day—Pok Rum reported that they have no house. Interview #16, *supra* note 35.

⁵⁹ MCKENNEY, ECONOMIC VALUATION, *supra* note 19, at 11.

⁶⁰ Interview #43, *supra* note 56.

⁶¹ Interview #6 with Pow Pork, Phaiya Village, Ta Veng District, March 29, 2005.

⁶² Interview #36, *supra* note 41.

⁶³ Interview #8, with with Lon, Sieng Sai Village, Ta Veng Kroam Commune, March 29, 2005.

⁶⁴ See DOWNSTREAM IMPACTS, *supra* note 7, at 26.

⁶⁵ Interview #22, *supra* note 52; see also DANGEROUS WATERS, *supra* note 1, at n. 180.

⁶⁶ Interview #22, *supra* note 52.

⁶⁷ Interview #11 with Pam, Kik Kuon Village, Ta Veng District, March 29, 2005.

⁶⁸ Interview #34, *supra* note 55.

⁶⁹ Interview #12 with Reetu, Plu Village, Ta Veng District, March 29, 2005.

⁷⁰ Interview #29 with Chu Wen and Chiu Mul, Padawl Village, Se San Commune, O Yadao District, March 31, 2005.

⁷¹ Interview #44, *supra* note 43.

⁷² Interview #10, *supra* note 58.

⁷³ Interview #39, *supra* note 51.

⁷⁴ Interview #8, *supra* note 63.

⁷⁵ Interview #38 with Lmam Ye, Kanat Toch Village, Ta Lao Commune, Andong Meas, April 2, 2005.

⁷⁶ See *supra* note 20. Keuil explained that "the villagers are busy now. Before, people had free time in the dry season; now people burn forests in the dry season to make room for cashew trees. Others told me that if I planted cashews, I would have money." Interview #46, *supra* note 28. Unlike fishing and gold panning, cashew harvesting dramatically changes the character of the land surrounding villages, as forests must be converted into fields. See generally *supra* Section III.C.

⁷⁷ Interview #8, *supra* note 63.

⁷⁸ Interview #40 with Sol Toy, Kanat Douch village, Andong Meas District, April 2, 2005.

⁷⁹ MCKENNEY, ECONOMIC VALUATION, *supra* note 19, at i.

⁸⁰ Interview #34, *supra* note 55.

⁸¹ Interview #14, *supra* note 54.

⁸² Interview #6, *supra* note 61.

⁸³ Interview #38, *supra* note 75; see also Interview #35, Garman Gham, Kanat Toch Village, Ta Lao Commune, Andong Meas, April 1, 2005 (Before 1996, "one family would make about 30,000 riel per month.").

⁸⁴ Interview #40, *supra* note 78.

⁸⁵ Interview #37 with Kasal Heak, Khanat Touch Village, Andong Meas District, April 1, 2005.

⁸⁶ Interview #30, with Puw Tho, Padawl Village, Se San Commune, O Yadao District, April 1, 2005.

⁸⁷ Interview #44, *supra* note 43.

⁸⁸ Interview #30, *supra* note 86.

⁸⁹ Interview #41, *supra* note 57.

⁹⁰ Interview #44, *supra* note 43; *see also* Interview #3, *supra* note 54.

⁹¹ Interview #29, *supra* note 70.

⁹² Interview #33, *supra* note 46.

⁹³ For a discussion of possible explanations for such a linkage, *see* DOWNSTREAM IMPACTS, *supra* note 7, at 13-19 (citing, among other explanations, the impact that upstream water storage in reservoirs could have, the effect of varying water temperatures could pose, and the possible impact of blue green algae from eutrophication).

⁹⁴ Interview #40, *supra* note 78.

⁹⁵ Interview #11, *supra* note 67.

⁹⁶ Seila is a government-sponsored development program, supported through the United Nations Development Program's CARERE project from 1996-2000 and later by the UN's International Fund for Agricultural Development (IFAD). Ratanakiri was one of five targeted provinces in the program. *See, e.g., CARERE/SEILA at a Glance*, at <http://mirror.undp.org/carere/Layer1.CARERE-SEILA/csc.htm#CARERE> (last visited Oct. 13, 2005); IFAD, Cambodia Introduction, at <http://www.ifad.org/media/success/cambodia> (last visited Oct. 13, 2005) ("Seila, a Cambodian word, evokes the image of a foundation stone that represents the solidity of both the Government's decentralization programme and the Seila project itself").

⁹⁷ Interview #21 with Touch Cha Lek, Phao Village, Ta Veng District, March 30, 2005.

⁹⁸ Interview #35, *supra* note 83.

⁹⁹ Villagers noted that while the water quality has deteriorated in general, skin problems are particularly serious when the water becomes cloudy and dusty. This is an ongoing problem that happened most recently from mid-December 2004 until early March 2005. *See* Interviews #3, 4, 13, 25, and 33. Kasal Kitch, who is 27 years old, explained that when the water is dusty and she bathes, she develops a rash on her body. Interview #42 with Kasal Kitch, Kanat Touche Village, Andong Meas Village, April 2, 2005. Ms. Khom Jan agreed with this: "The water causes skin irritations. During the past year, the water has been dirtier than in other years. I can't drink or cook with it. . . . When the water is cloudy, everyone gets irritations." Interview #10, *supra* note 58. Villagers have also reported that children have died after developing such skin problems. Interview #7, *supra* note 54.

¹⁰⁰ Interview #45 with Som Beem, Kachoot Village, Andong Meas District, April 2, 2005.

¹⁰¹ Interview #35 *supra* note 83; *see also* Interview #43, *supra* note 56 ("My family has health problems from the water. We didn't boil water and my daughter got sick from drinking my wife's breast milk. We don't boil water because we don't have a pot for boiling, plus it's tradition.").

¹⁰² *See supra* note 34.

¹⁰³ *See, e.g.,* Interviews #3, 13, 14, 29, 30, 33, 35, 36, 40, and 45 (March-April 2005). This number necessarily excludes villagers who said that "many" people died without providing a specific number. *See also* DOWNSTREAM IMPACTS, *supra* note 7 (listing the number of deaths from deteriorating health quality at 952 as of 2000).

¹⁰⁴ Interview #40, *supra* note 78.

¹⁰⁵ Interview #33, *supra* note 46 (“In 2003, Romas Tin, the village chief, who was 42 years old, and Seav Kluch, a member of the village women’s group, who was 40 years old, died from diarrhea.”); *see also* Interview #3, *supra* note 54 (“This year, the water was oily in May and December. People who drank this water became ill in the stomach. [It was] like rocks in their stomach . . . and some died.” She explained that in the neighboring villages, one person died from illness in 2001, another in 2002, and five in 2004—including several individuals in their forties.).

¹⁰⁶ Interview #37, *supra* note 85.

¹⁰⁷ *See* Interview #36, *supra* note 41; Interview #37, *supra* note 85; Interview #40, *supra* note 78.

