Fluid Landscapes: Materializing the Future on Thailand’s Flooded Rivers

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To the communities of the Northern Rivers Network

and the rivers with which they live. In hope.

Abstract

In 2011 rivers in Thailand demonstrated their irrepressibility in unprecedented flooding. The Thai state responded to the dramatic floods with a comprehensive water management plan including 21 new dams on upland tributaries, which in turn mobilized anti-dam protest campaigns across Northern Thailand. The material upheaval became the catalyst for my research as it disrupted normative hydrosocial relations and drew water into political debate and social contestation over the future of Thailand's waterscapes. Based on 15 months of ethnographic research with three rivers and three river communities in the critical post-flood period, this dissertation examines how rivers in Thailand become politically active in the tense, fragmentary work of world-making, in claims of indigeneity, in protests against development agendas, and in the negotiation of disasters. To do this, I approach rivers as water-beings with creative and diffuse capacities to co-constitute the world and create political and cosmopolitical effects. I trace the entanglements between people and water, human beings and water-beings, across varied geographies, histories, and socioecologies to demonstrate how these multimaterial, multispecies assemblages produce overlapping and contradictory realities. I argue that the social, material, and discursive transformations in the aftermath of disasters compel us to reevaluate how we understand nature and renegotiate how we make political and ecological claims with it.

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Chapter 1

Introduction

At the edge of the Khan River, a few kilometers upstream from the site of a proposed dam, the water is clear, burbling only a few inches deep but flowing powerfully and coldly as the mountain waters move downstream. Padii Sah, a Karen elder from the village of San-Lek in Thailand, steps to the edge of the river beside me. Despite the signs of age – his wrinkled, leathered skin, the long braid of silver-gray hair wound around his head and tucked under a multi-color scarf twisted into a turban, the wispy silver beard that reaches halfway down his chest in an unintentional, but almost perfect V-shape, Padii Sah has the physicality of a much younger person. Throughout the day, he has guided us nimbly through the lush forests, pausing to point out as we transition between forests of different ages, cautioning against prohibited actions in this section of forest, identifying edible and poisonous mushrooms in that section. Now, at the edge of the Khan River he pauses in the midst of the clamoring of our group of hikers. Squatting, he says a few words under his breath, scoops a bit of water in his cupped hand and drinks from it. The act is physically simple. For most of the hikers in the group it was an invisible action covered by the noise of the river and quick enough to be mistaken as a thirsty hiker hydrating. Later in the day, we cross another, smaller stream. Again, Padii Sah pauses, squats over the water, recites some quite words in Karen under his breath, and drinks from the water. I have watched him do this on previous hikes as well. This time I ask him why he stops. He explains that this is his way of greeting the river, by taking it into himself. In Thai he says this is *riaprooy* - what is right and proper. In this simple action is the basis for a relational ontology with water grounded in the principles of companionship. By Padii Sah's own explanation, the river is a being that deserves greeting, suggesting that the river is an active participant in defining and shaping relationships between humans and the material world.

This dissertation is motivated by the questions that emerge from observing this action: What might it mean that a river requires greeting? How does greeting a river point toward an understanding of human-nonhuman relationships that are more than human projects and practices? What kinds of futures are made possible by considering water as epistemologically and ontologically complex beings responsible for co-creating the world?

These questions became increasingly poignant and pertinent in Thailand as the nation contended with unprecedented flooding in 2011. Over several months and weeks, unexpectedly heavy rains and strong tropical storms collected in Thailand's watersheds creating flash flooding (*naam laak*) in the mountainous uplands along the Ping, Wang, Yom, and Nan Rivers and their tributaries and stagnating as deep flood waters spread once they reached the central plains. The floods stalled in the plains, water accumulating and reaching up to two meters in height in some areas and taking months to fully drain through the Chao Phraya basin and into the Gulf of Thailand. The waters displaced people, compromised industrial estates, and ruined rice crops resulting billions of baht worth of damage and months of rebuilding necessary. In Thai, flood is colloquially called *naamtuam*, literally meaning water overflow and formally called *utokphay* which means dangerous water. The floods not only disrupted human lives socially and materially, but also captured the imagination of many in the nation who began to see untamed waters as a dangerous threat.

In the wake of the flood waters, the Thai state responded to the biopolitical imperative to protect human life from future floods; this framing justified the development of a 350 billion baht water management agenda that would fundamentally re-engineer the Thai waterscape with 21 new dams on upland tributaries and a human-made overflow channel called a floodway carved through the plains. This plan, argued to protect millions, would require the displacement of thousands of people, specifically people who are already in marginalized positions within the state. At its core, the water development agenda proposed in 2012 has become a complicated environmental justice struggle where the concerns of upland people are obscured by the affective purchase of possible repeat floods. As Kristie Dotson and Kyle Whyte (2013: 56) explain, “unknowability with respect to struggles for environmental justice concerns whether the moral knowledge of members of dominant societies can detect certain wrongs.” In the situation of Thailand’s water management agenda, the moral compass skews toward protecting economic assets downstream. The confluence of the flood disaster and the state water management agenda to prevent future floods made Thailand’s Chao Phraya basin into a site of environmental and political contestation with the future of Thailand’s waterways and upland peoples suspended in uncertainty.

Throughout Thailand’s history, dam implementation has been a common strategy for development initiatives. Currently, Thailand has 40 dams that are at least 12 meters in height serving multiple purposes, from irrigation and water supply to navigation, recreation, hydroelectricity, pollution control, and flood control. Eighteen of these are hydroelectric dams and fourteen of those are managed and operated by the Electricity Generating Authority of Thailand (EGAT); the others are run by municipalities and local administrations. While dams may have been built with good intentions and for sound purposes, in the 1990s this development strategy began to lose favor globally and in Thailand (Ishida 2007[1], McCully

[1] Throughout this text citations conform to American English conventions rather than Thai citation conventions; authors are listed alphabetically by their family names and family names are used in parentheticals.

2001, World Commission on Dams 2000). For two decades, Thailand has suspended construction of large scale dams after rampant protests by the Assembly of the Poor, a citizens' group that protested against the most recent dams for the unfair treatment and displacement of peoples and inadequate compensation; the protests became some of Thailand's most infamous as people occupied the Pak Mun Dam after it was commissioned (Ishida 2007, Foran & Manorom 2009). Because of the enduring contempt for dam projects in Thailand, the post-2011 flood proposals that included 21 new dams was an alarming turn of statecraft, but not wholly unimaginable.

While Thailand halted internal dam construction, dam implementation is a popular development strategy across the Southeast Asian mainland. Currently there are 5 built and 8 more intended dams on the Lancang (the name of the Mekong as it flows through China) and 11 large hydropower projects planned on the lower Mekong. The dams on the lower stretch of the river in Laos and Cambodia are often tied to external funding including substantial contracts with Thailand. With Thailand halting development of hydroelectricity inside its borders, the EGAT turned its attention and investments toward hydroelectric dam implementation in neighboring states. In return for this investment, much of the electricity generated will go to Thailand and Vietnam. Similarly, the Salween River, which runs west of Thailand and along its border with Burma for a short distance, is the site of approximately 20 proposed dams as it runs through China and Burma, and many once again benefit the electricity needs of Thailand (Lamb 2014). These projects, taking place in nations with more oppressive political regimes, are more challenging to protest from the inside yet are embroiled in extensive, international anti-dam protest campaigns.

I approach the Thai state's proposal for 21 new dams in the Chao Phraya basin to be a parallel development phenomenon. One version of this story might present the human and nonhuman selves of these Thai upland communities as illustrating the tragic conditions of the modern world: marginalized victims desperately and futilely fighting the political power consolidated in the hands of a few irreverent humans and corporations with greedy ambitions who disguise their plans under the auspices of biopolitical protectionism. Despite the affective purchase this version of the story might have, pulling sympathy from left-leaning advocates of social justice, this version is only partial and partially disingenuous. The story told this way leaves the sociomaterial world of the uplands a thing that exists to be acted upon; it erases the vibrancy, the agency, the multispecies, multimaterial capacities of the Thai uplands. In short, it denies the worlds and world-making that supersede, precede, and exceed the narrative.

My aim in the following chapters is to tell a different story of the Thai uplands—a story that tries to depict the multiplicitous and overlapping worlds of three upland communities in Thailand comprised of human, nonhuman, and material actors and the ways they are drawn together in material upheaval and in the tense, fragmentary processes of remaking the world in the aftermath.

The Slippery Ontology of Water

In the opening story, Padii Sah demonstrate a provocative kind of engagement with water: the water we cross, the waters he imbibes, are not resources to be developed and Padii does not question the possible pollutants in the water; instead this is an act of relating to water as an entity that is more than only its application in human projects and practices. For Padii Sah, this relationship is an important part of the what is at stake in development discourses. Development projects like large-scale dams demonstrate a different kind of relationship with water, one that is based in serving human needs rather than exchange and mutual respect. From downstream victims of the 2011 floods to upstream communities who will be most adversely affected by the implementation of dams, relationships with water enact the production of particular kinds of worlds. In various contexts, people "invoke water to articulate their experiences of affluence and scarcity, belonging and alienation, and order and chaos" (Krause 2016: 683, Strang 2004). The state management plan imagines a world where water can be rationalized; Padii Sah's actions invoke water as a partner in producing the world. This practice provokes questions both about what is at stake in dam development agendas and about the values embedded in human ways of relating to water.

I address these questions by focusing on water as a protagonist. Anna Tsing (2015: 155) offers a provocative question that shapes my intention, asking "Can I show landscape as the protagonist of an adventure in which humans are only one kind of participant?" In this text, I attempt to draw water, its slippery ontology and multiplicity, into the center of the story not as an object acted on, but as a material presence shaping worlds and being shaped in return.

Hydrosocialities

Making water a protagonist is a challenge to the normative scientific framings of water as a resource for study, as an object that provides ecosystem services and can be quantitatively valued according to these services. Kate Brauman (2015: 345) explains that "hydrologic services describe the way terrestrial ecosystems affect freshwater resources. They organize the ecohydrologic functions of terrestrial landscapes, including processes such as transpiration, filtration, and fog interception, by their impacts on water quantity, quality, location, and timing and thus their effects on water available for human uses." This paradigm is at the core of scientific approaches to water and water management. Experts in different components of regulating and providing water services staff the 40 different government agencies and departments that oversee some element of water in Thailand, from the Royal Irrigation Department overseeing dams and irrigation practices to the Pollution Control Department that monitors water quality and effluents from industry, to the National Office of Water and Flood Management Policy formed following the 2011 floods to report directly to the Prime Minister and dissolved after the heavy-handed change in administration in 2014 (Sangkhamanee 2010). Even the Thai Meteorological Department plays a role in water management, predicting rainfall and precipitation patterns to help other agencies make appropriate decisions about water collection and release from catchment areas. Without comprehensive water laws in Thailand, water management often looks like an imbroglio of different objectives and agents with overlapping strategies and objectives. To communities in the Thai uplands, this becomes an uninviting, tangled web and it is unclear who has authority to actually effect changes.

All of these forms of expertise generally rely on a common principle of the hydrologic cycle. The hydrologic cycle offers a scientific explanation of the circulation of water in the earth's system. Jamie Linton and Jessica Budds (2014) argue that the hydrologic cycle also served political purposes, creating the field of hydrology and the need for technical expertise to manage and understand this system. Like many scientific principles, the social nature of constituting the hydrologic cycle is obscured under the auspices of objective science. Increasingly, scholars have engaged this mode of hydrological expertise critically, demonstrating that hydrologic data is often incomplete and contested, that it reaffirms particular views of nature, and that it homogenizes different kinds of waters (Bakker 2000, Budds 2009, Linton 2004, Orlove & Canton 2010, Swyngedouw 1995). Perhaps the most pertinent element of these studies is that they draw the social components of the hydrologic cycle into focus.

For over a decade, scholars in geography and political ecology have used the term "hydrosocial" as a way to reintegrate humans into the biogeophysical systems of the material planet (Bakker 2012, Budds 2008, 2009, Krause 2016, Linton 2010, Swyngedouw 2004, 2009). As a corollary to the hydrologic cycle, the hydrosocial cycle counters the objectifying lens that Linton (2014: 114) explains "presents humanity as an undifferentiated whole, a disaggregated abstraction" or alternatively, a lens that leaves waters themselves equally undifferentiated. Linton (2014) refers to undifferentiated water as "modern water." As a counter to this, Astrid Stensrud (2016: 92) argues "that the different attributes of water—as defined according to source, space, time, policies, rituals, use, measurement and flow—are not aspects of a single Water with an essence (e.g. H20) that hides. Rather they are different versions of water… performed not only as perspectives, but multiple realities of water." Hydrosocial relations then are a way of drawing attention to the multiple realities and mutually constitutive nature of both water and people, appreciating water and people as hybrids in the ongoing processes of becoming through their interactions.

I use the framing of hydrosocial relations to demonstrate the varied configurations of human-water entanglements. Projects of rationalizing rivers, experiences of water as floods, honoring rivers in festivals, and protesting to maintain rivers, are all examples of different realities that emerge through the interactions of water and people in different ways. Linton and Budds (2014: 174) explain that forms of hydrosociality

> "are produced out of material, cultural and discursive practices, and they in turn enter into and constitute those very practices in a recursive manner. At the same time, the production of water as socio-nature entails a more complex (internal-relational) process by which any change in the physical presence of water, in institutional arrangements, in discursive constructions of water, or in the uses to which water are directed, has the potential to shift constellations of socio-nature towards a different set of relations."

The hydrosocial disrupts the norms of the hydrologic, offering the potential to reconsider and reconstitute human water relations differently. Reintegrating the human into the processes and practices of biogeophysical systems, hydrosocial relations also allows us to consider the potentiality not just of human approaches to water but of the ontology of water altogether. Stensrud (2016: 79) suggests that we might understand "water as having multiple ontologies by seeing social realms not as being separate from water, but rather, as being built, at least partially, in and through engagements with water." This radical potentiality of hydrosociality makes this a critical tool for conceptualizing water as a contested terrain in contemporary Thailand. Through engagements with water, people shape development objectives and conservation ethics, neoliberal farming strategies and cosmological safeguards for human lives. Thailand's water is both abundant and never enough, pristine and yet polluted, peaceful and dangerous. Which of these different forms of hydrosociality become privileged over others, however, depends both on the human context—the social and political conditions that unevenly distribute the ill-effects of water management onto people already marginalized in the state—as well as the material context. Here I am suggesting that water itself has a say in shaping the world.

Water as Material, Water as Beings

To appreciate the range of hydrosocialities that emerge in the Thai waterscape, I approach water as both material and as water-beings. Both of these approaches stem from the practices of my informants which demonstrate that water is more ontologically complex than our human modes and capacities for knowing and engaging it.

This premise aligns with the work of scholars in Science and Technology Studies who suggest that nonhuman others have agency to act in the world. As a knowledge tool, agency has historically prioritized an individualized human agent acting on the world. Actor-

Network Theory (ANT) challenges this limited perspective of social action by proposing agency as distributed and emerging in interactions between humans and nonhumans (Callon 1986, Latour 2005, Law 1987). ANT was initially a strategy for reintegrating the material world, tools, and relationships between scientists and their surroundings into understandings of technological innovation and the creation of scientific knowledges. As such, ANT was among the first methodologies that considers agency as inhering not just in humans, but in the material world as well.

ANT has been a powerful stimulus for reimagining how the world works, but remains a problematic design. Agency itself is a fraught term. Even as agency is removed from its human-centric origins, in ANT designs, whole entities engage with each other to produce novel results. Jane Bennett (2010: 21) draws on this framing her discussion of distributed agency, a way of recognizing that the agency of any single actant "always depends on the collaboration, cooperation, or interactive interference of many bodies and forces." Bennett pushes the concept to identify that all actants are necessarily and not always equally affected and transformed through interactions. Bennett is moving toward a more fluid sense of interactions in the material world; she is moving toward an idea of becoming, and more specifically of becoming-with (Deleuze & Guattari 1987, Haraway 2008). Donna Haraway (2008: 244) explains that "[i]f we appreciate the foolishness of human exceptionalism l then we know that becoming is always becoming with, in a contact zone where the outcome, where who is in the world, is at stake." Becoming-with opens both the potential for transformative encounter and the premise of relationship or interaction at the very least as a required and inevitable component of becomings.

Becoming-with takes seriously that the material world is not static, but also transforming and transformative. In philosophy, anthropology, and related disciplines, this appreciation for the complexity of the material world is part of the new materialism movement, an approach to nonhumans as more-than-human and ontologically more complex than human ways of knowing them (Bennett 2010, Clark 2011, Coole & Frost 2010b). In the introduction to their edited volume on new materialist approaches and analyses, Diana Coole and Samantha Frost (2010a: 2) write "that foregrounding the material factors and reconfiguring our very understanding of matter are prerequisites for any plausible account of coexistence." In the midst of material upheaval and uncertain futures in the Thai uplands, the premise of coexistence with the material world reorients the framings for how to move forward, for what kinds of futures are imaginable.