¹⁰⁸ Interview #37, *supra* note 85.

¹⁰⁹ Interview #46, *supra* note 28.

¹¹⁰ Interview #49 with Ian Campbell, MRC Secretariat, Ban Lung, Ratanakiri Province, March 30, 2005.

¹¹¹ *See infra* section VI.C.2.

¹¹² Some observed that access to fresh drinking water or medical facilities helped reduce the number of people dying from sickness. Chiu Mul commented: “Some people used to drink water from the river before we had the well, and then [a few] people got diarrhea and died.” Interview #29, *supra* note 70. The people who died were two boys, aged four and five, and a 44-year-old woman. In the district of Andong Meas, some villages have access to a recently built health center. While not all villagers agreed on the quality of medical treatment that is available, Klan Huynh argued: “Now is better than before because we have a health center and a doctor. Many people would die of diarrhea without the health center.” Interview #44, *supra* note 43.

¹¹³ While medical facilities are available near some villages to deal with health problems, even these have been of limited effectiveness, villagers reported. Meng Ti, whose village is within traveling distance of the district health center, reported: “Sometimes we go to the hospital, but they won’t treat people who cannot pay. A person will get sick [with a headache, a stomach ache, an infection, pinkeye], go to the hospital, pay 500 riel to the doctor, and the doctor only gives Paracetamol. Doctors only take care of people who can pay.” Interview #44, *supra* note 43. Two teenage boys interviewed in Tampoum Reung Thom Village added that sometimes the health center they can reach does not have any medicine in stock. Interview #7, *supra* note 54.

¹¹⁴ Villagers lack education about how to use medicine safely. One villager mentioned that people from the organization Health Unlimited have come to teach about health, but that no one from the government has. Interview #11, *supra* note 67. Along with being unfamiliar with modern treatments, some villagers rely on traditional medicines or religious practices. “Most people sacrifice animals to the spirits when they have problems in the hope that their health will improve.” Interview #4 with Pow Bun Soum, Thompuon Reung Thom village, Ta Veng District, March 29, 2005. In Kanat Douch village, where villagers reported widespread health problems, one man said: “people living here no longer think people are dying from spirits anymore because they sacrifice animals and people still die.” Interview #37, *supra* note 85.

¹¹⁵ *See supra* section IV.B.1.

¹¹⁶ *See, e.g.*, Declaration from the Sesan Protection Network to Samdach Hun Sen, Prime Minister of the Kingdom of Cambodia, May 5, 2005, *available at* <http://www.ngoforum.org.kh/Environment/Docs/Sesan%20Protection%20Network.htm> (last visited Oct. 13, 2005); Declaration of the Northeast Cambodia Fishery Forum, Stung Treng

Province, Feb. 22-23, 2005, *available at* <http://www.ngoforum.org.kh/Environment/Docs/Sesan/Letter%20to%20Prince%20Nordom%20Ranariddh.pdf> (last visited Oct. 13, 2005); Joint Statement From Ethnic Minority Groups Living Along the Sesan River in Ratanakiri, Nov. 24, 2002, *available at* http://www.mekong.es.usyd.edu.au/case_studies/sesan/index.htm (last visited Oct. 13, 2005).

¹¹⁷ Interview #38, *supra* note 75.

¹¹⁸ See, e.g., Interviews #1, 2, 3, 6, 8, 17, 18, 21, 30, and 41 (March-April 2005).

¹¹⁹ Interview #1, *supra* note 51; Interview #4, *supra* note 114; Interview #10, *supra* note 58.

¹²⁰ Interview #14, *supra* note 54.

¹²¹ Interview #30, *supra* note 86.

¹²² Interview #3, *supra* note 54; Interview #28, *supra* note 49; Interview #38, *supra* note 75.

¹²³ Interviews #3, 14, 29, 33, and 35 (March-April 2005).

¹²⁴ Interview #11, *supra* note 67.

¹²⁵ Interview #7, *supra* note 54.

¹²⁶ Interview #14, *supra* note 54.

¹²⁷ Interview #13, *supra* note 51; Interview #33, *supra* note 46.

¹²⁸ Interview #13, *supra* note 51.

¹²⁹ Interview #24 with Cheu Sren et al, Padawl Village, Se San Commune, O Yadao District, March 31, 2005.

¹³⁰ See Interview #38, *supra* note 75.

¹³¹ Interview #33, *supra* note 46.

¹³² Interview #36, *supra* note 41.

¹³³ Interview #25 with Muah Le, Padawl Village, Se San Commune, O Yadao District, March 31, 2005.

¹³⁴ Interview #30, *supra* note 86.

¹³⁵ Interview #36, *supra* note 41.

¹³⁶ Interview #22, *supra* note 52.

¹³⁷ Interview #33, *supra* note 46.

¹³⁸ Interview #25, *supra* note 133; Interview #33, *supra* note 46.

¹³⁹ Interview #40, *supra* note 78.

¹⁴⁰ Interview #41, *supra* note 57.

¹⁴¹ Interview #40, *supra* note 78.

¹⁴² Interview #28, *supra* note 49.

¹⁴³ Independent consultants harshly criticize previous Yali/Se San 3 studies, detailing failings and their “disquiet” with the previous studies, including the 1993 Electrowatt study of the Yali. WORLEY REPORT APRIL 2000, *supra* note 6, at 1.2, at 1-2; see also *id.* at ES-8 to ES-18. For example, the consultants wrote of the 1993 study, “Electrowatt have failed to identify serious social and environmental impacts which extend well into Cambodia. The idea that the changed river regime will have no effect on Giarai people is absurd, and discredits Electrowatt’s consultants. The belief that the changed flood regime will be confined to the riverbank immediately downstream of the dam is incorrect. Flood regime changes will certainly extend far down the river.” *Id.* at ES-15. The consultants were so dismayed by the previous poor baseline assessments and the major damage they found that they “re-organized” their assessment to include: “Recommendations for short term and safe management of future Yali Hydropower Project discharges, for appropriate actions to investigate and compensate for earlier damage, and for the management and monitoring of future long term discharges to the satisfaction of all stakeholders.” *Id.* at 1.4.3, at ES-3; see also *infra* Section VIII.A.1.c.

¹⁴⁴ May 15, 2000 Fax from the Mekong River Commission and accompanying “Report on Visit to the Ialy Hydropower Project” (20-21 April 2000) [hereinafter May 15, 2000 MRC Fax].

¹⁴⁵ See WORLEY REPORT APRIL 2000, *supra* note 6.

¹⁴⁶ May 15, 2000 MRC Fax, *supra* note 144.

¹⁴⁷ WORLEY REPORT APRIL 2000, *supra* note 6, at 1.2, at ES-2.

¹⁴⁸ *Id.* at 3, at ES-19. The magnitude of the surges was enormous:

It is clear that the operations of the spillway gates have, over the last 15 months, transformed the natural river flow pattern to an unpredictable and dangerous series of discharges. The highest ever recorded natural flow at the Yali dam site (deduced from the two river gauges) took place on 3rd November 1996. It was 7,005 m³/s. Spills on 30/9/99 and 28/11/99 of 5,800 and 4,366 m³/s respectively, which were built up from zero over an unknown but short period, will have been extremely dangerous and highly erosive. . . . Not surprisingly, it seems that the new flow regime in the Se San river below the Yali Dam has led to reports of deaths and injury to people, loss of livestock, boats and property, damage to gardens and riverbank graves, flooding and dislocation of production systems and waterway transportation. *Id.* at 2-21 at 2.2.2.3.

The report continues:

During the consultants field work news was received from Cambodia of environmental and social impacts of the spillway discharges, including the drowning of at least five persons and substantial damage to production system and the ecology of the river’s and river banks. *Id.* at 1-2 at 1.3.4 (also indicating in Vietnam “consultants own investigations” found 10 to 20 deaths and “large amounts of property and livestock have been swept away”).

¹⁴⁹ *Id.* at 4.4, at ES-31.

¹⁵⁰ *Id.* at 3, at ES-19.

¹⁵¹ *Id.* at Figures 4.4 and 4.13.

¹⁵² *Id.* at 4.3.1, at ES-26.

¹⁵³ *Id.* at ES-8 (stating also “The consultants suggest that the Yali developers . . . seek professional support . . . to ensure the Yali hydropower project is operated safely and responsibly, meeting international standards.”); see also *id.* at 1.3, at ES-2 (“[There was] accidental catastrophic damage caused by the Yali discharge pattern over the period January 1999 to the present date [April 2000], which has not yet been investigated or compensated, and which extends into Cambodia.”); see also *id.* at Table 2.23 (documenting the spills in 1999 and 2000 in detail).

¹⁵⁴ *Id.* at ES-20 to ES-23 and Table 3.1. Even in April 2000 with events still fresh in people’s memories, exact links between the dam and damage were seen to be difficult, but the consultants left the burden of proof largely with EVN:

Another difficulty . . . will be to separate out damage and loss which is the result of recent events not connected with the Yali spills. This will

be difficult. EVN is in a vulnerable position, where it can receive false or misinterpreted claims, but it is a position it entered without proper forethought and with considerable management recklessness. There are no base lines, and there has been no monitoring of spilling impacts by independent observers. *Id.* at 3-3.

¹⁵⁵ DANGEROUS WATERS, *supra* note 1, at n. 15 (citing Tran Minh Huan, Director General, Department of International Cooperation, Vietnam Ministry of Industry, in an oral statement at a workshop at Ubon Ratchathani University, November 8, 2002).

¹⁵⁶ May 15, 2000 MRC Fax, *supra* note 144; *see also* DANGEROUS WATERS, *supra* note 1, 9-10.

¹⁵⁷ May 15, 2000 MRC Fax, *supra* note 144; *see also* DANGEROUS WATERS, *supra* note 1, at 10.

¹⁵⁸ *See* EVN, Section II: Result of five Prime Ministers Solution in order to avoid damage to Downstream by Ialy Reservoir Water Release (undated memorandum) (on file with the authors).

¹⁵⁹ Interview #23, with Chan Bun Thogun, Ratanak Hotel, Banlung, Ratanakiri Province, March 31, 2005.

¹⁶⁰ *Id.*

¹⁶¹ *See, e.g.*, Interview #14, *supra* note 54; Interview #31, *supra* note 46.

¹⁶² *See* Interview #31, *supra* note 46; Interview #34, *supra* note 55.

¹⁶³ *Cf.* Interview #20, *supra* note 54; Interview #35, *supra* note 83; Interview #33, *supra* note 46.

¹⁶⁴ *See supra* Section IV.A.2.b; *see also* DANGEROUS WATERS, *supra* note 1 at 10-11, 26 (indicating that the notification was seriously flawed in 2002 during his investigation).

¹⁶⁵ Interview #23, *supra* note 159.

¹⁶⁶ Interview #20, *supra* note 54.

¹⁶⁷ *Id.*

¹⁶⁸ Interview #35, *supra* note 83.

¹⁶⁹ Interview #33, *supra* note 46.

¹⁷⁰ *See, e.g.*, Interview #38, *supra* note 75; Interview #18, *supra* note 51; Interview #13, *supra* note 51.

¹⁷¹ Interview #24, *supra* note 129.

¹⁷² *See* WORLEY REPORT APRIL 2000, *supra* note 6, at 3-9 (Warnings “may prevent people in Cambodia from abandoning riverbank farms, as was reported to be already taking place [by April 2000].”).

¹⁷³ Interview #22, *supra* note 52. This program involves training villagers in conservation techniques and setting aside areas as no fishing zones in an effort to restore fish populations. So far the program’s success has been limited.

¹⁷⁴ *See* Interview #43, *supra* note 56. Some of the wells come from outside government development agencies, like the German organization, German Agro Action (GAA). *See* Interview #10, *supra* note 58; Interview #35, *supra* note 83; Interview #44, *supra* note 43. During the field mission for this report, we were unable to confirm whether these wells were a specific response to the impacts from the Se San River dams or part of more general development efforts.

¹⁷⁵ *See supra* note 96. O’Yadao District Governor Heng Bunthan described: “There’s been support from the Seila program directly to commune councils, which is a new policy from the government to try to empower the responsibilities and capacities of the commune council to plan and implement policies themselves.” *See* Interview #34, *supra* note 55.

¹⁷⁶ *See* Provisional Agenda, The Meeting of Two Committees for the Sesan River, 26 July

2001, Nha Trang, Viet Nam; *see also* Minutes of the First Meeting between Cambodian and Vietnamese Committees for the Mechanism on Management of the Sesan River Utilization, July 26, 2001 (on file with the authors).

¹⁷⁷ *See* Provisional Agenda, July 2001 Meeting, *supra* note 176; *see also* Minutes, July 2001 Meeting, *supra* note 176.

¹⁷⁸ *See* Tentative Agenda, Second Meeting of the Two committees Cambodia and Viet Nam for the Sesan River, 09 April 2002, Phnom Penh; *see also* Minutes (1st Draft) of the Second Meeting [sic] Between Cambodian and Vietnamese Committees for the Management of the Se San River, April 9, 2002 (on file with the authors). H.E. Pich Dun stated that there have only been three formal bilateral meetings to date. Interview #48 with H.E. Pich Dun, Deputy Director, Cambodian National Mekong Committee, Phnom Penh, March 30, 2005. *See also* Minutes of Meeting, 19 to 20 May 2004, Phnom Penh, between Ministry of Industry of Vietnam and the delegation from the Standing Committee for Coordination on Dams and Canals along the Cambodia-Laos-Vietnam-Thailand Borders of Cambodia (on file with the authors).