These futures are shaped through engagement. Tim Ingold (2011: 24) characterizes the material world as the "flux in which materials of the most diverse kinds, through processes of admixture and distillation, of coagulation and dispersal, and of evaporation and precipitation, undergo continual generation and transformation." The process of material interaction, exchange, and relationship are part of this flux of materials, ever-changing, ever-becoming. I focus on water as part of materially shaping worlds through interaction with other entities, including humans. Through interaction, the materiality of water contributes to shaping the world: immense material flows shape floods that drown and materially reconstitute homes and farms; steady movement through a river valley moves suspended sediments and chemical remnants into new assemblages; a manipulated, infrastructured material flow guides water into irrigation canals, paddy, fields, and dam catchments. Through interaction, various kinds of hydrosocialities and ecosocialities are constituted.

Kohn (2013: 169) argues that across time and types, various human "sociopolitical arrangements are subject to similar constraints regarding how certain biotic resources can be mobilized across space." Kohn focuses on the forms of materials that are necessarily plied and emerge as parallels to patterns of resource distribution across various domains, human and non. While he focuses on hunting, spiritual forests, hacienda organization, and the like in Quito, Ecuador's history, the concept of form and the conditions of possibility and restraint for sociopolitical arrangements is certainly applicable beyond this context. In the Thai context, examining form involves consideration of the multispecies and multi-material components that assemble to make possible different forms of sociopolitical arrangements, from the mischievous water-based peregrinations of water hyacinth to the hydrosocial relations of mountain communities. Kohn (2013: 21) draws on the work of Eduardo Viveiros de Castro to put forth a call for the decolonization of thought, of ways of thinking and knowing in anthropology. My project here takes up that call in one small way by focusing not on the human or on the living nonhuman, but on the earthly material presence of water as itself part of the creative constitution of the forms through which socioecological and sociopolitical arrangements are amplified.

These socioecological arrangements, while material, are also social, compelling water into engagements with other kinds of beings including but not limited to humans. While water is undeniably a material presence, it is also more than just a material. As part of my commitment to making water a protagonist in stories of dam development and protests, floods and festivals, I approach rivers, and water more broadly, as water-beings. Drawing on Marisol de la Cadena's (2011, 2015) explication of earth-beings as part of the world-making and politics of the Andes, I understand water-beings as similarly part of Thai worlds, as beings with capacities to influence and contribute to social and political spheres. De la Cadena (2015) highlights how earth-beings blur distinctions between humans and nature and how they are evocative of different worlds simultaneously. While earth-beings in de la Cadena's (2015) framings are rooted in place, constituting particular and identifiable markers in the landscape (such as Ausangante, the powerful earth-being tied to the mountain in Cuzco, Peru), water-beings are diffuse, attached to the mobility and fluidity of water itself. This diffuseness gives water-beings malleability and dynamism; water-beings are multiple and overlapping, both the deities of festivals and the momentum of moving water, protective beings tied to particular places and flash floods.

For my analysis, what is most important about water-beings is that they are part of constituting worlds in ways that exceed human projects and practices. Drawing on the work of Matei Candea (2010) and Eduardo Kohn (2013) I discuss the co-constitution of different worlds rather than worldviews as a demonstration of pluralistic ontology. Unlike worldviews, worlds allow for an overlapping multiplicity without relegating these differences to cultural perspectives alone. Instead, worlds emerge from the sociomaterial, human and nonhuman assemblages. Water-beings are part of producing these worlds. Scholarship on this kind of ontological multiplicity suggests that often science becomes the spokesperson for nonhuman materials (Blaser 2014, 2016, DiNovelli-Lang 2013, Gad, Jensen, & Winthereik 2015). I work to avoid this common retrenching of scientific expertise by focusing on relationships, the interactions of water-beings and human-beings.

Water-beings are also ontologically slippery, creating effects both in the political sphere and the cosmopolitical sphere. Cosmopolitics has been taken up and elaborated as a way of making sense of a multiplicity of cosmos (Blaser 2014, Latour 2004, Stengers 2000, 2010). For Isabelle Stengers (2005: 995), "cosmos refers to the unknown constituted by…multiple, divergent worlds, and to the articulations of which they could eventually be capable." As such, cosmopolitics offers a disruption to the political by including more than humans in the constitution of worlds and offers a disruption to the cosmos by enlisting politics to imagine how these cosmos might be drawn into a common world and create effects (Latour 2004, Stengers 2005). I demonstrate the interplay of these two elements—cosmos and politics—in water management and anti-dam protests in Thailand. Stengers (2010: 1) opens her transformative examination of cosmopolitics with two searching questions that inform my understanding of the cosmopolitical: "How do the sciences forces us to conceive of the world? What do they teach us about the possibilities of understanding it?" Stengers' (2005) project is to slow down the creation of what we consider normal and common—the modes of producing and applying scientific knowledge, for example—to offer a space of productive hesitation which might allow these normative processes to be reconsidered. I take these questions as provocations to consider how normative forms of knowledge shape the world, but also limit it. Anthropological modes of inquiry—what Gustavo Ribeiros (2006: 364) argues can be viewed as "a cosmopolitics about the structure of alterity,"—open up the possibilities of seeing both the reinscribing of normative politics and the potentialities of alternatives as they emerge in everyday practices. Through qualitative methodologies, this project looks for these moments of rupture, for the practices that invoke the cosmopolitical and demonstrate that the worlds of Thailand's waterscapes are more than human science and politics; instead, the worlds are multiple and overlapping, more than one but less than many (Strathern 2004).

Both the materiality of water and its participation in the constitution of worlds demonstrate that water is multiple and ontologically slippery. In this text, I focus on the moments when these edges of potentiality create effects in the social, political, and materials worlds. These effects are implicated in the kinds of claims people make to identity and belonging, connections to place, and responses to crises that shape the Thai waterscape. This dissertation is about water, but it is also about how water is inscribed in places and socialities and how people understand watery worlds and their relationships within them.

Water-Beings in the Landscape

In Thailand's landscape, water is a primary and defining feature. Rivers in particular have been critical for setting routes of trade and development for the earliest histories of the region (Jumsai 1988, Walker 1999). Yet by virtue of its importance in development, water also became part of territorializing Thailand and technologies of control (Peluso & Vandergeest 2001, Vandergeest & Peluso 1995, Winichakul 1994). Terje Tvedt and Eva Jakobsson (2006: xxii) explain that "water control is definitely a universal predicament." Yet at what scale is control optimal and for what purposes? How do humans control ontologically and materially slippery waters?

Scale, and particularly the watershed scale, became a critical organizing feature of Thailand's waterscapes over the past century. Watersheds are ecologically understood as encompassing all the lands that drain into a common body of water; the topography of the land shapes how water that falls on its surface will gather and where it will move. From the view of natural resource managers, watersheds are thus understandable as geographic spaces tied together not by the socio-political borders of nation states but by the hydrological continuities of shared water patterns. River basins are particular watersheds in which the water runs into river systems. River basin watersheds nest within each other as each river system can be broken into its tributary and distributary pieces. In Thai, *lumnaam* translates to watershed or river basin; since the Thai word makes the two classifications synonymous, I use them almost interchangeably throughout this text, though I will tend toward watershed as the framing preferred in the United States. The linguistic elision in Thai already begins to demonstrate some of the complexities of the watershed or basin scale for water management. *Lum* means low or low-lying in reference to land and *naam* encompasses all forms of water.

Francois Molle (2009) offers a history of the concept of the watershed or river basin (the former used primarily in the United States to carry a meaning consistent with the latter which is preferred in other regions). Molle argues that the concept of the watershed was developed in the 19th century through the advancement of scientific disciplines like chemistry, hydrology, geology, geography and the like. The watershed aligned with positivist and disciplinary scientism as well as the colonial hubris of the era. He explains that "industrialization paralleled by scientific and technological development would subsequently project the river basin as the locus of human conquest of nature" (Molle 2009: 485). For a period, the watershed was touted as a way to create administrative organization that would optimize water management and resources because it represented a natural and holistic set of boundaries (Molle 2009, Vogel 2015). As Eve Vogel (2015: 74) explains it,

> "basin-delineated governance is seen to overcome or sidestep a host of legal, administrative, and geographic divisions endemic to conventional government and governmental spaces. Because of their natural boundaries, watersheds and river basins are believed to be *holistic spaces,* encompassing water flow, aquatic ecologies, and human communities."

By extension, managing water and governing it at this scale should provide holistic management and positive social and ecological outcomes (Millington and Olson 2006, Vogel 2015). The effect is that watersheds and basins have become increasingly touted as the preeminent and most effective scale at which to manage water systems across the globe (GWP and INBO 2009, Molle 2006, Parkes et al 2010).

However, spatial scales like the watershed are not pre-existing containers that exist outside of time and politics. They are constituted through assemblages of humans, topology, maps, paperwork, expertise, and ecologies among other participants depending on the kind of scale being produced (Sneddon and Fox 2015). However, as they are produced through discourse, inscriptions, development agendas, and policy, they become reified objects that seem immutable. The watershed scale certainly has ecological relevance as a way to understand the movement of water, but even this material reality is susceptible to change and alteration:

> "for example, there are multiple ecological and hydrological relations that occur within a basin that are defined by that basin's spatial contours and topography (e.g. fish migrations, floodplain dynamics, sediment flows etc.). Yet… the perception of the basin as a unitary object susceptible to human intervention hinges to a significant degree on a host of technologies, inscriptions, and discourses in the service of a scalar categorization that is deeply political" (Sneddon and Fox 2015: 60).

Francois Molle (2006) convincingly contends that adherence to the river-basin as a spatial unit given in nature (rather than an artificial, human delineated spatial unit like kilometers, rai, or state boundaries) is inextricably tied to narratives of modernization, industrialization, and territorialization promulgated by state actors. In short, the river basin or watershed is linked to state-making agendas and nationalist drives making it a politically motivated and politically charged spatial scale.

If scale is political, then the watershed scale is bound to have both material and political ramifications in Thailand and more broadly. Francois Molle (2015: 34) argues that

> "watersheds express three distinct sets of values: 1. Economic development and efficiency as allowed by the manipulation of the resource itself and its rationalization through basin hydrology; 2. The harmonization of worldviews and social equity as promoted by the participation of all basin stakeholders; 3. Environmental sustainability, believed to be more achievable at the scale of a natural or ecological unit."

On both the material and political levels, the watershed scale is a project of creating order: "scales divide, map and categorize; they are a way to help make sense of complexities by creating order. They demarcate, define, delineate and indeed proactively establish and produce the boundaries between what matters and what can be ignored" (Zwarteveen and Liebrand 2015: 265). Yet the presumption of delineating what matters creates contention among different constituencies. In Chapter 3, I address how the watershed scale worked to order Thailand's waterscape and yet how it failed to completely eradicate other sensibilities of what kinds of hydrosocial relations matter.

Analyzing the spatial ambiguities in discourses of environmental justice, Hilda E. Kurtz (2003) poses the concept of scale frames as a way to appreciate how scale shapes political actions and contestation. She explains that "scale frames are the discursive practices that construct meaningful (and actionable) linkages between the scale at which a social problem is experienced and the scale(s) at which it could be politically addressed or resolved" (Kurtz 2003: 894). By contrast, counter-scale frames are "discursive strategies directed at undermining" the persuasiveness and legitimacy of scale frames (Kurtz 2003: 897). For Kurtz's work in Louisiana, counter-scale framing was deployed by powerful corporate actors to try to undermine the environmental justice activism by distracting and renegotiating the scale frames and thus compromise the coherence of the environmental justice protesters and social movement. However, counter-scale frames also have the potential to come from grassroots advocacy as a means of undermining hegemonic scale frames. In Thailand, the state's scale frames are disrupted by the counter-scale frames of local advocacy and local experience.

In Thailand, water is administered through more than 30 different state organizations housed in seven different ministries (Nikomborirak & Ruenthip n.d.). These overlapping and sometimes contradicting sets of organizations are part of a complex choreography of Thai water management. Collectively, they demonstrate that the Thai state is not a monolithic singular entity, but fragmented and negotiated, involving a complex set of agents with varied objectives that produce Thailand's waterscape as multiple and intermittently coherent or incoherent. In some moments, I highlight this multiplicity; in other moments I demonstrate how these sundry state agents participate in forming and reproducing a hegemonic discourse of water management in the state. These two perspectives are in constant tension, pointing to the antagonistic negotiations by state agents and by the communities who must navigate these singularities and multiplicities to bring their epistemologies and hydrosocialities into conversations producing the future of Thai waterscapes.

The watershed scale, despite its imperfections, nonetheless has political purchase and is implicated in designs on Thailand's waterways particularly in the form of dams, proposed dams, and other infrastructures. These are projects to rationalize and bring order to otherwise unpredictable water-beings. In design, discourse, execution, and in potential futures, dams produce human and nonhuman networks of water management. Thomas P. Hughes (1993) explains infrastructures as the process of small independent systems converging into a single technological system or network. The emphasis on infrastructure as a system allows consideration of all the elements of that system - technological and non - and the processes by which they constitute a system. In Thailand, water management, for example, is an infrastructural system that emerged out of small-scale irrigation technologies and evolved into a complex of interconnected pipes, concrete dams, turbines, water, forests, human labor, hydrological engineers, and monitoring instruments among other component parts. Collectively, these pieces comprise a system that moves water where people want it when they want it and in the condition they want it (for a more detailed analysis, see Chapter 3). Like many forms of infrastructure, when they work effectively, when water for irrigation is sufficiently provided and flooding prevented, then these dams receive little scrutiny in most social spaces. In the case of dams, this means that people often see water in canals, paddy fields, and other expected and preferred spaces, but rarely see the pipes, turbines, pumps, meters, and concrete that form the material management structures or the measurements, records, design, and documents that facilitate this management system. For communities in

Bangkok who were subject to severe flooding in 2011, the flooding made the array of technologies for water management highly visible, and visible as a failed system in need of an overhaul (see Chapter 4).

Water Beings in the Socialscape

In 2014, Thailand was in the midst of polarizing political protests centered in Bangkok. These protests between rival parties defined by shirt color: yellow shirts and red shirts. The yellow shirts representing allegiance to the monarchy and liberal democratic principles was primarily comprised of urban elites, academics, environmentalists, and other educated peoples. Their vision for Thailand did not resonate well with Thailand's poor and rural communities lying beyond the central administrative space of Bangkok. These communities were drawn the party represented by red shirts, a populist party that had felt supported by former Prime Minister Thaksin Shinawatra's policies for affordable medicine and rural development. The antagonism between the parties grew, drawing all of Thailand's other political issues into the contested political space, including water. The 2011 floods made water a site of political unrest, with people attributing the floods to different causes and asking for state-led action to ensure human safety in the future. The comprehensive state water management plan exacerbated an already tense set of issues by threatening to displace people and destroy lands protected for conservation efforts.

In May 2014, Thailand experienced a peaceful coup; the then General Prayuth Chan-Ocha took control of the military and deposed sitting Prime Minister Yingluck Shinawatra, claiming this action was to ensure the safety, peace, and order of the nation for the general public. In the intervening months and now years, Prime Minister Prayuth Chan-Ocha has actively suppressed and subdued people and protests. Immediately following the coup, there was uncertainty about Thailand's stability and increased pressures on upland ethnic minorities who were often the first to have their freedoms curtailed during regime changes. At the same time, most people, including members of the communities in which I worked, took the coup in stride. After all, this was the nation's nineteenth coup since it became a constitutional monarchy in 1932.

While the new government regime ultimately affected the water management plan, their actions did not reformulate the social and political contours of Thailand. Just as the materiality of water-beings shapes the landscape, relationships with water-beings also shape the socialscape. Throughout this text, I draw attention to the uneven political terrain on which water and human futures are negotiated. Relationships with water-beings have repercussions on the kinds of political and cosmopolitical claims people make; politics similarly determine how people might be willing to see their own relationships to water-being and place. In the final chapter of this text, I analyze how people create borders of inclusion and exclusion and push for a reckoning of entanglements with water-beings to be integrated in conceptions of indigeneity.

Indigenous as a Global Network

In policy, scholarship, and even protest, the category of "indigenous" has gained traction and political meaning as a way of representing preceding claims and combating oppression across the globe. The United Nations Permanent Forum on Indigenous Issues estimates that 5% of the world's populations are indigenous peoples, meaning roughly 370 million indigenous peoples living in 90 different countries (Secretariat of the Permanent Forum on Indigenous Issues 2009). In Thailand, the Network of Indigenous Peoples in Thailand (NIPT) suggests that there are over 40 different groups and 4.2 million individuals that could possibly be understood as indigenous (Thano 2016, Morton 2017). Yet few of these people either claim indigeneity or are recognized at national and international levels as indigenous.

Over the last several decades, indigenism has become a form of political resistance to marginalization, domination, and injustices founded, as Anna Willow (2012: 64) explains, "somewhat paradoxically—on the notion of a collective indigenous identity and on visions of enduring cultural rootedness and connection to the land." This means that claims to be indigenous must articulate with a global discourse of oppression, colonization, or unequal status because of being indigenous and yet simultaneously demonstrate a commitment to tradition, laws, or cultural practices that differs from global and particular state norms. Willow's articulation of indigeneity aligns with the defintion articulated in the United Nations Declaration of Rights of Indigenous Peoples (UNDRIP). Following the UN sanctioned International Decade for the World's Indigenous People, the UNDRIP was adopted in 2007 as a charter for securing legal rights and recourse for indigenous communities. At the outset, the document was meant as a safeguard for communities that are often the most at risk of subjugation by more powerful state actors. Written in consultation with approximately one hundred indigenous leaders from around the world, the UNDRIP is an official statement that articulates the principles of human rights of indigenous peoples in particular and emphasizes provisions for self-determination, property, tradition, language, oral histories, resources, and more for these collectives (Baker 2005: 19). The intention of the UNDRIP has been to facilitate greater equality, thus it aimed to create a framework for inclusion, where people could recognize themselves and seek solidarity in common self-expression (Luithui 1996). Thus, after much deliberation, the UNDRIP leaves the definition of "indigenous" open so as to ensure that no peoples are uncritically excluded by the definition; however, this also leaves each state and set of peoples to shape their own basis of self-identification and the enforcement of legal rights (Bose 1996, Schulte-Tenckhoff & Khan 2011, UN General Assembly 2007).

Despite this inconclusive, non-prescriptive framing of indigeneity, indigenous remains the preferred international referent to categorize and collect the variety of peoples (and species) who make claims to prior existence in a place, who are fighting for rights based on shared differences and common positions within different states. From Native Americans as the first inhabitants of the lands now called the United States to aboriginals given the same distinction in Australia to communities in the Andean highlands who distinguish themselves from mestizo and white descendants of European colonizers, "indigenous" provides an overarching category that encompasses all peoples who claim to have inhabited a place before the incursion of other groups or colonizers.

Globally, indigeneity is is inextricably linked with colonial enterprises as its inverse: the term references the collections of people who predate colonial intervention in a place and whose land and lives were overtaken by the claims of empire builders. Indigenous has become a shorthand for recognizing, or more often *retroactively* recognizing, the preceding humans (and nonhumans) that populate a landscape; whether this leads to rights or political recourse varies based on the local conditions. Indigenous is often framed as a form of redress in the specific context of European colonization. European colonization has been retrospectively categorized as following two main trajectories: classic and settler. The former relied on the exploitation of both natural resources and people for the benefit of the European metropole; the latter is part of an ongoing structure that began with the objective of acquiring land to establish new communities (Glenn 2015, Wolfe 1999). As Shona Jackson (2012: 11) elaborates, "the Lockean social contract that informs the development of modern European social and political structures is applied to the New World during the colonial period." This social contract was transformed through projects of colonialism into a “settler contract” as Carol Pateman (2007: 36) labels it, a contract that required specifically seeing the landscape as *terra nullius*, empty of other people to enable uncontested and unquestioned claims to the land by new settlers. Yet the landscape was never empty, but forcibly emptied through coercive practices of removal, assimilation, and even genocide (Huseman & Short 2012, Smith 2005, Todd 2016, Wolfe 2006). While the effects of both forms of colonialism linger in social and material landscapes, the effects of settler colonialism persist as structures organizing ongoing legal, government, and social relations between the settler state and indigenous peoples.

These forms of colonialism, both classic and settler, disenfranchised people with preexisting claims to place and often dispossessed them of their lands, albeit in different ways. The central tenet of these colonial practices focused on a common set of “technologies of rule that sought to obtain space and resources, to define and know the difference...constructed in those spaces, and to then govern those within” (Simpson 2014: 95). Essentially, colonialism was responsible for the minoritization of populations through diverse practices of control. Indigenism becomes a political counter not only to colonialism, but to the forms of differentiation that enabled the production of structures of injustice and inequality that persist even today.

A social identification emerging through relationships with European colonization, indigenism has had a dubious introduction to Southeast Asia. Historically, colonizers across Southeast Asia referred to all the inhabitants in the region as indigenous or native thus the category was made innocuous as either applying to the majority of inhabitants in the region or a term that was irrelevant once all western colonizers were no longer authorities (Li 2000, Morton 2017). Ronald Niezen (2003) explains that since the states of Southeast Asia are liberated from colonialism already, their claims for indigeneity are framed in terms of oppression within the post-colonial state. Thailand, having avoided being officially colonized by western authorities, leaves its peoples in an even more ambiguous position in relation to indigeneity. However, maintaining sovereignty required forms of consolidating power and modernization that replicated colonial practices without the incursion of European rule. In practice, Thailand's borders were created through negotiations to remain sovereign and thus forms of resource exploitation, infrastructure design, and administrative structure stemmed from relations with colonizers of neighboring areas (McKinnon 2011a, Winichakul 1994). Katharine McKinnon (2011a: 145) contends that "the experiences of highlanders in Thailand are nevertheless similar to the experiences of indigenous peoples in colonial settler societies. The geographical peripheries of the Thai state were (and continue to be) in effect subject to the colonial authority of the Bangkok government."

The post- or neo-colonial or non-colonized status means that in Thailand, as across much of contemporary Southeast Asia, indigeneity has been creatively reconfigured and redefined. Many scholars have argued that the colonial historical basis of the concept of indigeneity creates confusion, exclusion, and even debate over how it is applied in both the Asian and African contexts (Bose 1996, Gray 1995, Kingsbury 1996, Niezen 2003). This has led to assertions that framing indigeneity as a product of only ongoing settler colonialism of European colonizers limits its global applicability and resonance. Instead, alternative forms of colonization, subjugation, and oppression are offered as evidence of fitting the paradigm of indigenism. Ian Baird (2015: 54) explains that

> "new concepts of indigeneity have emerged and become popularized in Asia, ones that differentiate based on ethnicity, are frequently associated with 'first' or 'original' peoples (and thus with space), and are linked to emancipatory political objectives associated with assisting oppressed peoples; not only those colonized by Europeans,

> but also others subjected to various forms of domination by Asians living in close proximity."

In the Thai context, McKinnon (2011a: 148) argues that "Bangkok could be seen as the centre of a colonizing power that has, over the last century, gradually colonized the territories encapsulated by the state borders imposed in the early 1900s." Morton (2017: 685) echoes this framing of indigeneity and explains that the foundation of the claims of indigenous peoples within Thailand is "unique in purporting a state-based ontology that identifies the rise of the modern Thai state and the ensuing process of nation building and global capitalist expansion with that of their indigeneity."

Officially, the UNDRIP was ratified by the Thai government thus at least nominally providing a range of protections and commitments to Thailand's indigenous communities. However, it remains a tool confined to superficial recognition and safeguards at most rather than effecting real political change in Thailand. This is in part because the Thai government and constitution have been in turmoil since the declaration was implemented including having three different Prime Ministers in three months in 2008, escalating political protests and public polarization, and a military coup in 2014 that dissolved the constitution save for the legislation regarding the monarchy. As of 2018, the Prime Minister is still a former military general, the new constitution remains a work in progress, and general elections are persistently postponed. The UNDRIP is ultimately not a legally binding instrument and depends on individual state accountability to enforce the rights. In Thailand, it remains unclear to many whether or not and how the UNDRIP applies to subsets of peoples within the Thai borders. The instability of the Thai government means that addressing these questions and the implementation of the UNDRIP is, predictably, inconsistent at best and irrelevant at worst.

Despite these challenges at the state level, the concept of indigeneity has currency in academic circles, in the charges of international nongovernmental organizations (NGOs) and multilateral banks, and in a growing set of grassroots local and regional organizations (Baird 2015). The Asia Indigenous Peoples Pact has been active across Southeast Asia since 1988 as a liaison between the UN and indigenous peoples networks and grassroots organizations (Asia Indigenous Peoples Pact 2017). Other intra-state organizations include the Network of Indigenous Peoples in Thailand (NIPT), the Indigenous Women's Network of Thailand (IWNT), and the Indigenous Media Network (IMN). All of these organizations focus on providing support and creating solidarity among Thailand's ethnically non-Tai populations with an explicit focus on representing people in alignment with global paradigms. As a statement of their commitment to global recognizability, these organizations produce their stories, statements, and even websites in English to make them legible not to Thai state officials and neighbors, but to a transnational audience of potential allies. Similarly, NGOs often apply the term indigenous as a way of describing their work to international funders, boards, and banks. As Ian Baird (2015: 57) explains, the category of indigenous peoples creates "a new category of 'disadvantaged' people, one that can be applied to justify development support." Identifying as indigenous thus has purchase through transnational assemblages that can yield financial investment and resources.

Yet the communities with whom I worked did not find the indigenous networks to be the most valuable assets to them in the moment. Instead, these communities considered the networks that emerged through their local protestations to be more effective at serving both their needs and those of the Thai waterscape simultaneously.

Protest Networks

As water-beings in Thailand have become sites of conflict and contestation, they have also become sites of collaboration. Fabiana Li (2015: 6) explains that environmental "conflicts are sites of antagonisms and collaborations among groups of actors that do not necessarily fit within the usual sociological categories" and thus require a strategy for seeing the multiplicity and divergences within an assemblage for however long it coheres. In her critical work, *Advocacy After Bhopal*, Kim Fortun (2001: 10) moves away from the framing of static groups in standoffs to a more fluid model of environmental conflict using the frame of "enunciatory communities." Analyzing the shifting dimensions of advocacy in the aftermath of a chemical disaster, Fortun (2001: 20) organizes her text to have each chapter reference a different "enunciatory community" which are "collectivities formed by the particular demands of disaster." The concept of enunciatory communities focuses attention on the way that disaster creates opportunities for formulating social entanglements differently, not based on commonalities of tradition, culture, or interest but through an emergent set of conditions and paradoxes of social experience and transformation. In enunciatory communities, the dissimilarity of constituents is considered an asset; each participant is drawn to the community based on an emergent condition, but each also has their own enunciations, their own ways to speak for themselves. Fortun uses this framing to demonstrate the seemingly paradoxical condition of a unified community that is multiple, comprised of people with their own complexities, objectives, interests, and voice. She focuses on the ways that the chemical disaster provoked reconfigurations of social contiguities and communities resulting in these sometimes uneasy aggregations. Enunciatory communities do not preexist and they are not static; the negotiation of difference produces new kinds of identities.

As a part of this commitment to enunciatory communities and collaborations, I consider how people position themselves in relationship to others and how these networks and relationships change. For example, many of my informants specifically state that they are in an adversarial relationship with the state. I take this statement as a positioning that has purpose and represents the alliances of the moment, but I am interested in the relationships between state and community member that have produced this statement and the shifting alliances and shared objectives that make activist networks and government networks more complex than simply antagonistic opposition.

Focusing on the kinds of identities, communities, and claims that emerge through anti-dam advocacy in Northern Thailand, I foreground the diverse constituencies that participate in advocacy, including both human and nonhuman constituencies. I draw on Fortun's framing of enunciatory communities as away to examine a particular aggregation that emerged from the contradictions of the 2011 flood disaster in Thailand: the Northern Rivers Network. An organization of seven different river regions and thousands of community members, the Northern Rivers Network is an advocacy organization formed to contest the state's comprehensive and integrated water management scheme. These communities work across differences in religion, ethnicity, resources, geographies, experience, and hydrosocialities to create a collaborative protest movement that reaches toward global networks and paradigms and resonates with local interests and concerns. Through protest actions, these communities also all demonstrate their commitments to water-beings as members of the network by evoking water-beings as multiple and agentive through their campaigns. These protests are not just for the communities, but for and with water-beings and the hydrosocial relations they enable.

Water-Beings in Disaster

As water-beings are implicated in the material and social constitution of worlds, they can also be part of their unmaking. More accurately, the intersections of these elements have the capacity to create upheaval and uncertainty, reorganizing assemblages and creating emergent possibilities: in short, producing disasters like floods.

Anthony F. C. Wallace is often credited as the first anthropologist to call for the study of disasters anthropologically. In the 1950s, he created a general model of disasters that plotted the processes spatiotemporally to facilitate comparative analysis (Wallace 1956). Despite Wallace's instigation, anthropology was slow to take up disaster studies. One particular problem that confounded early researchers was the starting point: what defined a disaster as such (Oliver-Smith 1999a). While a perfect definition remains elusive, I approach disasters, and particularly the 2011 floods in Thailand as not purely "natural" nor purely social, but instead emerging at the confluence of materialities and hydrosocialities. Thailand is a tropical country affected by monsoon rains. Climatologically, 80% of Thailand's annual rainfall occurs between May and October, produced largely through the meteorological impacts of the summer southwest monsoons (Thai Meteorological Department 2012a). Together, the monsoons and the mountainous topography of the northern regions and the high plateau of the northeast make Thailand prone to flooding (Gale & Saunders 2013). Yet these high waters become disasters through their disruption of social normativity. As such, disasters are both material and socially devastating, but perhaps a space of possibility as well.

Disasters all over the world are often produced not through the manifestations of transformative earth-beings alone but instead are, as Anthony Oliver-Smith (2010: 32) has argued, "*processes* that unfold through time, and their cases are deeply embedded in societal history" and often disasters have their "origins in unresolved problems of development." This discursive framing offers two important insights that guide my approach and analysis of disasters in Thailand: first, it emphasizes process rather than event; second, it grounds disasters as formed at the intersections of humans and nature, the social and the material. By arguing that disasters are processes, scholars of disasters situate the catastrophe, the moment of rupture, the flood in this case, as only one phase of a much longer and more complex set of spatiotemporal and socio-material relations. The core argument — "that disasters are not natural and that human actions and policies enhance the materially destructive and socially disruptive capacities of geophysical phenomena" — may be a mainstream understanding of human-environment relations now, but it was not until the 1970s and 1980s that this argument gained credibility, challenging discourses of disasters as natural and independent of the social world (Faas & Barrios 2015: 289, Barrios 2017a, Oliver-Smith 1999a). By framing disasters as only "natural" rather than acknowledging the complex webs of interconnection and correspondence that shape socialities and ecologies, human intervention was relegated to the realms of hazard warning and disaster recovery rather than oriented toward the possibilities of prevention. Now, when the anthropogenic causes of climate change ought no longer be questioned or questionable, the sensibility that human behaviors have impacts on the geophysical condition of the planet seems obvious, yet the momentum toward prevention is limited. Often the best intentions for preventative measures—for climate change or floods—are quelled by competing priorities and the lingering memory of an era when the discourse of "nature will be nature" sufficed.

Based on these two core principles of disaster analysis, my research can be considered an ethnography of a disaster: I trace the historical patterns and interventions by humans, the crisis, and the responses to it. I am most concerned with how sociomaterial tensions become visible through disasters and how disasters open opportunities for reconfiguring social and material relations. Research on disasters "has enabled scholars to interrogate the structures of culture, state, and society as they are exposed under these conditions" (Faas & Barrios 2015: 289). At the same time, this research demonstrates that how relations between people and water are reimagined and reconstituted through floods are often entangled with neoliberal and modernist ideals of the common good. I argue that as these ideals are put into action, they can perpetuate the disaster in the everyday lives of people who are threatened by new interventions. In her ethnography of a Tamil village recovering from the Indian Ocean tsunami of 2004, Frida Hastrup (2011) argues that the ordinary life of the villagers is made to appear through the tsunami and the disaster to appear through their everyday lives. Her work complicates ideas of reconstruction by demonstrating the ways local communities have to reconstitute themselves in ways state aid agencies neither imagine nor understand. My ethnographic work draws on this premise of the disaster in everyday life. However, my primary participants and co-creators are situated in the northern provinces of Thailand that were only lightly impacted by the crisis period of flooding in 2011 that crippled the central plains; my informants do not have the affective experiences of having their homes inundated for months nor do they have relationships with water as disordered and problematic. Instead, they have the fear of permanent displacement and the loss of relationships with the water-beings and places that co-constitute their lives. As a result, this ethnographic work focuses not on the relationship between the everyday lives of disaster victims and the disaster but the everyday lives of victims-in-waiting and the disaster that put them in this position.

Getting My Feet Wet or Research Methods

Initially I envisioned writing a text that would provoke a reckoning with water-beings as creative, vibrant materials co-constituting our overlapping material and social worlds. I approach world-making as processes in which humans are only sometimes a part as a way of destabilizing ideas of water as knowable only through human practices of meaning making. However, to claim that water has capacities that exceed human ways of knowing is to already preclude the possibility of the former intention; I cannot offer an ethnography of water-beings that does not already situate these beings within human forms of meaning making. Instead, my intention methodologically and theoretically is to draw attention to tensions that arise as water-beings disrupt the norms of human socialities and meaning making. The 2011 flood disaster made these tensions undeniably visible by creating ruptures in normative hydrosocialities that might otherwise often remain obscured.

To appreciate how water beings configure and reconfigure human modes of meaning-making requires an analysis of the social, political, and material particularities of place and also an ethnographic sensibility about how meaning is made in place, how it is transformed, and how it might be translated and mistranslated in the process of research. I approached this research with a broadly ethnographic set of methodologies to engage humans and nonhumans like water.

This research is based on an extended engagement with environmental movements, anti-dam protests, and waterscapes as a site of political and cosmopolitical contestation in Northern Thailand, including 15 months of ethnographic fieldwork from 2011-2014. During this period of fieldwork, I was based in Chiang Mai, Thailand, the nation's second largest city and a central hub of communication and exchange among Thai and ethnic upland communities alike. I focused primarily on protests against the state water management plan that emerged after the 2011 floods, dividing my time between work with Living River Siam (LRS), the Northern Rivers Network (NRN), and three river communities in the Ping and Yom River basins. My research started through a key contact at Chiang Mai University, a faculty member whose community-engaged research gave him credibility with communities across Northern Thailand. With his endorsement, LRS and the river communities were more willing to trust that my intentions were academic and advocacy oriented rather than drawing conclusions that I was an undercover agent of the state conducting feasibility studies and trying to create social upheaval and discord in the communities (a concern I heard more than once prompted by unknown outsiders). LRS introduced me to the NRN which became a central figure in the anti-dam campaigns across the north. My research is concentrated in a group of activists from these communities and NGOs who are critical of state water management paradigms and stand in opposition to them.