¹⁷⁹ Interview #48, *supra* note 178; *see also* March 18, 2005, Fax from the Nguyen Hong Toan, Vietnam National Mekong Committee, to the Cambodia National Mekong Committee (“[T]he fourth meeting of the two committees will be held in Cambodia. . . . keep us informed about the tentative dates and location of the scheduled meeting.”) (on file with the authors).

¹⁸⁰ H.E. Pich Dun indicated that one Vietnamese official he spoke with said his government was considering putting in a flow regulator; it was an unofficial statement, however. Interview #48, *supra* note 178. There is no indication Cambodia has formally asked for such equipment to be installed.

¹⁸¹ *See supra* notes 176 to 178 (agendas and minutes from meetings); *see also* Interview #47, *supra* note 27 (confirming that compensation and remedies were not on the agenda or discussed at meetings).

¹⁸² DANGEROUS WATERS, *supra* note 1, at 9.

¹⁸³ Depending on the translation, the committee has several slightly different names: Permanent Committee of Multi Facilitation for Dams at the Border of Cambodia, Vietnam, Laos & Thailand *or* Standing Committee for Coordination of Dams and Canals along the Cambodia-Laos-Vietnam-Thailand Borders of Cambodia.

¹⁸⁴ Various officials also explain that they are not the real decision-makers. *See, e.g.*, Interview #47, *supra* note 27; Interview #48, *supra* note 178.

¹⁸⁵ *See supra* notes 178 and 179.

¹⁸⁶ Interview #34, *supra* note 55.

¹⁸⁷ DANGEROUS WATERS, *supra* note 1, at 24.

¹⁸⁸ Interview #23, *supra* note 159.

¹⁸⁹ For villages that lack wells provided by the government or NGOs, boiling water is a partial, but unsatisfactory solution. “A long time ago the elders drank the water without boiling it, but now everyone boils their water. Those that don’t boil, which takes a long time, get sick after drinking it. . . . We’ve drank boiled water ever since Vietnam made the dam since now it’s not clean water and everybody’s health is not good. Some families would like to buy pots for boiling water but can’t afford it, so they still drink the unboiled water.” Interview #11, *supra* note 67. An alternative to boiling water is to dig small wells, but, as one villager explained, “the wells would fill up so it was difficult to get water to drink.” Interview #39, *supra* note 51.

¹⁹⁰ *See also supra* Section VI.C. for a general discussion of the stalled process. The investigative team had one unscheduled, unofficial conversation with a member of the MRC Secretariat

during an impromptu meeting in Ratanakiri. See Interview #49 with Ian Campbell, MRC Secretariat, Ban Lung, Ratanakiri Province, March 30, 2005.

¹⁹¹ See Mekong River Commission, *Agreement on the cooperation for the sustainable development of the Mekong river basin*, 5 April 1995 [hereinafter Mekong Agreement], Articles 28-33; see also *infra* Section VII.A.1.

¹⁹² See JOAKIM OJENDAL ET AL., ENVIRONMENTAL GOVERNANCE IN THE MEKONG: HYDROPOWER SITE SELECTION PROCESSES IN THE SE SAN AND SRE POK BASINS (SEI/REPSI Report Series No. 4, 2002). “MRC, as the only institution with (anything like) a regional ‘governance’ mandate, must become an authority in its technical capacity, and evolve into, *inter alia* a robust proactive institution that can resolve conflicts, spot resource related livelihood failures, and foresee qualitative and quantitative natural resource scarcities... Even if successful with such strengthening, MRC will need to assume a more organic and pro-active role in order to ‘reach out’ in a meaningful way to its member governments’ state administrations.” *Id.* at 64.

¹⁹³ Interview #49, *supra* note 190; see also *supra* footnote on p. 40.

¹⁹⁴ See *supra* note 156. “Ratanakiri requested MRCS to provide the province with communication facilities.” Minutes (1st Draft) of the Second Meeting (sic) Between Cambodian and Vietnamese Committees for the Management of the Se San River, April 9, 2002 (on file with the authors).

¹⁹⁵ While the MRC has seen that the letter of the Mekong Agreement (upon a narrow reading) is met, it has done so at times in contravention of general principles of international law. A comment in the Phnom Penh Post from July 2002, written by Joern Kristensen, then CEO of the MRC, highlights this. This article is in response to allegations that the MRC was facilitating Vietnam’s continuing violations of international law with regard to many of the activities that have already been discussed. Kristensen confirmed that the MRC was aware that before Vietnam conducted an EIA for the Se San 3 Dam, it began erecting pre-construction roads and shelters. See Joern Kristensen, *MRC on Yali Falls Dam*, Phnom Penh Post, Issue 11/15, July 19 – August 1, 2002. It is difficult to understand how an EIA would serve as an effective tool for consultation and negotiation with Cambodia once the project was well underway, see *infra* notes 230 to 235, yet no MRC body took action to ensure that the principles of international law were followed, nor did the MRC Secretariat publicly oppose Vietnam’s action.

¹⁹⁶ See, e.g., Rio Declaration, Principle 10 (“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.”); International Law Association, Berlin Conference (2004): Water Resources Law, Article XIII: Legal Remedies; World Commission on Dams, *Dams and Development: A New Framework for Decision-making*, November 2000, at 229 [hereinafter WORLD COMMISSION ON DAMS report]; see also Barbara Rose Johnston, “Reparations and the Right to Remedy”, Contributing Paper, prepared for Thematic Review 1.3: Displacement, Resettlement, Rehabilitation, Reparation and Development, World Commission on Dams, Revised Draft July 1, 2000, at 49.

¹⁹⁷ See Mekong Agreement, *supra* note 191, Art. 35.

¹⁹⁸ See WORLD COMMISSION ON DAMS REPORT, *supra* note 196, at 229.

¹⁹⁹ Mekong Agreement, *supra* note 191, Preamble, April 5, 1995.

²⁰⁰ This report does not seek to be exhaustive in its survey of international environmental law, but limits itself to the principles most applicable to the Se San conflict, especially to those which are directly or indirectly recognized through the 1995 Mekong Agreement.

²⁰¹ The ICJ has held that riparian states who have signed a treaty on the use of an international watercourse should base their actions on “the objectives of the [t]reaty, which must be

pursued in a joint and integrated way, as well as the norms of international environmental law and the principles of the law of international watercourses.” Case Concerning the Gabčíkovo-Nagymaros Dam”, not “Gabčíkovo-Nagymaros Dam Case.

²⁰² See, e.g., Mekong Agreement, *supra* note 191, Art. 8, 35, and 41.

²⁰³ Vienna Convention on the Law of Treaties, Art. 31(1).

²⁰⁴ 1966 Helsinki Rules on the Uses of the Waters of International Rivers, Art. II (promulgated by the International Law Association and widely viewed as representing customary international law in this area).