While my research is empirically based in this consolidated set of activists, I traced the implications of the anti-dam campaigns beyond the communities to put them in national context. I had little access to state agents in Bangkok who were the driving forces of the new water management scheme and even less access to their corporate allies bidding for the building contracts in part because I was based in the Northern Thailand and in part because government upheaval made these constituencies even more inaccessible and unwilling to speak openly. I did, however, attend the public events hosted by the Royal Irrigation Department (RID) and I interviewed one state official who was responsible for RID operations in Chiang Mai. Further, I did not seek out victims of the 2011 flood disaster to complicate the anti-dam protest narratives. Even with these absences, it was clear that the state water management plan had allies and opponents across sectors and geographies. Tracing national and international debates about dams, water, and environmental justice demonstrates that these issues are part of global forces, flows of knowledges, developmentalism, economics, and ecologies.

To understand the complexities of relationships with water and the current contestations, my research sites and activities were diverse: a public hearing with the RID; hikes along rivers to learn about the relationality of these places; academic conferences on the state of local watersheds and upland communities; NRN gatherings to strategize protest actions; hikes and demonstrations that included NRN declarations of the value of water, socioecologies, and place; camping trips; information sessions; advocacy trainings; water festivals; museum tours; boat rides, and other activities that were related to Thailand's contemporary water conflicts. I formally interviewed 28 people including members of each of the three communities in which I worked, NGO employees, advocates and activists in Chiang Mai and Bangkok, and a Royal Irrigation Department official. These formal interviews complemented my observations and informal interactions and conversations with museum tour guides, community members, monks at local temples, students, farmers, fisher folks, and government agents. I considered these formal and informal interactions as social science based on conversations toward constituting shared understandings (Gudeman & Rivera 1995, McKinnon 2011b). Working in a context of uncertainty and polarization, I was intentional about the kinds of questions I asked and conversations I recorded to ensure I was not placing my 'informants' in positions of undo risk. This became especially important as protest actions were subdued in the aftermath of the military coup in May 2014.

Water-beings proved more challenging to engage than human counterparts. I approach water beings as ontologically complex, creative agents. I walked through, paddled on, drank, fished, bathed in, swam in, floated *krathong* on, and honored rivers throughout Thailand to better understand their material capacities of water-beings in shaping social and biogeophysical worlds. I also listened for the critical moments when water surfaced in practices and discourse, sometimes even in contradictory ways— esteemed as a deity in one moment, but unsafe to drink due to chemical pollutants in the next. Kohn (2013: 12-13) explains that in his field work with Runa in Ecuador, "'conversation' also occasionally involved other kinds of beings" whose participation shaped the social world and with whom people "struggle to find channels of communication." I draw on Kohn's framing of communication as broadly inclusive of human and nonhuman contributions. In my fieldwork, I looked for places where water disrupted the social world, making its presence known and compelling human action and reconfiguration. These material disruptions might be as undeniable as the 2011 floods or as subtle as a rain storm foiling a hike, as messy as a muddy road impeding transit or as clean as bottled water rather than tap water. In whatever forms, I see these moments of disruption as provocations to reconsider how water is constituting the world and constituting humanity otherwise at the same time.

Throughout the text there is the persistent presence of my voice. I am inscribed in this research as a learner and a participant, implicated in the dynamic world-makings I study. As Anne M. Rademacher (2011: 41) so clearly states "recognizing that one can never fully be cognizant of the ways that one's encounters in social life affect or alter a cultural or political situation, I have placed myself in the retelling of the ethnographic experience." In this way, I remind the reader that the material here is not objective nor is it meant to be; instead, it is a rendering of world-making processes and water-beings that is mediated through me as the ethnographer and narrator. These are worlds that, as Marisol de la Cadena (2015: 3) explains, I as an ethnographer translate and even perform, but also "escaped my knowing."

A Note on Naming

Throughout the text, I use pseudonyms for my interlocutors and for the villages in which I conducted my research. As part of the anti-dam movement in Northern Thailand, the communities are already positioning themselves in opposition to the government. I do not wish for any of the particularities of their sentiments as disclosed to me to further compromise their positions politically. This is especially important in the two Karen villages who already live in conditions of instability as ethnic minorities. This political precarity has further intensified with the shifting political conditions of Thailand during my research as well, thus I take precautions to ensure that nothing I share here will put my interlocutors in jeopardy while also working to maintain the integrity of the communities as they participate in the constitution of ecosocial worlds and anti-dam protests.

However, there are three major exceptions to this practice of giving pseudonyms. First, I use the real name of the main nongovernmental organizations (NGOs) with which I worked, specifically Living River Siam and the Northern Rivers Network. Both organizations are well known within the Thai context. Members of the Northern Rivers Network pressed me not to use pseudonyms as much as possible; they wanted my work to be a way that their stories could circulate in English. Concealing the names of the organizations would not effectively obscure them as the work they do, their messages, methods, and mission, are pervasive and completely legal. To effectively conceal the organizations would create undo complications to promoting their stories and work to a broader audience per their own requests. Living River Siam claims they are often working in ways that are counter to government agendas in Thailand; as a civil society organization, however, they do this within the parameters of the law. Their role, as shall be clarified throughout this text, is to empower local communities and provide support and information; their actions and work are clearly displayed through their website and Facebook page. However, given the uncertain conditions of political unrest in Thailand, I am careful to conceal the individual identities of workers within the organization, even going so far as to create composites as necessary.

Second, I do not use a pseudonym for the name of the subdistrict on the Yom River that is home to the collection of villages active in anti-dam protest campaigns. The subdistrict of Saiap is the colloquial reference in Thailand for this set of villages who have created a reputation for resistance to state dam plans over the past 25 years. An effort to mask this village would be immediately compromised by any good faith effort to uphold the stories and experiences of the villagers. Rather than compromise the stories of a region that has notoriety for their anti-dam work, I have chosen to identify the region while still giving pseudonyms to individual interlocutors.

Third, I use the real names of the rivers. Since these rivers are real sites of contestation and development, the way I can best serve the communities who entrust me with their stories is to demonstrate that there is meaningful opposition to the water management plan broadly and dams on these rivers specifically. I believe that the populations affected by these dams are robust enough that specifying the river does not compromise the identities of communities and it increases the integrity of this work.

Watery Places

Geographically, Thailand is subdivided into four regions: the Northeast, a plateau area bordered by the Mekong River that experiences recurring drought conditions; the South, which includes most of Thailand's beaches as tourist attractions; the Central region that includes Bangkok, the central plains, and the Chao Phraya basin; and the North, the area to the northwest that borders Burma and Laos, where the ethnic minority communities are concentrated, and where the Ping, Wang, Yom, and Nan Rivers all begin their journeys en route to becoming the Chao Phraya. The Chao Phraya Basin, including the northern quartet of rivers that creates it, "has been described as being at the heart of the agricultural and economic activities of the country, covering 30% of the land area, home to 40% of the population and generating almost 70% of the GDP" (Pavelic et al 2012: 58). The basin is invaluable as a space of economic development which is explicitly tied to water as a resource for irrigation, hydroelectricity, and industry. My research is situated in Northern Thailand, in the mountainous terrains, terraced rice paddies, and the waters moving as part of the Yom and Ping River watersheds.

Figure 1.1 Map of the Chao Phraya Watershed
(Kmusser 2008). CC BY-SA 3.0

Living River Siam

Based in Chiang Mai, Thailand, Living River Siam (LRS) is a Thai NGO that works to empower local communities to address their water needs and water rights on rivers in Thailand. While the organization has had several names and shifting leadership, the premise of their work has stayed the same: to give communities the information and tools they need to be able to make the best decisions about their own water futures.

To do this, LRS provides quality data about state agendas and water development plans for communities and helps communities develop the tools and capacities to effectively communicate their needs with the state. P'Jay explains that the work of LRS has 4 dimensions: 1) to aggregate and translate information from the state to make it accessible to local communities (removing the jargon of expertise); 2) empowering communities to take action for themselves; 3) facilitating Thai Baan Research that is a core strategy for helping local knowledge gain circulation and credibility (see Chapter 5); and 4) to offer trainings for communities across Southeast Asia and beyond so other organizations and communities might better serve local needs and water systems.

For nearly two decades, LRS has been identifying strategies to help strengthen local communities and conserve aquatic ecosystems and rivers through local practices. They have been active with communities in Pak Mun, Rasi Salai, on the Salween and Mekong, and on the Yom River. I first met LRS as they were helping to create the Northern Rivers Network, a grassroots collective of communities in Northern Thailand all opposing the state's grand water development agenda.

LRS is headquartered out of an old teak frame house on the outskirts of Chiang Mai at the foot of Doi Suthep. P'Jay's directions over the phone were a test of my Thai language skills during my preliminary fieldwork in 2012. Lefts, rights, and lots of wrong turns later, I pulled up to the gate with a hand carved and painted sign with the organization's name written in English.

As I approached the house, I could hear people talking inside. The office staff is 5 people, only 2 of whom are full time. The others are part time office workers doing the books, writing grants, and coordinating travel arrangements for the two chief coordinators who travel to offer trainings on Thai Baan Research skills, primarily. Despite a small, non-air-conditioned workspace, LRS is a busy work environment with 3 desks in the main area and an office for P'Jay and P'Lung to each occupy. The lower level "conference room" is filled with evidence of the work they have done with communities: a map of the Mekong River depicting fish species and important spiritual locations rather than the precise geographies and topographies that might be represented through geographic information systems (GIS) technologies; carvings of fish species that are endemic to the Mekong, Salween, and Yom Rivers; books that are the published versions of the Thai Baan Research at these various sites; binders filled with training material in a variety of Southeast Asian languages; camping gear; tape recorders, clip boards, pencils, and paints that are often supplied to villages to facilitate research projects; and crates and crates of what P'Jay identifies as government documents that have been combed through to provide communities with clearer information about state plans on Thai waterscapes.

Over the next few years, I would return to LRS frequently to interview the workers and interns who participated in the development of new Thai Baan Research agendas in some of the villages of the Northern Rivers Network, to study some of the products of past research projects, to translate documents, and even to edit some of P'Jay's academic papers. With a master's degree from a university in the United States, P'Jay was actively publishing and presenting the stories of the communities he worked with in English for broad audiences. While his primarily role is to facilitate and empower the communities he works with, expanding the reach of their stories to academic and English speaking audiences was P'Jay's contribution to the communities at the same time.

More often, however, I met LRS workers at their offices before joining them on visits to Baan Mae Roo, San-Lek, and Saiap or to join them at meetings of the Northern Rivers Network elsewhere in Chiang Mai Province. From hikes in the forest around San-Lek to meetings at the Northern Development offices to protest proclamations recorded at Chiang Mai University, to strategy meetings with local advocates and distant community members at temples, I followed LRS into any meetings and conversations they would allow. While the NGO workers grew accustomed to my presence, I was often still the outsider whose contributions to their work remained uncertain. In order to be included, I incessantly emailed and called and texted P'Jay for updates; part of fieldwork is continuing to show up. Then, in August 2014, I was in Bangkok for a meeting with a couple of academics at Chulalongkorn University and a travel writer who also lived there when P'Jay called: "There is a group of activists coming here for training with us tomorrow. You should be here. There is much for you to learn from these meetings. I have told them all you will join us at Chiang Mai University tomorrow morning." For the first time, P'Jay sought me out to invite me to these meetings; I was making headway. I was on a flight back to Chiang Mai 3 hours later.

Northern Rivers Network

As part of their administrative and capacity building work, LRS helped constitute a collective of communities to work together against the state dam plan called the Northern Rivers Network (NRN). The organization came together out of their shared interest in protesting the large infrastructure impositions of the state water management plan in the aftermath of the 2011 floods. All seven river regions are located in Northern Thailand across several provinces, with the largest contingencies from Chiang Mai, Lamphun, and Phrae Provinces. While none of the communities active in the NRN were as severely impacted by the effects of the 2011 floods as people downstream, they are all at risk of being displaced, having their livelihoods compromised, or having hydrosocial relations upset by the new water management scheme. LRS helped gather the communities into a common network, recognizing the political potency of their combined interests and efforts.

During my 15 months of fieldwork, I joined the NRN at campaign actions, planning meetings, and public hearings hosted by the Royal Irrigation Department (RID). I listened as the communities made formal, recorded statements shared with state officials as a demonstration of their opposition and solidarity. As communities expressed their differential challenges, I participated in protest actions like hikes to draw greater attention to particular villages. The NRN demonstrated that dam opposition was a common base for these communities, some of which had been fighting against dams for nearly 30 years and some of which were entirely new to the premise of opposing state development agendas. Much of the work of the NRN involves opportunities to gather people, to provide updated resources about the status of dam projects, and to continue to share strategies and plan events that would draw promising attention to the plight of peoples who recognized themselves as vulnerable and undervalued in the eyes of the state. These sessions, hosted at farms, in villages, at a fancy hotel banquet center in Phitsanulok, or in formal conference rooms in Chiang Mai, always maintained a sense of hopefulness rather than despair. Early in 2014, when the Environmental Impact Assessment (EIA) for the Mae Wong Dam, a river in Central Thailand, was being completed, the communities from the NRN remained confident in their collective capacity to resist the incursion of these alien infrastructures, these dams.

One of the central ways that people communicated outside of these meetings was social media. By posting images, statements, or updates about the dam projects in their areas, people in the NRN kept other network allies informed while also working to rally support across Thailand. While I have opted not to share any of the posts linked to personal accounts to ensure the privacy of community members, I do discuss some of the strategies I saw for using social media platforms in Chapter 6.

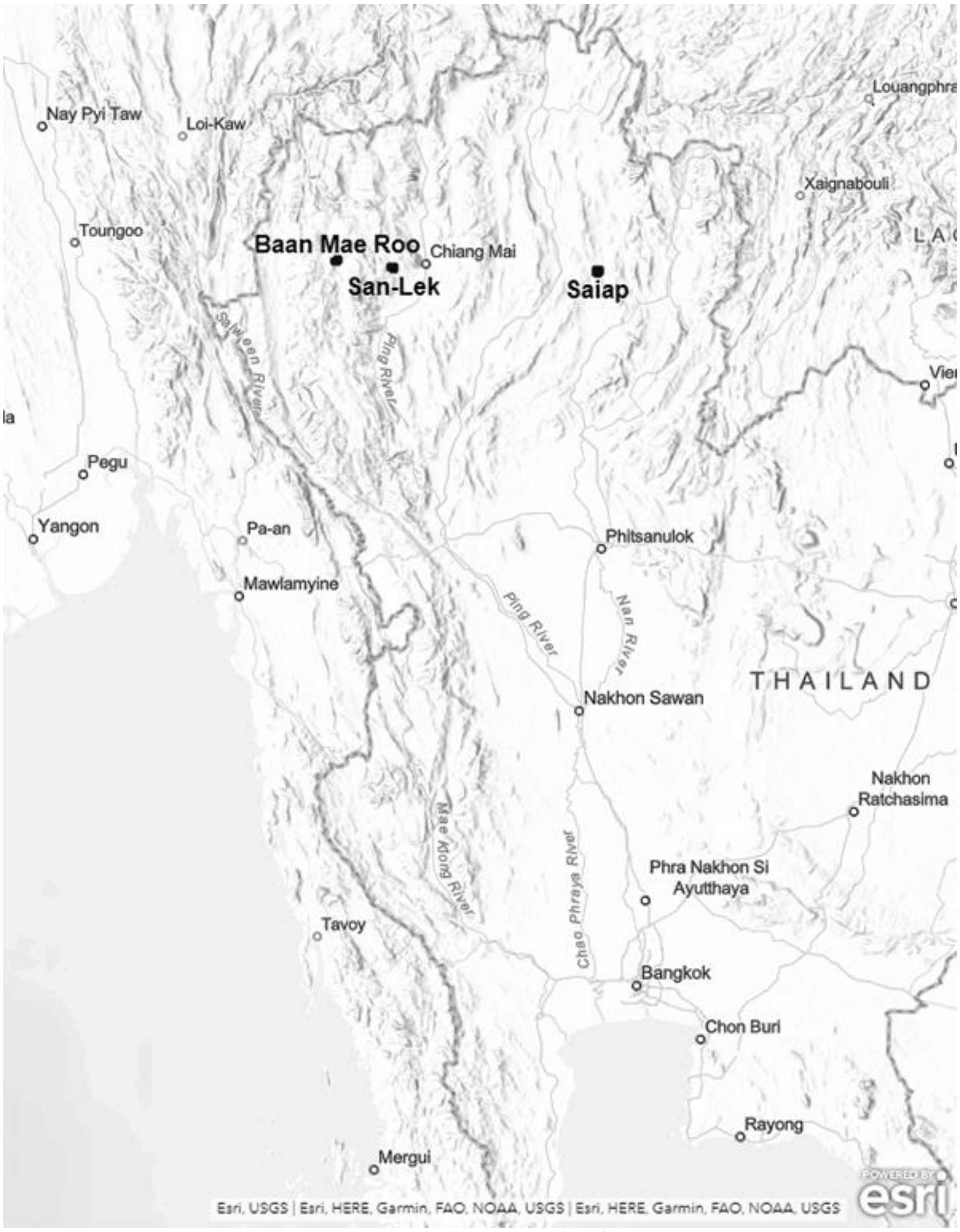

Figure 1.2 Map of Three Villages in Northern Thailand[2]

This map depicts the three villages where I conducted the majority of my fieldwork in Thailand, Baan Mae Roo on the Chaem River and San-Lek on the Khan River (both in Chiang Mai Province and Saiap on the Yom River in Phrae Province (Esri, 2018).

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[2] This map was created using ArcGIS® software by Esri. ArcGIS® and ArcMap™ are the intellectual property of Esri and are used herein under license. Copyright © Esri. All rights reserved. For more information about Esri® software, please visit www.esri.com.

While the NRN involves several villages protesting against the proposed dams that would compromise their homes, I worked primarily in three villages in Chiang Mai and Phrae provinces, in the Ping and Yom watersheds, respectively. All three villages are situated in regions minimally disrupted by the 2011 floods but threatened with permanent displacement should the current state water management plan come to fruition. Yet all three villages are also differently and unequally situated in terms of infrastructure and legitimate claims to rights under the state. While I had heard of Saiap before beginning my fieldwork, its reputation preceding it all the way to Minnesota, the other two communities I encountered through my engagements with LRS and its work with the NRN. Below I offer more details on each of the three protesting river communities that invited and encouraged me to learn and research with them.

Saiap, Yom River

One the four main tributaries to the Chao Phraya, the Yom is runs approximately 700 km from its headwaters in Phayao Province through Phrae and Sukhothai Provinces and joins the Nan River in Nakhon Sawan Province. With 77 tributaries braiding into the mainstream, the watershed captures the water of a broad swath of northern Thailand and meanders west of the villages at Saiap, carving through the largest remaining stand of Golden Teak trees in Thailand. These trees have been repeatedly part of logging concessions in Thailand, but the stand is now a protected forest area in a national park and is further protected by the strict local prohibitions of timber usage.

The Yom is the only major river in Thailand that remains undammed on the mainstream. This is in part due to the extensive work of the villages of Saiap, well-known for the resistance to dam development on the Yom River. Beginning with the first proposal to build a hydroelectric dam at Kaeng Seua Ten (Dancing Tiger Rapids) in the 1990s, the community has been actively protesting each iteration of dam plan on the Yom River. This history has come to define the community identity and practices.

Saiap is a collection of 4 villages with a population of nearly 4000 people living and farming on the east side of the Yom River, just upstream a few kilometers from the proposed Kaeng Seua Ten Dam. The largest of the communities with which I worked, Saiap is also the most financially and politically stable of the three communities. Because the residents of this village are all Thai, the state offered them community land rights even though they are in and surrounding the borders of Mae Yom National Park. Further, as Thais they are officially and fully citizens of Thailand. Saiap also has a government school and police station, each staffed by government officials that rotate through the village over time.

Yet despite these indicators of a stable position within the government structures, Saiap has been fighting against state agents for nearly 30 years and has established itself as an oppositional space within the Thai state. During the early years of the anti-dam protests, the villagers patrolled the borders of the community to prevent government officials from sneaking into the area to conduct dam feasibility studies. A wall in the village has a militant sign painted on it that reads “No Dam, No War” in English. While a declaration of war against the *ratabaan* or government might be overstating their capacities, this statement is a clear indication of their commitment to the anti-dam protests.

Because of this adversarial stance, the state has approached Saiap as defiant. Community members say that state’s response to their dam resistance has been to withhold further government aid or development for many years. There is no medical service in Saiap, and other requests for updates to infrastructures have been denied, the community claims.

Despite the unwillingness of state agents to deliver particular kinds of aid and development, Saiap has thrived through the creative means of local business. Specifically, Saiap proudly produces rice whiskey in a variety of distilleries around the villages. Many people work for the distilleries, filling bottles, working with the grain, preparing and making shipments, or even gathering bottles to re-use for whiskey sales. Walking through the village, it is not uncommon to see boxes and crates of bottles stacked in the lower level of homes. People gather used bottles—primarily used Leo Beer brown bomber bottles—and clean them, removing the labels and using harsh chemicals and small machines to disinfect them inside and out. These bottles are then sold to the whiskey companies and reused in whiskey distribution. This kind of business is reliable and profitable in Thailand, allowing the community to support their own development projects (like building and upgrading the Buddhist temple and grounds) and support the anti-dam protests.

In the NRN, Saiap provides a leadership role. Through their experiences and work with other protest networks (including the Assembly of the Poor and a network of communities along the Yom River who keep each other informed about flood potentials), community members in Saiap offer valuable insight for productive anti-dam campaign strategies. For Saiap, this includes making their alternative forms of hydrosociality visible as I will demonstrate in later chapters.

I learned about Saiap while I was still living in Minnesota, before even conducting my preliminary research. Saiap's community mode of protest has made it a well-known place in the midst of political upheaval over water-beings across Southeast Asia. As one of the first sites to conduct and complete a round of Thai Baan Research with Living River Siam (then SEARIN), Saiap is a model for local research methodologies and anti-dam strategy. Yet I could find little academic literature that claimed Saiap or even the Yom River as a site for considering the complexities of anti-dam work in Thailand. Sites in the Mekong basin are often more popular places to conduct research on the intricacies of anti-dam movements even though the successes have been minimal and tepid in these regions (see Chapters 3 and 5 for more on Pak Mun and Rasi Salai Dam protests) (Foran & Manorom 2009, Ishida 2007). I considered the 25-year history of anti-dam protesting an interesting condition of life in Saiap and was eager to find a way to engage with the community, to find a way that I might be able to offer some kind of work that could be useful for them. My academic approach is that of a critical friend doing engaged work: I hope that my outsider perspective might be useful in helping people see something that might be invisible to them as an insider all the while recognizing that I am learning far more than I will ever be able to give back.

When I arrived in Thailand, other scholars and NGO workers explained that the lack of research in Saiap was because the community was skeptical of outsiders. During my preliminary research, I talked to three people who grew up in Saiap and now lived in Chiang Mai but had not secured an invitation to the village. I began to think Saiap was perhaps not going to be able to be part of my project after all. When I returned to Thailand in late 2013, I connected once again with Kasem. He was heading back to his village with a group of students and he invited me to join them. My first encounter with the village was as one of 20 outsiders seeking to learn about advocacy and local hydrosocialities. Through repeated visits I was able to demonstrate effectively that I was not working for the Thai government and that my work was ultimately meant to demonstrate how the long-term struggle against a recurrent dam development agenda had shaped the community. After that point, I was welcomed in the village a bit more readily. I was even invited to attend the ordination of a local man to the *sangha* or body of monks as the community believed that as an earnest outsider my blessing would earn him even greater merit for his family.

San-Lek, Khan River

The Khan River is a smaller tributary to the Ping River. The Khan River watershed occupies 1840 square kilometers in Shan hills, the foothills of the Thongchai mountain range reaching to Doi Inthanon, Thailand's highest peak. Most of the watershed is part of legally protected areas, falling into either the Mae Khan-Mae Wang or Samoeng Reserved Forests; San-Lek is in a section of forest reserve gazetted for national park development as well (Kanjan & Kaewchote 2004). Moving through four districts in Chiang Mai province, the Khan joins the Ping in San Pa Tong district south of the provincial capital (ibid). While the river is modest in size, it provides water resources for an extensive range of lowland agricultural and industrial practice. Uncertain and uneven flows make the Khan River a site of frequent contestation.

San-Lek occupies a tract of steep, forested lands in a valley where three rivers, the Khan and two of its tributaries, come together. Here, water-beings shape the landscape and socialscape, guiding the possibilities of livelihood practices and the physical spaces for farming and building homes. The village is home to 105 people who practice traditional swidden rotational farming that is considered less harmful to the watershed and forest. The homes are on stilts, built into the hillsides to anticipate mudslides and water moving downhill with rapidity during the rainy season. In the hot seasons, these elevated homes provide shade for the pigs and chickens that roam somewhat freely through the village.

The size of the village, the location, and its relationship to the Thai state keep San-Lek from ever being represented on a map. The road into the village is only maintained by the vehicles and feet that traverse it, not by state investment or design. A few years ago the community built a water storage tank and a common bathroom building out of cement blocks that sits downhill from the water storage, allowing gravity to help fill the cold splash bath. In addition, the only electricity in the village is provided by two solar panels that were gifts of a regional politician who showed them favor at one point. This lack of infrastructure indexes that the community is not a priority in the eyes of state administrators. Unlike Saiap and Baan Mae Roo, San-Lek has no legal rights to the waterscapes and landscapes with which they are related. These conditions place them perpetually in a state of precarity, fighting not just against the dam but for land rights and full citizenship as well.

My introduction to San-Lek was through LRS and my participation in the International Day of Action for Rivers (and Against Dams) that included a three-day hike following the path of the Khan River. I returned to the community on several occasions, but always as part of a delegation from LRS.

Baan Mae Roo, Chaem River

In the western edges of Chiang Mai Province, west of the ridge of mountains that includes Doi Inthanon, Thailand’s highest peak, the Chaem River courses through the mountains en route to flowing into the Ping River. The brisk waters carve a circuitous route from their headwaters over 2500 meters above sea level to 282 meters above sea level as it joins the Ping River (Thanapakpawin et al 2006). As the waters gather in the watershed, they create erosion of the sandy clay loam on the steep hillsides and move through the montane cloud forests, tropical mixed pine forests, dipterocarp, and mixed deciduous forests.

The Chaem River flows through the center of Baan Mae Roo, a Karen community of over 800 residents. The village, perched in the steep slopes of the Thongchai range of mountains (also known as the Doi Inthanon Range), is centered on the river with the village homes extending around the waterway and the orchards, rice, and corn fields extending to higher elevations. Most of the year, the water runs calmly through the village. Children wade into the waters ankle deep to wash their lunch trays while at school, the waters circumscribing the borders of the school yard on two sides. When the flash floods swept through Baan Mae Roo, the village was literally split in half, the two sides separated from each other by the ravaging waters for a day.

Baan Mae Roo is in a Class 1A watershed and a protected forest area. Together these protective actions mean that Baan Mae Roo and its surroundings are to remain in permanent forest cover. The community has been granted community land rights within the protected forest, giving them some claim to place legally. Despite occupying land that is not legally zoned for agricultural practices, the Karen of Baan Mae Roo are all primarily farmers who rely on forest lands and goods as part of their swidden rotations and subsistence. Yet the villagers are also active in district-wide forest conservation activities coordinated by NGOs largely from Mae Chaem city. This collaboration with forest conservation actions has helped residents of Baan Mae Roo create relationships across the district of Mae Chaem.

These relationships are a critical part of Baan Mae Roo's survival and anti-dam campaign efficacy. NGO workers, advocates, educators, and farmers downstream in Mae Chaem city have been important allies throughout the movement. As soon as a dam was proposed on the Chaem River, people downstream from Baan Mae Roo started rallying against the dam. These communities were more adversely affected by the floods of 2011 and the dam implementation upstream would have no negative impact on them; in fact, the dam might prevent such severe flooding in the future and may provide more regular irrigation of fields around Mae Chaem city. However, as Ajarn Lamon, a resident of Mae Chaem city who is an environmental advocate explains, the dam is unwanted for a variety of social and ecological reasons—from climate change repercussions of poorly managed dams to changes in the ecosystems and ecosystem services in and beyond the river itself, to an ethical predisposition to support human lives and livelihoods, to a recognition of disturbing the hydrosocialities that have sustained these places, creating cosmological repercussions. This variety of hydrosocial worlds mobilizes action, perhaps for differing reasons, but under the auspices of a single cause (Fortun 2001, Li 2015, Tsing 2005). This is a demonstration of what Arjun Appadurai (2001: 22) calls "a politics of partnership." For Appadurai, the politics of partnership is where people from divergent, often seemingly opposed, positions are able to engage, interact, and shape futures; it is a sphere of world-making across difference. This politics of partnership has strengthened the anti-dam protests in Baan Mae Roo.

Even with widespread support from downstream, Baan Mae Roo must struggle to make its concerns resonate across terrains of difference. As a Karen community, the members remain in positions of precarity. People with identity cards are marked as Karen, an ethnic minority, giving them less mobility and more cause to be questioned at police and border patrol checkpoints. The Karen population has been severed by the arbitrary lines of nation-state borders and many Karen live in Burma in their own precarious state of persecution and militant resistance. While Baan Mae Roo is far from the Burmese border, the histories of uncertainty, unfairness, and inequality have left many Karen I worked with skeptical of the state.

In addition to this ethnic differentiation, Baan Mae Roo has been a Christian village for the last 80 years. Two churches of different denominations sit on opposite sides of the river and on Sundays, the tunes of hymns can be heard sung in Karen. Two different eras of missionaries from the United States came to this community and guided people to convert to Christianity. While this further singles out the community from the Thai norm (since over 90% of the population in Thailand is Buddhist), it also means that people were less skeptical of me as a foreign researcher. P'Somchai explained that I reminded him of one of his friends, the daughter of one of the missionaries. They had grown up together; he explained that my curiosity (*kwaam yaak ruu yaak hen*) and genuineness (*kwaam jing jay*) made him think of her and made it easy to talk with me. Perhaps because of their favorable experiences with previous foreigners, Baan Mae Roo was the easiest community with which to engage.

The first NRN meeting I attended, I met P'Ong from Baan Mae Roo. After being introduced to the group as a foreign researcher interested in anti-dam campaigns, P'Ong saw my presence as an opportunity. "Come to my village. Come stay with me. We love having visitors and we think you could learn a lot in our village." This invitation was reiterated every time I saw him over the next 3 days of the meeting, often accompanied by a story about his granddaughter or his wife or the school to entice me to come, until I agreed to travel back to Baan Mae Roo with the contingent that had come for the meetings. The community welcomed me, giving me fabric for Karen skirts and a Karen shirt for my partner back in Chiang Mai as well. When I asked P'Ong what I could do to repay the kindness that he had always shown me during my several visits to his home, he answered "Tell our story in English so that people might hear it, understand it, and care." I set this as my goal for my work now and moving forward.

Downstream or the Organization of the Text

This text is my effort to share the stories of the people who invited me into their homes and villages, who shared their knowledges and stories, exasperations and hopes, doubts and successes with me, and who challenged me to experience the world as multiple and differently meaningful. To this end, I have worked to provide an organization that reveals the challenges, disruptions, and materiality of water-beings.

Chapters 2 and 3 offer insights into the political and ecosocial terrains on which the future of water is being negotiated in Thailand. Chapter 2 situates the three river communities in the ecologies of state-making practices and terrestrial policy initiatives. Tracing the political and ecological implications of logging concessions and gazetting of inhabited landscapes as protected areas, this chapter lays a foundation for understanding the ongoing uncertainties that shape everyday life, even before the onset of the most recent dam proposals. Chapter 3 focuses explicitly on how water-beings are implicated in state agendas. Demonstrating the paradigm shifts from water-beings as creative deities to water as resource, this chapter demonstrates how the singularizing agenda of water management is always incomplete and constantly disrupted ontologically, with echoes from the past, resonances in the present, and possibilities for the future.

Chapter 4 is an account of the 2011 floods as disasters that created a rupture of social expectations and an opportunity to configure relationships with water and with other people differently. In the process of reconstituting the world materially and socially, I examine how political priorities and claims are mobilized. In particular, this chapter explores the Thai state’s water management agenda following the 2011 floods as a biopolitical and temporal response that reinscribes particular forms of hydrosociality and creates a suspended set of victims-in-waiting.

Chapter 5 focuses on anti-dam advocacy work in response to the state water management plan. Specifically, the chapter discusses a series of different protest actions that evoke water beings and draw them into the anti-dam protests as political and cosmopolitical actors. The protest campaigns demonstrate the multiplicity of water and the multiplicity of knowledges that circulate as part of everyday life and as part of anti-dam strategies.

Chapter 6 takes seriously the material effects of two seemingly oppositional, yet overlapping discourses on indigeneity and alien-ness. Indigenous is a discourse of global solidarity, yet it is underrepresented as a self-description of upland peoples, even among communities whose struggles align with the global paradigm. By contrast, alien is a discourse that distinguishes unwanted and uncertain material disruptions. Yet how these terms are selectively applied or not is in part shaped by hydrosocial relations and has repercussions for water-beings moving forward.

Chapter 7 concludes the text by offering an analysis of the current condition of the water development plan in Thailand. Further, I relate the dam protests within Thailand to the larger scope of dam protests across Southeast Asia and offer reflections on the turmoil surrounding the development of large-scale dams on the Salween and Mekong Rivers. On these rivers, the political complexities and economic regimes have led to recent disasters that have reproduced conditions of suspension and victimhood in these basins. Focusing on the trajectories of water-beings, the conclusion offers provocations for a hopeful future despite uncertainties and lingering precarity, a hope that the appearance of water-beings in grassroots political movements might in fact reconfigure the future of Thai waterscapes for the better.