²⁰⁵ See Merriam-Webster Dictionary at www.m-w.com (last visited Nov. 22, 2005).

²⁰⁶ See Bernard J. Wohlwend, *The Emerging Principles and Rules of International Water Resource Law* 9, available at <http://www.bjwconsult.com/EMERGING.PDF> (last visited Oct. 13, 2005). See also SERGEI VINOGRADOV ET AL., TRANSFORMING POTENTIAL CONFLICT INTO COOPERATION POTENTIAL: THE ROLE OF INTERNATIONAL WATER LAW 48, UNESCO/IHP, available at <http://unesdoc.unesco.org/images/0013/001332/133258e.pdf> (“It follows from the text [of the Agreement] that the ‘system’ comprises at least the mainstream of the Mekong river and its tributaries, including Tonle Sap.”).

²⁰⁷ See, e.g., Joern Kristensen, *MRC on Yali Falls Dam*, Phnom Penh Post, Issue 11/15, July 19 – August 1, 2002.

²⁰⁸ See Le Dzong, Spokesman of the Vietnamese Ministry of Foreign Affairs, Answer to Correspondent, available at http://www.mofa.gov.vn/en/tt_baochi/pbnfn/ns041022154200 (last visited Oct. 13, 2005) (on file with the authors) (“In view of cooperation within the MRC, the Se San hydropower development in Vietnam is based on the Agreement on Cooperation for the Sustainable Development of the Mekong River Basin and Procedures/Rules thereunder, which represent the most important legal framework for hydropower development on the Se San River.”); see also *supra* section VI.

²⁰⁹ Rio Declaration on Environment and Development, Preamble (1992 UN Conference on Environment and Development).

²¹⁰ *Id.*

²¹¹ See, e.g., The 1997 United Nations Convention on the Non-navigational Use of International Watercourses [hereinafter IWC] (the first universal treaty devoted exclusively to international rivers); 1966 Helsinki Rules, *supra* note 204; the 2001 Draft Article for the Prevention of Transboundary Harm from Hazardous Activities [hereinafter 2001 Draft Articles]; the Case Concerning the Gabčíkovo-Nagymaros Dam, 1997 I.C.J. 7.; Lac Lanoux Arbitration (Spain v. Fr), 12 R.I.A.A. 281 (1957). For purposes of this report, references to customary international law are generally limited to those principles which are accepted and not simply emerging. As such, more emphasis is given to the IWC, which is in the process of being ratified and was considered to codify existing law, than to the International Law Association’s most recent statements on the status of customary international law in this area. See International Law Association, Berlin Conference (2004), Water Resources Law, Fourth Report.

²¹² Territorial Jurisdiction of the International Commission of the River Oder, Judgment No. 16, 1929, P.C.I.J., Series A, No. 23, at 27.

²¹³ See, e.g., Articles II and III of 1961 Salzburg Rules, Art. IV of the Helsinki Rules, and the Rio Declaration, which identified equitable rights in principles 3 and 6.

The most authoritative global treaty on these aspects of water law, the IWC, *supra* note 211, also enshrines the principle of equitable use. IWC Article 6. The factors to consider in determining usage “include: (a) Geographic, hydrographic, hydrological, climatic, ecological and other factors of a natural character; (b) The social and economic needs of the

watercourse States concerned; (c) The population dependent on the watercourse in each watercourse State; (d) The effects of the use or uses of the watercourses in one watercourse State on other watercourse States; (e) Existing and potential uses of the watercourse; (f) Conservation, protection, development and economy of use of the water resources of the watercourse and the costs of measures taken to that effect; (g) The availability of alternatives, of comparable value, to a particular planned or existing use.” *Id.*

The treaty, which was adopted by the U.N. General Assembly in 1997 with the endorsement of both Cambodia and Vietnam, was promulgated after two decades of work by the International Law Commission, the UN’s official organ of international law experts. While the IWC has not yet been ratified by enough countries to attain the status of international law, it is widely respected as the codification of preexisting principles of customary international law in this area. Equitable and Reasonable use is placed within its General Principles section.

²¹⁴ Mekong Agreement, *supra* note 191, Art. 5.

²¹⁵ IWC, *supra* note 211, Art. 7; *see also* Mekong Agreement, *supra* note 191, Art. 7.

²¹⁶ For a discussion of why the principles of “no significant harm” and “equitable and reasonable use” do not conflict, *see* Salman M.A. Salman, *Dams, International Rivers, and Riparian States: An Analysis of the Recommendations of the World Commission on Dams*, 16 AM. U. INT’L L. REV. 1477, 1487-1488 (2001).

²¹⁷ Case Concerning the Gabčíkovo-Nagymaros Dam, 1997 I.C.J. 7, *41, Para. 53 (quoting the Legality of the Threat or Use of Nuclear Weapons, Advisory Opinion, I.C.J. Reports 1996, 241-242, para. 29).

²¹⁸ United States v. Canada (Trail Smelter), preliminary decision, 3 INT. ARB. AWARDS 1911 (1938); final decision, 3 INT. ARB. AWARDS 1938 (1941). A Canadian smelting complex emitted plumes of noxious smoke which entered the state of Washington and damaged crops and forests. The U.S. sought compensation from the Canadian government for the farmers’ crop losses, and also measures to prevent the reoccurrence of these transboundary harms. An international arbitration panel held that Canada had to pay for certain harms caused, assessed those harms, and ordered Canada to undertake specific measures to prevent their reoccurrence.

²¹⁹ For a useful discussion on what is meant by “significant harm,” *see* VED P. NANDA AND GEORGE PRING, INTERNATIONAL ENVIRONMENTAL LAW FOR THE 21ST CENTURY 205-207 (2003).

²²⁰ *See generally* 2001 Draft Articles, *supra* note 211.

²²¹ Mekong Agreement, *supra* note 191, Art. 7.

²²² *Id.*

²²³ *Id.*

²²⁴ The International Law Commission (ILC), which promulgated the IWC, has also drafted the seminal documents on state responsibility, including the 2001 Draft Article for the Prevention of Transboundary Harm from Hazardous Activities. The Commentaries to these Draft Articles explain that the manipulation of international watercourses is one of the prime activities being addressed therein. *See* Article 10, comment 1 (“This article draws its inspiration from article 6 of the Convention on the Law of the Non-Navigable Uses of International Watercourses.”); *see also* Art. 8, comment 3; Art. 12, comment 6; Art. 14, comment 1; Art. 15, comment 1.

The Draft Articles incorporate many of the principles of international environmental law, including the duty to prevent significant transboundary harm, the duty to assess risk, and the duty to provide proper notification. Additionally, in proceeding to determine where responsibility lies for certain harms, the Precautionary Principle, which is

an international environmental norm, requires that countries not use scientific uncertainty to frustrate the investigation and remediation of claims.