Chapter 2

Mud and Negotiating the Politics of Place

It is August, the heart of the rainy season in northern Thailand, and the rains have been heavy over the past week. The three pickups are heavily loaded with a group of visiting activists from communities in the Mekong delta in Vietnam, the Living River Siam staff coordinators for the visit, two *farang* (foreigner) ride-alongs (including me), crates of bottled water, and heavy bags of rice, cooked pork, hard-boiled eggs, cold cooked greens, and spicy *namprik* sauce that we will enjoy for lunch when we arrive in San-Lek, our destination for this trip. Only one group of passengers is seated in the open-air *songthaew*-style pickup for the ride; the rest of us are packed to maximum capacity into the extended cabs of the other trucks with our edible cargo riding behind. While the ride out of Chiang Mai is relatively smooth on the multi-lane, paved road with the cement-lined irrigation and water supply canal running in the middle, the condition of the road progressively diminishes as we move nearer to San-Lek; pavement yields to gravel, the gravel to red clay, now thick, cloying mud after the recent rains. Riding in the front vehicle, our conversations move from the level of the waters in the irrigation canal (according to the Living River Siam worker in the vehicle with me, the water is clearly low after the year's drought, an ancillary but currently prominent justification for a dam on the Khan River where we are heading) to the variety of species of rice growing along the hillsides closer to the village.

The driver slows and conversation halts as we approach a section of road where water and soil are so deeply enmeshed that they have collaboratively created a viscous mud-fall. The thick mud slithers down the hillside to our left, creates a pool out of the mostly horizontal section of hill used as a road until it overflows the capacity of the flat space and cascades in a slow but even stream down on the sharp drop to our right into the dense foliage below. The driver makes a joke about the road that I do not fully hear, but the laughter inspired by his comments lessens the sense of precarity precipitated by the pool of unstable mud we are slowly approaching. The driver moves the pickup carefully into the mud pool, speed reduced and hands poised on the steering wheel, ready to respond to any slip or twist that might emerge as the tires engage the mud. As our tires move us forward, we, the rubber, metal, plastic, and human materials of the truck become an assemblage, transforming through our shared, engaged experience. The driver and truck together with the murky materials beneath us balance the right speed and torque to ensure that our tires, while slipping a bit, are able to disperse the weight of the truck and carry us through the thick mud, leaving deep, imprecise grooves in our wake. Dragging our back tires out of the far side, successfully fording the mud stream, the driver moves us quickly up the road and around the corner to allow room or the next two vehicles to make their way through the pool. Here we wait.

The mud pool, however, is now changed, altered by the disruption imposed by the four tires, metal, and weight of our vehicle and its load. The mud moving with gravity downhill is now carving new paths, careening in different directions as it makes paths around the peaks of mud and refills the valleys, subsuming the irregularities with its moving matter. The mud pool that the second vehicle engages is not the same pool we crossed; the third truck encounters a pool different still. Each element is changed, formed in the momentary entanglement with each other. This is “matter in transition” and each component, itself a consolidation of varied participants, becomes more itself and more different through interaction (McLean 2011: 591)

The second pickup pulls behind us, clumps of mud splattered across its hood and windshield. We wait. After several minutes without the appearance of the third vehicle, P'Aat, our driver, disembarks and walks carefully alongside the narrow road, patches of it slick with saturated clay. In a moment, he's motioning us all out of the vehicles, a broad smile and laugh to provide levity to the current predicament: the third pickup is stuck several inches deep in the mud pool. As we approach, the passengers of the stranded vehicle, mostly visitors from the Vietnamese activist group, have disembarked with bare feet and rolled pants. The men are already taking positions to help push the vehicle out of the mud, their feet sinking as they push against the truck. With people at varied intervals along the back and sides of the truck, we push, heaving the machine up to extract it. The pickup, the technology of transportation so well-equipped to carry heavy loads, is compromised by a substance somewhere between dirt and water, matter in perpetual transition. Putting feet and bodies into the mud, the men lean together against the truck and move with the thick clay that adheres to the tires. In moments, amidst their joviality and muddied feet, the mud releases the tires and the vehicle lurches forward sending a spray of thick, sloppy drops of muck into the air.

Geographically the closest of my three fieldsites, situated on the east side of the foothills that lead to Doi Inthanon, San-Lek routinely proves the most challenging destination to which to get. The complexities of physical access to this place, however, do not index the level of state entanglement with this place. On the contrary, the absence of state infrastructure development and technologies has an inverse correlation to state involvement and indexes strategic effort on the part of the state to only selectively see this community if at all. This muddy situation is both a material effect of San-Lek's complicated relationship with the Thai state (e.g. the limited development of infrastructures like roads) and a metaphor for the upland community's negotiations for rights under the state: full of friction and messy.

In this chapter, I examine how this complicated relationship between upland peoples in San-Lek, Baan Mae Roo, and Saiap and the centralized state produces "a politics of place:

a political struggle over a specific geography, where that geography is understood to be a meaning-laden environment materialized through the cultural practices and memories of its residents" (Choy 2011: 78). For these three villages, the politics of place is about making claims for the ecosocial and hydrosocial multiplicities as state processes of territorializing reduce people and the landscapes they inhabit to legibility in administrative categories. Here I trace three different policy framings that influence state-upland relations: citizenship, forestry, and national parks. These policies have not been static over the last 150 years, but there are critical paradigm shifts that illuminate the development of a modern state. More specifically, these policies shape the uneven political terrain on which these upland communities must negotiate their claims to place and the ecosocial relationships that are central to these places. While none of these policies relate directly to water beings, they all have effects on forms of hydrosocialities by shaping and representing social and material landscapes as spaces of singularizing state projects rather than multiplicities of ecosocial entanglements. In this chapter, I address the idea that

> "the collection of values, practices, sentiments, and social organizations we attempt to apprehend through the culture concept are not merely in people's heads, as Geertzian definitions of culture might have us think, but manifest in an emergent and relational form in the ways people establish tangible yet also meaning- and affect-laden relationships with the their surrounding social, built, and biophysical environments" (Faas & Barrios 2015: 292).

I argue that state policies are a mechanism that shapes policies to obscure particular kinds of people and relations and are also a site of contestation between state agents and upland communities who have a long history of negotiating for the social and ecological relations through which they make place meaningful.

Scholars have analyzed the presences of non-ethnically Thai communities in the Thai uplands, separated from ethnically common communities by the arbitrary boundaries of nation states (Jonsson 2014, Pinkaew 2002, Rossi 2017, Sakboon, Leepreecha, & Boonyasaranai 2017, Scott 2009). In the creation of the Thai state, upland peoples who were not ethnically Thai, are called "hilltribes" or *chao khao* and have historically occupied areas between the kingdoms of lowland kings leaving them in non-state spaces (McKinnon 2011b, Scott 1998, 2009, Winichakul 1994). Yet their existence and ability to thrive was not enabled through a practice of state-avoidance, a strategy touted and reinforced by many of the dominant narratives oriented for a western audience (see Scott 1998, 2009) but rather through selective negotiations and relations between lowland states and upland hilltribe communities to maintain their difference. Hjorleifur Jonsson (2014: 41) argues against over-simplifying the lives and histories of highland communities across Southeast Asia; he argues that

> "highland-lowland interactions are carried out across various divisions and are continually open to negotiation and subject to the various internal politics of elites, upland villages, traders, and other parties. Any definition of the shape and direction of such relations invites the introduction of political or ethical ideals regarding who people are and what can happen through their interactions."

This reframing of relations casts upland peoples as savvy negotiators and engaged political actors.

I suggest these capacities persist in the negotiation of policies enacted by the Thai state, countering the stereotype of upland peoples as unsophisticated, backward, and in need of state assistance (McKinnon 2011b, Pinkaew 2002). This framing inflects how policies are enacted and refused in the context of uplanders in Thailand including the Karen of San-Lek and Baan Mae Roo as well as the Thai citizens of Saiap. As Anna Tsing (2005: 330) suggests, we must "consider the making and remaking of geographical and historical agents and the forms of their agency in relation to movement, interaction, and shifting, competing claims about community, culture, and scale. Places are made through their connections with each other, not their isolation." Each of these policies compels an interaction that disrupts the erasure of communities and each has impacts on the kinds of socioecologies made visible or obscured. While the three communities are differently affected by state policies, there is one commonality: a suppression of people and the socioecologies of place-making through state-sanctioned practices.

Unequal Citizenship

In April 2014, Karen activist Por Cha Lee Rakcharoen, nicknamed “Billy,” disappeared. Billy was helping his community in Phetchaburi Province facilitate a lawsuit against Kaeng Krachan National Park officials for burning Karen villagers’ homes inside the park. Members of his community suspected his disappearance was linked to this lawsuit and was likely the fault of the park chief with whom Billy had long had an antagonistic relationship (Bangkok Post and AP 2014). Protests and entreaties for the state to take seriously this disappearance as at least sanctioned by government officials employed at the park were met with little aid and hope of Billy’s safe return slowly faded. As of 2018, Billy remains a missing person and his case has recently been accepted by the Department of Special Investigation in Thailand (Laohong 2018).

Billy’s disappearance in 2014 sent shock waves through the Karen communities I worked with in the uplands. While Billy was from a different area of the country, he was well-known and well-respected. His disappearance under suspicious circumstances reminded ethnic communities across Thailand of their vulnerability in a state where they were not equally privileged as full citizens.

The precarity of Karen and other ethnic peoples in Thailand stems from the long history of producing the Thai state, a process that paralleled European colonization around Southeast Asia. While Thailand maintained its sovereignty officially through the Bowring

Treat of 1855, the effects of these international pressures did influence the course of Thailand's development. Katharine McKinnon (2011a) suggests that the two most important shifts in Thailand during the period of European colonization included the introductions of modern ideas of territoriality and nationalism. The first, territoriality, resulted in the Kings of Siam laying claim to lands distant from their center of power in Bangkok as a means of limiting the encroachment of European colonizers. This creation of a contiguous territory redefined the sets of relationships of allegiance the upland communities negotiated, relationships that were territorially scattered and crossed the cartographic nation-state boundaries that were being delimited during this time. As McKinnon (2011a: 147) explains it, "highland communities on the Siamese side of the line found themselves literally drawn into the state." "Thailand's frontier century" aligning with this cartographic delineation was a period of incorporating the periphery through various strategies including administrative development (Rajchagool 1994, Turton 1989), agricultural expansion, cultural and linguistic domination, military conquest, development projects (Hirsch 1990) and even medical practice (Walker 1999: 7).

The second shift, the growth of nationalism in Thailand, involved a process of unifying and defining the citizenry based on broadly shared cultural forms used to distinguish who was included in the dominant group and who was minoritized based on ethnic differentiation within the geographic parameters of the new national territory. This process of nationalism was, as Benedict Anderson (2006: 159) describes, "a conscious, self-protective *policy*, intimately linked to the preservation of imperial-dynastic interests." For Thailand, nationalism served the dynastic interest of the Kings of Siam, making them the singular set of authorities and giving them the ability to both claim lands and centralize political power. Even under the auspices of the Bowring Treaty, northern Thailand remained largely a set of semi-autonomous tributary states to the Siamese Kings until late in the nineteenth century (Cohen & Pearson 1998). Integrating these distant places into the kingdom became a priority only as Siam felt threatened by international trade and encroachment by other states on Chiang Mai, Phrae, and other northern tributary states (Winichakul 1994). Paul Cohen and Ross Pearson (1998) explain that in response to this uncertainty, Siam focused on building roads and railroads into the northern region, arguing that these development projects were visible demonstrations of the kingdom's reach and interests, connected northern states to the capital, and also enhanced the ability of centralized military powers to access these regions for security reasons. This integration process also determined who was part of the imagined community and who was not, based on characteristics of a particular version of history that emphasized a lineage of common national identity shared only by some. The Thai national identity was predicated on a shared Tai identity, loosely shared linguistic and cultural commonalities, and allegiance to a single monarchy; others who identified as non-Tai (Karen, Lahu, Lisu, Mien, Akha, etc.) became ethnicized and minoritized within the borders of the state (McKinnon 2011a). These two changes, territorialization and nationalism, colluded to create the the imagined community of the Thai nation geographically and socially (Anderson 2006). While the particularities of Thailand's histories give it a unique non-colonized status, the effects of colonization on regional and global scales affected the regional ethnoscape and relations between the state and upland communities within Thailand (Charoensri 1996, McKinnon 2011a).

Specifically, the nationalist project of Siam created the intentional uneven distribution of political authority across Thailand. Andrew Walker (1999: 9), in his analysis of historical and contemporary conditions of the borderlands region of Thailand and Laos points out that "centre-periphery models often privilege the practices and ideologies of the centre" and that "peripheral areas tend to be characterised in terms of their *absences*, whether they be central power, civilisation, infrastructure, loyalty, or even culture itself." Further, these relations between haves and have-nots become spatially mapped in ways that give center elites authority both to make decisions intended to alleviate the "lack" in peripheral spaces, largely in ways that alleviate their own anxieties. In Thailand, these anxieties have surface in multiple ways with the periphery as a site of potential communist insurgencies and as a site of maladaptive agricultural and river practices that compromise the greater interests and resources of the nation (Bowie 1997, Forsyth & Walker 2008, McKinnon 2011a, 2011b, Pinkaew 2002).

This center-periphery relation has impacts on both ethnic peoples as well as on rural Thai communities. For ethnic communities like the Karen, the effect is repeated strategies of marginalization. The discourse of *chaokhao* signifies "the subordination of the wild primitive to the dominant Thai" and also indexes "a need for mechanisms of control" (Pinkaew 2002: 45). The *chaokhao* colloquially become "the hilltribe problem" for the state (McKinnon 2011b: 41). At a state level, the "hill-tribe problem" has been addressed in varied ways; the first policy strategy was the "single-culture" policy (Vaddhanuphuti 1996: 79-80, Charoensri 1996, Morton 2017). The premise of the single-culture policy was a nationalistic push to create a "utopian construct of a homogeneous nation" in tandem with expanding the Kingdom of Siam itself (Morton 2017: 686). The process was one of slowly assimilating both lands and peoples into the kingdom with allegiance to a shared religion (Buddhism), shared nation (Thailand), and monarch (Morton 2017, Winichakul 1994). However, the progress was gradual and incomplete.

By the 1950s, Thai policy began to shift from the single culture policy to one that recognized difference, yet saw this difference as evidence of pyschological and social incompetencies. Upland peoples legally referred to as “ethnic highlanders” or *klumchatiphan bonpheunthisung* were conceived of as backward people who trafficked drugs and caused deforestation or who were tourist attractions and thus needed state intervention to ameliorate their life conditions. In an era of increased American presence across the region, Thailand’s alliance with the United States in the 1950s and 1960s made the central government particularly concerned about communist sympathizers and border incursions (Bowie 1997, Klima 2002). Since many upland peoples were part of communities that were not confined by state borders, they were perceived as security threats (Bowie 1997).

It was not until the 1980s that the Thai government declared a culture policy that officially began to recognize tribal cultures. The third article of the policy states: “the government will promote folk and ethnic culture and encourage the people to understand, value and recognize each other’s culture in order to exchange culture which should lead to peaceful co-existence, the atmosphere in which people learn to appreciate their own cultures” (qtd in Charoensri 1996: 76). The effects of the policy have been moderate at best, focusing on recognition in the arts and programs to preserve community knowledge (Charoensri 1996). Finally, in 1992, the Thai government even went so far as to claim that all people within Thailand’s borders are considered Thai, with the same rights afforded all Thai citizens; this has been reaffirmed by subsequent constitutions (Morton 2017).

In practice, however, the communities are all still considered minorities or hilltribes a framing that scholars have argued creates an enduring sense of difference between upland and lowland peoples (Pinkaew 2002). These differences are evident in a variety of ways. First, upland communities do not have full citizenship rights. Mukdawan Sakboon, Prasit Leepreecha, and Panadda Boonyasaranai (2017) elaborate the complex processes and obstacles to gaining citizenship including extensive and changing documentation requirements, corrupt officials requiring bribes, and the ways that identification cards still index ethnic belonging in ways that leave people vulnerable to ethnicized discrimination. This lack of citizenship or partial citizenship also translates into denial of land tenure rights. As Craig Johnson and Timothy Forsyth (2002: 1594) argue, “command over property and other forms of entitlement often varies with one’s ability to claim and maintain a right, either in the eyes of the state or another source of authority. Moreover, eligibility to claim one’s rights can depend on the existence of other fundamental rights such as citizenship.” As a result, these upland communities have neither official rights to their land nor full citizenship rights and thus also lack avenues for recourse in the political system.

San-Lek and Baan Mae Roo community members have been fighting for these rights for decades. As communities that claim to have preceded the development of the Thai state, they see the law as standing in the way of rights and relations with the material world that the state should not be able to control or dictate. Padii Sah explains that he is part of the movement of the landless poor, a collection of people who share this position of precarity and the impoverishment that comes with it. The landless poor movement in Thailand fights to gain the official documentation and standing people need within the Thai state to help secure their place legally.

In Saiap, the effect of citizenship laws is experienced differently. The community is Thai and therefore has full rights in the eyes of the state. However, protesting against the Kaeng Seua Ten Dam resulted in unofficial state sanctions against Saiap starting in the 1990s. According to P’Som, the state stopped providing any money for local development such as clinics, temple construction, an infrastructure. Perhaps the strategy was not to invest in a community that might not exist for long should they be displaced for the dam or perhaps it was a form of siege. Either way, P’Som explains that local industry compensated for state sanctions. Saiap is home to a thriving Thai whiskey industry that helped pay for temple improvements, a local public announcement system, and other resources needed to continue resisting the dams.

I offer this background information on the status of citizens as it inflects the political grounds on which these communities can make claims to place, space, water, and the socioecological assemblages that comprise them. The next sections demonstrate how these political configurations influence relationships between the state and local upland communities over trees and material geographies.

Forest as Resource, Forest as Place

As we walked through the golden teak forest inside Mae Yom National Park, Pho Sak, points out the stumps of golden teak trees from the era.

> "See the jagged edges of the cut? And see how tall the stump is? This is how we know this tree was cut by the British Asiatic Company. They only took the golden teak trees and they only wanted the biggest ones. They had to be at least 250-300 centimeters around for them to be interested in taking them. The trees were cut by hand at that time so cutting close to the ground was too difficult. They built scaffolding and cut the tree about a meter up from the ground. Then the trees were pulled out of the forest by elephants and when they had dried enough and were light enough, they would be floated down the river."

As Pho Sak speaks, we continue to walk through the woods, the fallen leaves indicative of the early dry season crunching under our feet and the buzzing of large horseflies captured on my recorder. The road we walk is large enough for a single vehicle to drive it, but the hilly terrain leaves the road deeply rutted from the rainy season downpours that carved trenches enroute to the rivers and *huai* (small streams), some of which are are only filled with water seasonally.

> "Later, the technology changed," Pho Sak says. "See that tree with a smooth top cut closer to the ground? That was cut by the second company, a Thai company, Chat

> Thai Boon, that cut later. They had electric saws so they could cut close to the ground. The Thai company took every kind of tree. Golden teak trees would be taken at 200cm around; other trees like Rosewood would be taken at 150cm. What is left here are the trees that were too young to take at that time. There has been a national ban on logging since 1989 so the trees here are no longer logged by big lumber companies. Now they grow."

Pho Sak went on to further explain the strong prohibitions in place in Saiap to ensure that the forests were protected including tree ordination ceremonies (see Chapter 5) and local regulations that prohibit anything harvested in the forest from being taken out of the village. This includes teak and other woods that might be used in building homes as well as plants, fruits, and herbs used in cooking.

The stumps in Mae Yom National Park are remnants of Thailand's early statehood enterprises. In the following pages, I offer a brief analysis of Thailand's logging concessions and local forest practices to negotiate them. I demonstrate the effects of logging on relationships between the state and communities upstream as well as with the material landscape and waterscape.

Logging Concessions and Deforesting Thailand

In 1855, the Bowring Treaty facilitated the expansion of the Kingdom of Siam to geographic borders somewhat fluidly mapped and contested with colonial authorities (Winichakul 1994). This treaty was part of the incursion of western forms of knowledge-making that would shape future assemblages with humans, ecologies, and water-beings in Thailand. As a process of forming a geo-body, Siam relied on western disciplines and practices like surveying and geography (Winichakul 1994). As historian Thongchai Winichakul (1994) explains, western mapping technologies, as representations of the earth's surface within nation-state boundaries, naturalize a particular reality and also simplify the relationships between people and the materialities of place. Instead of cosmological connections to soil and water as sources of commonality and genesis, the geo-body naturalizes commonality through objectification of bounded territory empirically defined by mapping technologies rather than by belief or everyday practices (Winichakul 1994: 133). This epistemological shift reconfigured not only the boundaries of the Kingdom but also the assemblages of relationships among humans and nonhumans like trees and water as well as relationships between humans and the newly emerging state.

As an agreement that liberalized foreign trade with Kingdom of Siam, the Bowring Treaty is commonly touted as the key strategy allowing the Kings of Siam to maintain Siam's independence from foreign colonial authorities (Osborne 2004). Yet this sovereignty was not without negotiation. As Hong Lysa (2004: 328) explains, the treaty compelled Siam to conceded rights to stipulate import and export duties to the British. According to Suphawat Laohachaiboon and Shinya Takeda (2007), this left Siam vulnerable to resource exploitation and teak wood was a primary target. Under these auspices, the Siamese authorities slowly and progressively asserted their authority over the north, increasingly using water, forest, and other natural resources as ways to control growing populations within the range of the kingdom and to fulfill these treaty obligations. This treaty paved the way for an era of unprecedented logging, felling trees not in the customary practices of swidden farming, but instead for international trade.

Logging concessions were among the primary mechanisms by which relationships between upland peoples and the central administration as well as human-nonhuman relations were reconfigured. The regulation and allocation of water, like that of other natural resources, became a method of controlling peoples through what Nancy Lee Peluso and Peter Vandergeest (1995: 385) call "internal territorialization." As Peluso and Vandergeest (1995: 388) explain it, "territorialization is about excluding or including people with particular geographic boundaries, and about controlling what people do and their access to natural resources within those boundaries." For example, Siam extended state management of forest resources through the Royal Forestry Department (RFD). The presence of state agents to enforce regulations, by extension, managed the populations living in and using those forests, shaping their behaviors and making the populations legible to the state (Forsyth & Walker 2008). Simultaneously, these management regimes made water and forests "resources" in the eyes of the state, obscuring the relational ontologies that shape human-nonhuman assemblages otherwise in the uplands.

Even as the socio-ecological effects were ever incomplete, over time these logging concessions created ecological effects that could not be denied. Leaders in Thailand and the RFD began to recognize that this extensive logging was having effects not just on relationships with upland communities whose territories and lands were being made legible through state encroachment and logging concessions, but also on the overall ecological health of Thailand's ecosystems. Under the dictatorial leadership of Field Marshal Sarit Thanarat, new goals were set in the 1950s to maintain 50% of Thailand in forest cover; still the forest cover continued to diminish (Kanjan & Kaewchote 2004). Between 1961 and 1985, the percentage of forest cover for the entire nation of Thailand decreased from 53.2% to 29.05% (Hirsch 1990). In Northern Thailand, the most forested area of the nation, the forest cover diminished from 68.54% in 1961 to 49.59% in 1985 (ibid). For the decade of 1980 to 1990, Thailand held the shameful distinction of being the most rapidly deforesting nation in Southeast Asia, losing 2.6% of its forest cover annually (ibid). This kind of rapid alteration to forest cover creates substantive impacts on the overall ecologies, biodiversity, and watershed quality in addition to putting strain on human practices and relationships (Trisurat 2018). In Thailand's southern provinces, these effects became linked to disasters and loss of human life as well. In November 1988, massive floods caused mudslides that buried two villages in Nakhon Si Thammarat Province. The mudslides killed Thai citizens, devastated the land, and were traced back to hills denuded by illegal logging in the area and subsequent erosion (Fahn 2003: 109). In response, and to remedy the problematic effects of deforestation across Thailand, the state banned commercial logging in 1989. In the ensuing years, the overall forest cover began to increase slowly; by 2008, the forest cover had reached 33.40%, an improvement, but still a paltry percentage compared to the pre-logging concession days (Trisurat 2018).

Despite the suspension of logging concessions and the increase in forest cover, Thailand's forests have rebounded slowly and blame has increasingly been placed on upland peoples who have uncertain rights to their land. Often, these communities are situated on lands that have been claimed by the state as previously unclaimed or empty. These communities, like Baan Mae Roo, San-Lek, and Saiap, are comprised of people who live in and have relationships with these forests as part of their everyday practices.

Forest Reputations

In the heart of the hot season, I join a large group of hikers participating in a protest movement by learning about San-Lek. The hike is beautiful if a bit treacherous. Our route leads us through the village and around the paddy fields, now dry and empty, the earth cracked and waiting for the next rainy season. We follow narrowing paths as we weave across the Khan River and its tributaries multiple times. At times, we follow the paths of water buffalo, encountering the large animals as they bathe in the waters or rest in the shade of low growth near the water's edge. The animals are connected to San-Lek, cared for and raised as free-roaming animals by different local families.

On the second day of hiking, we walk through the front line of a slow-burning forest fire, the remnants of a fire to clear a field that had spread to the adjoining woods. Walking with an independent photojournalist and a set of hikers from Saiap, one of the hikers pulls out a machete and begins clearing a path, laying down bamboo and stamping out the fire ahead of us. Covering our mouths with cloth, we walk hurriedly through the line of fire at calf-height. Behind the line is a wide expanse of forest with the underbrush layers thinned and blackened from the fire moving through, but the taller trees robust and healthy above the fray.

Not accustomed to walking through forest fires, my curiosity (and anxieties) are piqued. I ask the group I am walking with if I should be nervous about the fires. One of the Saiap hikers responds that there is nothing to be concerned about; the river would stop the fire. As if to preempt my next question, one of the villagers from San-Lek, a young man who would later translate between Karen and Thai for me to talk to village elders, explains that the fire was probably the product of burning paddy fields in the uplands; he assumes that someone had let their fire get out of control. “No one from our village though. We don’t burn our fields.” It seems important to him to express the care and conservation ethics performed by his village and in particular to dispel any idea that this community might participate in burning fields.

Burning fields has a long history as part of rotational farming practices. The burning process creates nutrient rich soils in which to plant the next iteration of crops. However, this practice had also been vilified as compromising virgin forest cover. In environmental narratives in Thailand, “rural people have often been depicted as villains whose cavalier actions pose direct threats to resources rather than as indigent people whose welfare is intimately tied to the state of the forest” (Flaherty & Filipchuk 1993: 263). This framing draws attention to two ways of seeing these populations, both of which have history in the policies and apparatuses of the Thai state. As the state lay claim to previously open access land, it limited the ways people were able to claim rights and sustain themselves in rural Thailand. Forest laws “racialized access to forest products and land in ways that left powerful postcolonial legacies” (Peluso & Vandergeest 2001: 791). There is a dueling set of conceptions about the capacities of upland peoples: either they are perpetrators of ecological harm or they are victims of state expansion in need of interventions and development aid (McKinnon 2011b). However, these two articulations are lacking in two ways: first, there is no discussion of the variations in peoples in upland areas; and second, this framing diminishes the possibilities of agency that is not destructive, agency to participate in the state apparatuses not as perpetrators or victims, but as people with their own place-based epistemologies and socialities.

In reality, the discourses about upland people do not credit all ethnic minorities in Thailand in the same ways. The Karen have a reputation of being subsistence farmers, practicing responsible rotating cultivation (*rai mun wian* in Thai) for subsistence (Forsyth & Walker 2008, Pinkaew 2002). According to Tim Forsyth and Andrew Walker (2008: 73), “this subsistence orientation is also commonly linked to sophisticated systems of local ecological wisdom and selection of land for *rai mun wian* cultivation.” Given this more generous perspective from the Thai majority, the Karen operate relatively unimpeded by the prejudices that harm other groups (see Chapter 6 for more detail on rotational farming). Other ethnic minorities, like the Hmong, are plagued by negative stereotypes about their ecological practices that are largely proxies for political distrust of communities previously active in opium cultivation and viewed as communist security risks (Forsyth & Walker 2008, Pinkaew 2002). In San-Lek, demonstrating that they are environmentally conscientious is a way of reaffirming the more favorable reputation that is offered to Karen peoples for their ecological ethics; it is a demonstration of their commitment to aligning their practices with state policy about forestry and the conservation of forest cover. As such, it illustrates that these communities are neither victims nor perpetrators but actively shaping their relationship with both the state and with local ecologies in strategic and intentional ways.

These demonstrations of aligning with national objectives become central components of anti-dam protest strategies. Even while countering one state policy, the communities I work with are careful to demonstrate that their protests are in fact in alignment with other policies. In Chapter 5, I discuss the example of ordaining trees as a conservation act in alignment with state policy, but enacted in an area that would be compromised by the development of dams, a set of projects enacted by different state policies. These practices highlight a paradox of state management of natural resources: the policies themselves overlap and contradict each other at times. These overlapping commitments of state agendas make it challenging for upland communities to know how to best assert their needs and claims.

Concerns about watershed quality and deforestation together led to the next set of policy practices that have become a medium for negotiating the complicated relationships between rural communities and the state: the gazetting of land into protected reserves and national parks. The next section demonstrates the state's effort to further counter the ills of deforestation and ecological change through policies of protected areas. These policies are even greater challenges to upland peoples' claims to place and relational ontologies with nonhumans.

Protected Lands, Protecting Places

"You traveled here alone? You came by yourself? Wow. You are strong." After traveling by four different forms of transportation to get to the village (motorbike, bus, songtaew, and pickup), and after traveling for six hours for a journey that should take three, I was feeling pretty strong. Yaay, the grandmother who owned the house and shop where I stayed in Saiap, made this statement, a bit incredulously. However, she was not impressed by the duration or varied forms of transportation my trip necessitated, but by the fact that I, a woman, traveled alone without either the protection or camaraderie of a friend to share the journey. Making the journey alone as a woman was considered dangerous; perhaps because I was a foreigner and unaware of what might constitute danger, it never seemed dangerous to me so much as complicated.

Getting to each of the villages in which I work involves a complicated series of steps. For San-Lek, the only way in is a four-wheel drive vehicle (unless you are brave and skilled on a motorbike). In the same way that the road grows less distinguishable for its forest surroundings, power lines disappear closer to the village; the only electricity is provided by two somewhat aged solar panels. To get to Baan Mae Roo, I could drive myself, preferably in a four-wheel drive vehicle, though the road was under construction in 2014 and improved access through the forest reserve lands. On occasions when I rode with locals into the village, the return trip proved complicated: to get back to Chiang Mai from Baan Mae Roo, I rode in the back of a pickup truck down to Mae Chaem City and then rode with 24 other passengers in a yellow songtaew back to one of the roadside stops a couple kilometers from my apartment building. From there, I hailed a red song-taew inside the city limits to take me to the end of my lane and walked the final few blocks home. *Songtaews*, meaning "two rows," are inter- and intra-city modes of transportation equipped with at least two benches in the truckbed (sometimes a third bench is positioned down the middle) and a modified hardcover over the back with sliding fiber-glass panes for windows. The benches allow for a maximum of passengers and the cover makes the truck functional for all-season transportation. For a standard fee, passengers can hail the pickups for different locations designated by their color and licenses in the windows. Inside the city, passengers negotiate to be taken to different locations as part of a ride-share system; if the driver is going that way, he or she might accept another passenger but if not, you may have to wait for the next ride. Getting to and from Saiap involves a bus drive to Phrae city in Phrae Province, an overnight stay in a local guesthouse, and then catching a maroon song-taew at the market in the early morning that will drive into Saiap.

These two sentiments—that it was dangerous and onerous to make my way to the villages—did not mean that the communities were therefore not engaging with the projects of the state. Instead, all three are located inside the borders of national parks or on forest reserve lands. I take the challenges of getting to each village as part of a larger state strategy of obscuring the presence of villages within park borders. In this section, I discuss Thailand's policy practices around protected lands and the political negotiations of people living in these places to protect the ecosocialities and hydrosocialities that make these places meaningful.

Protecting by Policy

Beginning in the 1930s and 1940s, Thailand's Royal Forestry Department began gazetting tracts of land for the "formal reservation of forests through a permanent excision of substantial areas from the broad category of state land" (Peluso & Vandergeest 2001: 781). These practices paralleled the rise in awareness of deforestation across Thailand. As economic development agendas created more and more environmental challenges, from water and air pollution to biodiversity loss, wetland degradation to soil erosion, and compromised ecosystem services broadly, the Thai government's commitment to protected lands grew (Delcore 2007, IUCN 2018, Trisurat 2018). To address these concerns, the Thai state passed the Wild Animals Reservation and Protection Act in 1960 and the National Parks Act in 1961 (International Centre for Environmental Management 2003: 28). Signed into law during Sarit's tenure, these acts allowed protection for previously open access lands. Mimicking the U.S. model, these were natural lands for national park purposes dictated by the powerful centralized government. As of 2015, Thailand has 147 national parks, 58 wildlife sanctuaries, 67 areas that prohibit hunting, and 120 forest parks (Suksawang & McNeely 2015). Administered by the National Park, Wildlife, and Plant Conservation Department (DNP), part of the Ministry of Natural Resources and Environment (MNRE) since 2002, these protected areas are nearly 20% of Thailand's overall territory (ibid).

The project of gazetting land for public park space served two key administrative agendas: performing a global ethic of bioconservation and environmental protection through state policy and, perhaps a less globally popular ethos of rendering people from the rural periphery visible, legislated, and ideally relocated. The communities that were not relocated and remained illegible to the state became strategically invisible; without acknowledging the populations, the state could feign ignorance and eschew its responsibility to inhabitants like the Karen of San-Lek.

San-Lek is situated inside the borders of Op Khan National Park. The park was gazetted in the 1990s, but with nearly 600 square kilometers, Op Khan is still being developed as both a conservation space and tourist destination. The park station is only a short distance into the preserved lands at a scenic spot on the river where tourists from nearby Chiang Mai come to play in the shallow pools in the hot season. San-Lek is upstream from this pocket of park development. The village is perched along the steeper edges of the Shan

Hills in northern Thailand, the range that builds into Doi Inthanon, Thailand's highest peak. In the brochure for the national park, the Thai Department of Natural Resources acknowledges that along the various hillside streams there are villages; this tepid public admission of human habitation counters all other behaviors of the state toward the villagers upstream who use the waters and land for their existence. The state's action is not to engage this community, but to obscure its presence because that presence complicates that national park ideal; thus the road maintenance diminishes and power lines cease on approaching the village. Further, the Karen villagers have never been given land rights to occupy this space. For many indigenous peoples around the world, the instantiation of a protected lands translates to being

> "coercively dispossessed and displaced, often without compensation, when their territories were expropriated to create uninhabited nature reserves. Others have managed to remain in their homelands, but they have been deprived of self-governance, denied access to livelihood resources, and prevented from maintaining their cultural practices, social solidarity, and relationships with their territories and 'nature'" (Stevens 2014: 3).