²²⁵ The principle that a sovereign entity cannot avoid responsibility by delegation of authority to a sub-state entity is well recognized. *See, e.g.*, International Law Commission Articles on State Responsibility, U.N. GAOR, 53d Sess., pt. I, ch. 1, Art. 8, U.N. Doc. A/CN.4/L.602/Rev.1 (2001) (“The conduct of a person or group of persons shall be considered an act of a State under international law if the person or group of persons is in fact acting on the instructions of, or under the direction or control of, that State in carrying out the conduct”); JAMES CRAWFORD, *THE INTERNATIONAL LAW COMMISSION’S ARTICLES ON STATE RESPONSIBILITY* 112–113 (2002); Human Rights Committee, General Comment No. 31 on Article 2 of the Covenant: The Nature of the General Legal Obligation Imposed on States Parties to the Covenant, para. 4 (Apr. 21, 2004) (“the Committee reminds States Parties with a federal structure of the terms of article 50, according to which the Covenant’s provisions ‘shall extend to all parts of federal states without any limitations or exceptions’”); Melissa E Crow, *Smokescreens and State Responsibility: Using Human Rights Strategies to Promote Global Tobacco Control*, 29 YALE J. INT’L. L. 209, n. 89 (summarizing international cases demonstrating the extension of state responsibility to state-sponsored or state-owned companies).

²²⁶ Lac Lanoux Arbitration (Spain v. Fr), 12 R.I.A.A. 281 (1957).

²²⁷ Rio Declaration, *supra* note 209, Principle 18 (“States shall immediately notify other States of any natural disasters or other emergencies that are likely to produce sudden harmful effects on the environment of those States”) and Principle 19 (“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”).

²²⁸ IWC, *supra* note 211, Art. 13; *see also* 2001 Draft Articles, *supra* note 211.

²²⁹ Mekong Agreement, *supra* note 191, Art. 5. Admittedly, at the time that the initial dam on the Se San was constructed, MRC rules for water utilization had not yet been promulgated. Article 26 calls for the drafting of “Rules for Water Utilization” but provides little further guidance, and these were not completed until 2003. In the absence of clear rules, recognizing the spirit of the treaty and norms of international law, Vietnam should have been guided by customary international law in this area. However, at the time Se San 3 and subsequent dams were being planned, these principles were already incorporated to the Mekong Agreement. *See* Mekong River Commission, *Preliminary Procedures for Notification, Prior Consultation, and Agreement*, Nov. 12, 2002. For a further discussion, *see* DANGEROUS WATERS, *supra* note 1, at 16–20.

²³⁰ The concept of EIAs is firmly enshrined in international environmental law. It is required by Rio as well as by the IWC and 2001 Draft Articles. It is required by the Rio Declarations as well as by the IWC and 2001 Draft Articles.

See also Convention on Environmental Impact Assessment in a Transboundary Context (Espoo Convention, 1991). Neither Vietnam nor Cambodia are signatories because the treaty is limited to the UN’s Economic Commission for Europe. However, signatories do include Sweden and Switzerland, who were actively involved in the development of Yali Falls, though its EIA did not meet the requirements of the EIA Convention.

²³¹ *See supra* note 224.

²³² DANGEROUS WATERS, *supra* note 1, at 20 (“EIAs are also required under Vietnamese law for a number of activities, including ‘economic, scientific, technical, health, cultural, social, security and defence establishments.’”).

²³³ 2001 Draft Articles, *supra* note 211, Art. 7.

²³⁴ IWC, *supra* note 211, Art. 12.

²³⁵ See 2001 Draft Articles Commentary for Art. 7, *supra* note 224.

²³⁶ See MRC, *Public Participation in the Context of the MRC*, March 1999, available at http://www.mrcmekong.org/document_online/document_online.htm (last visited Oct. 13, 2005). The document, which summarizes the Report explains, “A Stakeholder is any person, group or institution that has an interest in an activity, project or program. This includes both intended beneficiaries and intermediaries, those positively affected, and those involved and/or those who are generally excluded from the decision-making process Public Participation 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 Approaches to participation in Cambodia, for example, should take this into consideration and one of the initial objectives would be to build trust with the population The prospect of being an organisation that has more transparency will include making available to the public various documents or information about the organisation and its planning process. While the will may be there to do so, it requires planning and resources to make the right documents available at the right time.” *Id.*

²³⁷ *Id.*

²³⁸ Rio Declarations, *supra* note 209, Principle 10.

²³⁹ Mekong Agreement, *supra* note 191, Art. 34.

²⁴⁰ Mekong Agreement, *supra* note 191, Art. 35 (emphasis added).

²⁴¹ See Commentary, 2001 Draft Article, *supra* note 224, at 410 (quoting Lac Lanoux Arbitration (Spain v. Fr), 12 R.I.A.A. 281 (1957)).

²⁴² Mekong Agreement, *supra* note 191, Art. 35. The IWC, in article 33 as well as Articles 1 through 14 of the Arbitration Annex outlines the basic procedures for such a dispute resolution. IWC, *supra* note 211, Art. 33 and Annex 1-14. Presumably, the Agreement’s reference to “principles of international law” is referring more to the substantive principles of international environmental law than to procedural mechanisms.

²⁴³ See List of Ratifications to the International Covenant on Civil and Political Rights, available at <http://www.ohchr.org/english/countries/ratification/4.htm> (last visited Oct. 13, 2005); and List of Ratifications to the International Covenant on Economic, Social, and Cultural rights, available at <http://www.ohchr.org/english/countries/ratification/3.htm> (last visited Oct. 13, 2005).

²⁴⁴ See ICCPR Art. 6, Art. 9; see also UDHR Art. 3.

²⁴⁵ Human Rights Committee, General Comment 6.1.

²⁴⁶ See ICCPR Art. 6 (“Every human being has the inherent right to life. *This right shall be protected by law.* No one shall be arbitrarily deprived of his life.”) (emphasis added); see also Human Rights Committee, General Comment 6.5 (stating that “protection of [the right to life] requires that States adopt positive measures.”).

²⁴⁷ See ICCPR Art. 2(3)(a) (mandating that States “ensure that any person whose rights or freedoms as herein recognized are violated shall have an effective remedy, notwithstanding that the violation has been committed by persons acting in an official capacity.”).

²⁴⁸ See Geoffrey Sawyer, *Comment: The Death Penalty Is Dead Wrong: Jus Cogens Norms and the Evolving Standard of Decency*, 22 PENN ST. INT’L L. REV. 459 n. 77 (citing W.P. Gormley, *The Right to Life and the Rule of Non-Derogability: Preemptory Norms of Jus Cogens*, in *THE RIGHT TO LIFE IN INTERNATIONAL LAW* at 111 (Ramcharan ed., 1985)) (noting that the right to life “is protected by customary international law” and, as codified in the ICCPR, is “jus cogens and may not be derogated by any state party even during periods of emergency.”).

²⁴⁹ The ICCPR reinforces the notions of this norm, but the ICCPR itself only applies directly

to human rights violations perpetrated by a country within its own borders, (or, as more recently interpreted, within areas under its “exclusive domain and control”). See Human Rights Committee, General Comment 31.

²⁵⁰ ESCR Committee, General Comment 12.5 (Right to Food General Comment). The Committee elaborated on this language: “The obligation to *respect* existing access to adequate food requires States parties not to take any measures that result in preventing such access. The obligation to *protect* requires measures by the State to ensure that enterprises or individuals do not deprive individuals of their access to adequate food. The obligation to *fulfil* (*facilitate*) means the State must pro-actively engage in activities intended to strengthen people’s access to and utilization of resources and means to ensure their livelihood, including food security. Finally, whenever an individual or group is unable, for reasons beyond their control, to enjoy the right to adequate food by the means at their disposal, States have the obligation to *fulfil* (*provide*) that right directly. This obligation also applies for persons who are victims of natural or other disasters.” See also General Comment 14.33, on the right to health, adopting the same language, and ESCR Committee, General Comment 15.20, on the right to water, doing the same.

²⁵¹ See ESCR Committee, General Comment 3.9; see also Quito Declaration, *On the Enforcement and Realization of Economic, Social, and Cultural Rights in Latin America and the Caribbean*, 2 YALE HUM. RTS. & DEV. L.J. 215, 220 (“The obligation of progressiveness and the correlative prohibition against regressiveness: The State has the obligation to take a course of action aimed at ensuring the full effectiveness of ESCR, and therefore its inertia, unreasonable delay in acting, and/or the adoption of measures that constitute setbacks in enforcing these rights are contrary to the principle of progressiveness. The State is prohibited from implementing regressive policies, which are understood to be those that have as their object or effect a decline in the enjoyment of ESCR.”).

²⁵² ESCR Committee, General Comment 12.36.

²⁵³ *Id.* at 14.39.

²⁵⁴ ICESCR Art. 11.1; see also Art. 11.2 (stating “the fundamental right to freedom from hunger and malnutrition.”).

²⁵⁵ ESCR Committee, General Comment 12; see also DANGEROUS WATERS, *supra* note 1 at 14.

²⁵⁶ *Id.* at 12.7.

²⁵⁷ *Id.* at 12.6.

²⁵⁸ *Id.*

²⁵⁹ *Id.* at 12.13 (“Economic accessibility implies that personal or household financial costs associated with the acquisition of food for an adequate diet should be at a level such that the attainment and satisfaction of other basic needs are not threatened or compromised.”).

²⁶⁰ *Id.* at 12.13 (“A particular vulnerability is that of many indigenous population groups whose access to their ancestral lands may be threatened.”).

²⁶¹ *Id.* at 14.1.

²⁶² See *id.* at 14.4 (“[T]he right to health embraces a wide range of socio-economic factors that promote conditions in which people can lead a healthy life, and extends to the underlying determinants of health, such as food and nutrition, housing, access to safe and potable water and adequate sanitation, safe and healthy working conditions, and a healthy environment.”).

²⁶³ *Id.* at 14.13. (Regarding accessibility: “The precise nature of the facilities, goods and services will vary depending on numerous factors, including the State party’s developmental level. They will include, however, the underlying determinants of health, such as safe and potable drinking water and adequate sanitation facilities, hospitals, clinics and other health-related buildings, trained medical and professional personnel receiving domestically competitive

salaries, and essential drugs, as defined by the WHO Action Programme on Essential Drugs.”).

²⁶⁴ *Id.* at 14.27.

²⁶⁵ *Id.* at 14.43. These obligations include, at least: “(a) To ensure the right of access to health facilities, goods and services on a non-discriminatory basis, especially for vulnerable or marginalized groups; (b) To ensure access to the minimum essential food which is nutritionally adequate and safe, to ensure freedom from hunger to everyone; (c) To ensure access to basic shelter, housing and sanitation, and an adequate supply of safe and potable water; (d) To provide essential drugs, as from time to time defined under the WHO Action Programme on Essential Drugs; (e) To ensure equitable distribution of all health facilities, goods and services; (f) To adopt and implement a national public health strategy and plan of action, on the basis of epidemiological evidence, addressing the health concerns of the whole population; the strategy and plan of action shall be devised, and periodically reviewed, on the basis of a participatory and transparent process; they shall include methods, such as right to health indicators and benchmarks, by which progress can be closely monitored; the process by which the strategy and plan of action are devised, as well as their content, shall give particular attention to all vulnerable or marginalized groups.”

²⁶⁶ *Id.* at 14.32.

²⁶⁷ *Id.* at 14.39.

²⁶⁸ *Id.* at 15.2.

²⁶⁹ ICESCR Article 11.1; ESCR Committee, General Comment 15.3.

²⁷⁰ ESCR Committee, General Comment 15.12.

²⁷¹ *Id.* at 15.31 and its accompanying footnote.

²⁷² *Id.* at 15.33.

²⁷³ *Id.* at 15.37.

²⁷⁴ *Id.* at 15.7: “Taking note of the duty in article 1, paragraph 2, of the Covenant, which provides that a people may not “be deprived of its means of subsistence,” States parties should ensure that there is adequate access to water for subsistence farming and for securing the livelihoods of indigenous peoples.” *See also* the Statement of Understanding accompanying the United Nations Convention on the Law of Non-Navigational Uses of Watercourses (A/51/869 of 11 April 1997), which declared that, in determining vital human needs in the event of conflicts over the use of watercourses “special attention is to be paid to providing sufficient water to sustain human life, including both drinking water and water required for production of food in order to prevent starvation.”

²⁷⁵ *Id.* at 15.16.

²⁷⁶ *Id.* at 15.11.

²⁷⁷ *See generally supra* note 196; *see also* Johnston, *supra* note 196, at 3, 48-49. Johnston states that remedies are “a means to redress the long-term, cumulative, and unanticipated damages associated with loss of critical resources and a way of life. . . and the emerging trend of reparations [is to] recognize and compensate for loss of land, resources, health, livelihood, and way of life.” *Id.* at 3. Johnston further summarizes the sources of international law:

The sources of law pertaining to rights to compensation and rights to remedy for abuses accompanying development projects and processes are embedded in multinational declarations, treaties, and resolutions and reflected in the interpretation and implementation of these principles in international and national legislative and judicial actions. Rights pertaining to reparations established via United Nations Treaties include the human right to life, the right to liberty, and the right to security of person, and the right to an effective remedy by the

competent national tribunals for acts violating these fundamental rights granted him by the constitution or by law. *Id.* at 48.

²⁷⁸ WORLD COMMISSION ON DAMS REPORT, *supra* note 196, at 229-30.

²⁷⁹ Leopoldo Jose Bartolome, et al., “Displacement, Resettlement, Rehabilitation, Reparation, and Development: WCD Thematic Review Social Issues I.3, Prepared for the World Commission on Dams (WCD), November 2000, at 45.

²⁸⁰ WORLD COMMISSION ON DAMS REPORT, *supra* note 196, at 225 (Strategic Priority 3.3); *see also* Aviva Imhof, Susanne Wong, and Peter Bosshard, International Rivers Network, *Citizen’s Guide to the World Commission on Dams*, 2002, at 21 (suggesting establishment of an independent, multi-stakeholder committee to address the problems associated with existing dams, citing World Commission on Dams, Chapter 10.2).

²⁸¹ WORLD COMMISSION ON DAMS REPORT, *supra* note 196, at 229-30.

²⁸² WORLD COMMISSION ON DAMS REPORT, *supra* note 196, at 230; *see also* Johnston, *supra* note 196, at 3 (“[M]oral and legal culpability includes those parties who planned and authorized projects, as well as those who benefited from dam development projects—including States, funding institutions, contracting and construction companies, and energy and water system management companies.”).

²⁸³ *See supra* Section V for discussion of villagers’ various demands for remedies. *See also* Johnston, *supra* note 196, at 14-15. Various declarations, including the 1994 Manibeli Declaration, the 1997 Curitiba Declaration and the November 1999 Southern African Hearings for Communities Affected by Large Dams have demanded reparations as part of their efforts to seek a semblance of justice. The words from Southern African communities echo those along the Se San:

The history of large dams and affected communities in Southern Africa has been one of broken promises and incalculable losses:

We lost our livelihoods and cannot regain them;
Our land where we grew food was taken from us and not replaced;
Our homes were demolished or drowned;
Our livestock were taken from us;
We lost control of our natural resources,
Our wildlife have disappeared;
Our cultural values, functions and roots have been destroyed;
Our ancestors’ graves have been buried under deep water, and
The lives of some of our community and family members were violently taken from us. *Id.*

²⁸⁴ *See, e.g.*, DOWNSTREAM IMPACTS, *supra* note 7. While problems had surfaced locally much earlier, this is the first report that documented harms suffered by downstream communities in Cambodia. *See also supra* note 19 listing the numerous reports studying the Se San River.

²⁸⁵ Mekong Agreement, *supra* note 191, Article 3.

²⁸⁶ *See supra* note 213 (listing factors to consider for equitable use in the IWC).

²⁸⁷ Case Concerning the Gabčíkovo-Nagymaros Dam, 1997 I.C.J. 7, *56 (para. 85).

²⁸⁸ *See infra* section VIII.2.

²⁸⁹ Mekong Agreement, *supra* note 191, Art. 8.

²⁹⁰ *See* 2001 Draft Articles, *supra* note 211, Article 3 (“The State of Origin shall take all

appropriate measures to prevent significant transboundary harm or at any event to minimize the risk thereof.”). See also International Law Commission, Commentaries to the Draft Articles (November 2001), 389 (“The term ‘significant’ is not without ambiguity and a determination has to be made in each specific case. It involves more factual considerations than legal determination. It is to be understood that ‘significant’ is something more than ‘detectable’ but need not be at the level of ‘serious’ or ‘substantial’. The harm must lead to a real detrimental effect on matters such as, for example, human health, industry, property, environment or agriculture in other States. Such detrimental effects must be susceptible of being measured by factual and objective standards.”). See also IWC, *supra* note 211, Art. 7.

²⁹¹ Bou Saroen, *Viets Say Sorry for Se San Flow*, Phnom Penh Post, Issue 9/9, April 28 – May 11, 2000; see also *supra* section IV.A.1.

²⁹² See generally *supra* section IV.

²⁹³ DANGEROUS WATERS, *supra* note 1, at n. 196 (citing Asian Development Bank, Poverty Reduction & Environmental Management in Remote Greater Mekong Subregion Watershed (Phase II), Interim Report Volume II: Opportunities for Project Interventions: Cambodia-Se San Draft (2000)). See generally *supra* sections IV.A. and VI.B.

²⁹⁴ DANGEROUS WATERS, *supra* note 1, at n. 216.

²⁹⁵ *Id.* at n. 217.

²⁹⁶ See *supra* note 143.

²⁹⁷ See Kristensen, *supra* note 195.

²⁹⁸ Mekong Agreement, *supra* note 191, Article 8.

²⁹⁹ See *supra* Section VI.

³⁰⁰ Rio Declaration, *supra* note 209, Principle 15; see also, Scott LaFranchi, *Surveying the Precautionary Principle’s Ongoing Global Development: The Evolution of an Emergent Environmental Management Tool*, 32 B.C. ENVTL. AFF. L. REV. 679 (2005).

³⁰¹ *Id.*

³⁰² See e.g., Mekong Agreement, *supra* note 191, at Art. 8; Rio Declaration, *supra* note 209, Principle 10; see generally 2001 Draft Articles, *supra* note 211.

³⁰³ See *supra* section IV.A.1.

³⁰⁴ See *supra* sections IV.A.3 and VI.B for a discussion of this warning system.

³⁰⁵ See *supra* section VI.

³⁰⁶ See Minutes of Meeting between the Vietnamese Ministry of Industry and the Cambodian Standing Committee for Coordination on Dams and Canals along the Cambodia-Laos-Vietnam-Thailand Borders, May 19-20, 2004 (on file with the authors) (“EIA report [water-quality study] made by the International Independent Consultant will be completed by the end of June, 2005.”).

³⁰⁷ See *supra* Section VI for discussion of the joint governmental meetings of Cambodia and Vietnam and their limited scope and slow progress.

³⁰⁸ See *supra* Section VII.A.2.d.

³⁰⁹ Mekong Agreement, *supra* note 191, at Art. 7 and 8.

³¹⁰ See *supra* note 300.

³¹¹ See Leopoldo Jose Bartolome, *supra* note 279, at 45.

³¹² Human Rights Committee, General Comment 6, para. 5.

³¹³ See *supra* section VI.B for a discussion of the flaws in the current notification regime.

³¹⁴ See *supra* section VI.

³¹⁵ See *supra* notes 250 and 251.

³¹⁶ ESCR Committee, General Comment 3; but see section 10 (“By the same token, it must be noted that any assessment as to whether a State has discharged its minimum core obligation

must also take account of resource constraints applying within the country concerned. Article 2 (1) obligates each State party to take the necessary steps 'to the maximum of its available resources.' In order for a State party to be able to attribute its failure to meet at least its minimum core obligations to a lack of available resources it must demonstrate that every effort has been made to use all resources that are at its disposition in an effort to satisfy, as a matter of priority, those minimum obligations.”).

³¹⁷ Mekong Resources Require Protection, Vietnam News, April 2, 2005, *at* <http://vietnamnews.vnagency.com.vn/showarticle.php?num=10ECO020405> (last visited on Oct. 13, 2005).