While the Karen in San-Lek have not yet adopted the nomenclature and global solidarity of "indigenous," they recognize the threats of displacement and deprivation seen by people in other protected lands scenarios. Without any legally recognizable documentation of land tenure, these communities are at heightened risk. For this reason, several of the community members actively participate in protests for the landless poor to try to gain legible legal rights to their lands. As P'Rut explains it, "there are 4 issues that this community faces. The first is the dam that is proposed. The second is the need for land titles. The third is the need to build a community school in the village. And the forth problem is that that government has declared this area as a national park. So we work and campaign around these problems."

State agencies have historically tried to provide tenancy programs for some subsets of rural forest dwellers; "many of those who in the past illegally occupied forest reserve land have been granted legal tenure under schemes run by the Public Welfare Department, Agricultural Land Reform Office (ALRO), and a host of other agencies" (Hirsch 1990: 170). The most prominent program was Sor Tor Kor (STK) initiated in 1982 by the RFD. The program aimed to offer "limited land rights to the more than one million residents occupying forest reserve land illegally" by providing them with usufructory land licenses (Hirsch 1990: 171). In particular, residents could claim 2.4 hectares of land for five years; this is smaller than the usual 5 hectares most farmers require for subsistence and that relinquished land is supposed to be reforested (Hirsch 1990). After five years, the license would be renegotiated. The intent was to "rationalize the situation of land tenure" in these areas (Hirsch 1990:171). This bold state effort sought to recognize habitation of state reserve lands and mitigate the environmental effects on the parks. Yet in practice, a usufructory license is not a legal claim to ownership of the land. The STK scheme, like all the others, provides little security for rural farmers.

In his analysis of land-tenure processes in Thailand, Hirsch (1990: 169) points out that "the legal status of forest reserve land is not as simple as it first appears…the Lands Department of the Ministry of the Interior collects agricultural land taxes on this land. Tax receipts are frequently used in lieu of title deeds, not only in land transactions between farmers, but also in negotiations with state authorities." These tax receipts offer legal documentation of residency and state participation, but provide little promise of formal claim to the land. Instead, it is an avenue by which communities are brought into the state apparatus—paying taxes—with little of the social benefit of these taxes ultimately returning to them.

By contrast, Baan Mae Roo and Saiap are both within the borders of protected areas as well (a forest reserve and Mae Yom National Park respectively), but have community land-tenure rights. For both communities, the state allocated land to the community to be distributed among the community members. The land-tenure rights are held by the community, not the individual; the intent is to have the community use the land, abiding by regulations of watershed classification, but not sell the land beyond the community. Saiap's practices around community land tenure involve leasing land to people who want to use it for farming or reforesting. In Baan Mae Roo, community titling allowed the community to participate in reforesting areas in critical upland watershed zones; however, some of this forested area has been diminished since the introduction of more extensive maize farming, compromising forest cover, soil resources, and watershed quality (see Chapter 6).

While there is globally-recognized value in creating protected areas for bioconservation, ecosystem services, and sustainability, state practices for creating these territories have great costs to people whose place-based relationships are upended in this pursuit (Stevens 2014, Trisurat 2018). In addition, the security of national parks and protected areas is complicated by state agendas (Stevens 2014). Several of the dams proposed as part of post-2011 floods water management scheme would reconfigure protected lands, compromising their integrity and the purposes for which they have been protected. The development of protected areas in Thailand is both racialized and a project of negotiation among local communities and the structures of governmental territorialization (Delcore 2007, Roth 2004).

The Ecosocial Supermarket

The state production of protected lands may work to obscure the local practices and peoples within the park borders, but the process is never fully complete. Instead, there are local practices that disrupt the universalizing paradigm of protected lands. As Anna Tsing (2005: 1) writes, "universal claims do not actually make everything everywhere the same." The ethos of biodiversity conservation cannot make the practice of protected landscapes the same everywhere; there are differences materially, socially, ontologically, and politically that create friction and demonstrate the work of making meaning in place (Tsing 2005).

As Forsyth and Walker (2008) explain, beginning in the years after the 1989 logging ban, the Royal Forestry Department began posting signs across northern Thailand that tied the health of Thailand's river systems—and by extension the rice crops enabled by them—to healthy, forested uplands. Forestry officials codified the narrative that forests create climatological conditions ideal for producing rainfall and collecting it. Specifically, forests are framed as moist areas that have high rates of evapotranspiration and simultaneously act as sponges for carbon sequestration. By framing forests as invaluable to hydrological systems, reforestation policies become watershed policies as well. Across Thailand, key watershed classifications are shaped by forest cover qualities (Kanjan & Kaewchote 2004). These state discourses make these places meaningful through the application of scientific expertise and logics.

In Saiap, the protection of the teak forest is paramount and protecting it allows the community to produce their identity as rigorous conservationists and dutiful citizens. Specifically, residents of Saiap are preserving one of Thailand's only remaining golden teak forests, a feature of which the community is intensely proud. The practices of maintaining and even increasing forest cover across the region align with the state's ongoing campaign for improved watersheds through improved forest cover. At a local level, however, protecting the forest means ensuring provisions for the local community members and demonstrating a commitment to community values. As one young boy expressed when prompted by his dad, “*Baa yuu ben* supermarket *khong raw*!” or “the forest is our supermarket!” The plants, herbs, and fruits that grow in the forest give people in Saiap an ample supply of foodstuffs. The community regulations that no forest products may leave the village facilitates sustainable resources use; the assumption is that community members are less likely to over-harvest forest foods if they are not taking them to sell in downstream markets. Community members can, however, sell food products that they grow in their own plots allocated by the community. Community members explain that these are regulations, but they are not enforced because enforcement is not necessary. Kasem explains the relationship between these regulations, the community, and the forest as circular and intertwined: “To be part of the community, people must practice these forest values. Because without the forest, there is no community and without caring for the forest this way, there is no forest and no community.”

This explanation points toward a set of ethical, political, and economic values that define this place as meaningful in several registers. More than that, the sentiment expressed by local community members toward the forest demonstrates a kind of ecosociality that thrives not in spite of human entanglements but because of them. Tsing (2005: xi) explains that through her work in the Meratus Mountains of Indonesia she learned to see that “the forest landscape is *social*…a terrain of personal biography and community history.” I began to see these socialities during repeated visits to each village. For example, most of my visits to San-Lek involved extensive hours of hiking through the forests, crossing rivers, working to read the age of forests that are part of swidden rotations and marveling at the embodied skill of young boys catching fish with spears. As we walked, Padii Sah stopped occasionally to point out part of the lush multispecies spaces of the forest. Anytime we walked together, he could not help but try to teach, to demonstrate the depth and breadth of local counterknowledges. A mushroom that looks like an egg here is a delicacy; that one over there, that my untrained eye could not distinguish from the first, is poisonous. That tree is part of a section of forest that cannot be entered by women; another tree just a few meters away is regularly climbed for the fruits at the top. These forms of forest knowledge are offered in part to educate schoolchildren with place-based insights. Khru Dokmay moved to the village from Bangkok several years ago and began developing place-based local curriculum. Three years ago, the curriculum was officially approved by the Thai state and validated as sound pedagogy for the small school in San-Lek that draws students from nearby villages as well. Padii Sah also offered his forest expertise as a demonstration of community forestry practices that work to maintain Thailand's forest cover sustainably and as a demonstration of his history and his place, of the place of humans within the complex and emerging ecologies of the forests.

Yet the social history of these ecologies is not only that of humans, but of the ecosocial assemblages that have emerged through these entanglements. While protected areas discourses historically focused on the absence or removal of people to allow spaces to be wild and unencumbered with humanity, this is predicated on a false assumption that human presence is an intrusion and problem rather than part of assemblages through which novel ecologies emerge (Kirksey 2015, Tsing 2014, 2015). Through these multispecies, multimaterial entanglements, worlds are produced that cannot be captured in the scientific framings of deforestation, bioconservation, and protectionism. Instead, these are worlds that enfold these species and materials into each other.

Without explicitly identifying this phenomenon, Thailand's forestry practice has begun to embrace a kind of collaborative forestry. In 2007, Thailand passed a community forestry bill which "allows people living in forests to participate in forest management and to support government forestry efforts to protect forests" (Fox 2014: 257). This aligns with the shift in global conservation practice which recognizes the overlapping worlds of people and some of the world's most important and diverse ecologies (Stevens 2014). In 2008, the IUCN recharacterized what constitutes a protected area as "a clearly defined geographical space, recognized, dedicated and managed, through legal or other effective means, to achieve the long-term conservation of nature with associated ecosystem services and cultural values" (Dudley 2008). Still, not all communities in Thailand are given equal rights or opportunities for community forestry practice (Delcore 2007, Hares 2009). While community forestry tries to reformulate the parameters of social-natural spaces, these are still negotiated through the metricsof the state. Community Forestry becomes just another way through which local communities navigate and negotiate their complicated relationship with the state in order to maintain the networks of ecosocial and hydrosocial relations that make places meaningful.

Irrespective of the policy framings and yet influenced by them, these protected areas of Thailand's north are social places, overflowing with human histories and meaning, and also material places. The social and material elements of place inform each other and shape Thailand's waterscapes. The next chapter delves more thoroughly into water as a specific form of resources and place. In Thailand's development agenda, water becomes a site of social contestation as certain hydrosocialities are privileged by policy and others obscured. Yet water differs from forests in its movement and diffuse agencies, making it both more ontologically slippery and more materially untameable. The following chapters demonstrate how water's multiple realities continue to percolate through human mechanisms for water control, causing temporal and ontological disruptions with every unexpected, unpredictable flow.

Chapter 3

Scales of Hydrosociality

Even from to entryway, I could hear the hum of a bustling crowd in the main hall of the Wangchan Riverview, a hotel and conference center on the west bank of the Nan River in Phitsanulok, Thailand. Inside the hall, a few hundred people were gathering to discuss the future of of the Chao Phraya basin, the river that cuts through rice paddies and industrial estates of the central plains, curves through the Thai capital of Bangkok, and empties into the Gulf of Thailand. Convened by the Royal Irrigation Deparment (RID), the meeting was one of several across the country that invited community members to express their water concerns, interests, and needs to state authorities. As a statement of the scale of the RID's work, the public sessions were organized by watersheds and basins: the northern border rivers that drain in the Mekong basin, the rivers of the northeast region referred to as Isaan that also flow into the Mekong basin, the watersheds of peninsular Thailand, the Chao Phraya basin in the central region, and the meeting I attended for the northern watersheds of the Ping-Wang-Yom-Nan quartet of rivers that flow together to form the Chao Phraya.

This series of public meetings arose at a pivotal moment for water in Thailand: after the floods of 2011 and ensuing announcement of a water development agenda including 21 new dams, after the peaceful military coup of May 2014, and before the new regime had made any official statements about their own plans for managing water in Thailand. Preceding the coup, Thailand was in a position of political upheaval, with protests between red shirt and yellow shirt political factions growing increasingly contentious and confrontational (Vanijaka 2014). While reducing democratic functions in the nation is problematic, the 2014 coup had the effect of stemming the unrest before more violence erupted and also created a moment of civil pause. While this pause was ultimately enforced with seemingly unwarranted detentions and calls before a military tribunal, there was a short interregnum where the allegiances and plans of the military leadership offered hope: hope that there would be less violence and, importantly for the communities in the northern region, hope that the development plans of the previous administration would be cast aside like the administrators from whom they originated.

It was in this period of suspension that the RID decided to foster good will with public listening sessions organized around all of Thailand's main watersheds, thus encompassing the entirety of the nation's population based on geographies of water. The public hearings were part of the new administrations review of the master plan for water development before it released its own agenda. One of over 40 agencies responsible for governing water in some way in Thailand, the RID was not responsible for designing the unpopular post-flood water management strategy but would ultimately be responsible for managing the waters held in catchment ponds created by the proposed dams. In effect, the RID would be the enduring face of enforcing this form of water governance on the upland people who want it least. While their position was complicated by ongoing uncertainty in the condition of the Thai government, this absence of development clarity was also an opportunity to demonstrate their community engagement and, amidst the uncertainty, work to leverage a role in defining water management strategies moving forward. The political upheaval, martial law, and constitutional precarity, however, meant it was unclear whether or not they would have the authority to take any real action to respond to the needs expressed by community members at these meetings. Nonetheless, the number of attendees both from the RID and from communities across northern Thailand confirmed that at least the session in Phitsanulok was considered valuable to both the RID and the communities and demonstrated open lines of communication and hope even if they could not provide clarity on Thailand's water futures.

These meetings across Thailand also confirmed that the watershed is a primary organizational scale and structure for both the government agency and local communities. Each meeting collected a series of people from particular watersheds that were part of a larger river basin. Rather than drawing parameters for participation along provincial lines, the RID recognizes that water crosses political boundaries and therefore organized the meetings by basins to align with the movement of water that guides their work. By design, the meeting progressed from the scale of basins to increasingly smaller, more local scales, effectively rendering the local scales as nested within the larger. After spending the morning focused on the Chao Phraya river basin and basin-wide concerns about water provisions, floods, and droughts, the meeting then segmented into smaller groups organized according to each of the four tributary watersheds, the Ping, Wang, Yom, and Nan. This framing reinforced the position of these watersheds as contained within the larger basin and the issues of the larger basin as necessarily the issues of all its internal parts.

The organization of the RID sessions in Thailand and their popularity according to attendance, affirms that the watershed is a prominent spatial and ecological scale for understanding water and enacting water governance in Thailand, as it is on a global level (Molle 2006, 2007, 2009; Sneddon & Fox 2015). Equally important, however, is the reality that people recognize themselves as residents of watersheds and appreciate the relationships of their watersheds to the larger basin as well. Referred to as *lum naam*, watersheds are a common way for people to articulate where they live, indicating both a level of water literacy, and a level of knowledge about water management paradigms in Thailand as well. Whether due to power differentials or genuine agreement, people from all over Thailand abide by these regimes of water management at the macro-scale of watersheds and basins, learning it as the state paradigm and recognizing themselves as watershed-specific residents embedded within the Chao Phraya basin.

However, this scale and the perpetuation of ideas of nested scales, is neither natural nor apolitical; the watershed scale formed through an assemblage of expertise and materiality and has been codified in political and development agendas (Biro 2007, Molle 2006, Norman & Bakker 2009). The selection of spatial scales through which to understand, study, and intervene in water systems is always political and has impacts on modes of hydrosociality that are perpetuated, respected, and deemed relevant. In this chapter, I analyze the ways that scales of water are invoked and how these scales create uneven social and material effects in the Thai context. As explored more thoroughly in the introduction, I approach spatial scales as epistemologies that frame how people see and relate to the world, demarcating what is valued by what a conjured scale marks as important. Warner et al (2014: 91) explain that "scale frames can be understood as sense-making devices for understanding reality and organizing action." Scales are thus not nested, preexisting containers but instead conjured through changing assemblages of social, ecological, political, and economic entities and power relations used to make meaning and produce particular kinds of worlds.

In this chapter, I examine how the watershed scale is invoked and evolves in the Thai context. In the first part of the chapter, I analyze the material and political conditions that preceded and made possible the reification of the watershed scale in this aqueous setting. While the watershed may be a critical contemporary scalar frame, it stems from specific histories and is substantiated through discourses, inscriptions, and material interventions that serve particular state-making and development paradigms. The shifting practices and epistemologies through which people made meaning with water provide context for understanding human entanglements with water-beings before the dominance of watershed-scale interventions in Thailand. These preceding practices also foreground the hydrosocial relations that made possible the consolidation of the watershed as the favored scale of human intervention and analysis for the Thai state.

The second and third parts of the chapter focus on the watershed as an "engaged universal…charged and changed by [its] travel" (Tsing 2005: 8). In the second section, I examine the naturalization of the watershed scale as it is inscribed into Thailand's rivers. In this context, the watershed scale has become a privileged frame that facilitates the functions of state agencies, justifies particular kinds of interventions like dams and flood ways, organizes forms of hydrosociality, and reconfigures ecologies. In this section, I reproduce the kind of discourses about the watershed scale that make it a universalizing concept.

The third section disrupts the seeming relentlessness of the watershed scale by demonstrating how it is changed through engagement in place. After all, there is a profound disconnect between the scale of the watershed and the scale of experience at which people understand and engage with water. Specifically, I focus on some of the ways that the watershed is creatively integrated into the practices of local communities as strategies of resistance as well as the ways that local hydrosocialities disrupt the singularizing ideal of the watershed altogether. I call these practices counter-scaling, strategies for centering the multiplicity of human-water entanglements that produce scales, assemblages, and worlds differently (Kurtz 2003). This multiplicity is visible in practices that evoke water-beings as cosmologically eclipsing the watershed scale and in practices that highlight the impossibility of uniformity within a watershed. The latter set of practices demonstrates the ways that watershed-scale interventions unevenly distribute benefits and ill-effects among watershed residents creating antagonistic realities that make the watershed a fraught form of spatial organization subject to contestation and reconfiguration. Despite the prevalence of the watershed in discourses of administration, development, and even protest, the watershed scale's universalizing project is always incomplete.

This discussion lays the foundation for understanding the potentialities of alternative forms of hydrosociality and different practices of scale-making that inform responses to the period of dramatic flooding in 2011 that will be discussed in subsequent chapters. I argue that the scales at which people understand relations with water constitute different kinds of worlds, often worlds that overlap and conflict. The precarity of the post-flood period in Thailand exposes the multiplicity of hydrosocialities that might produce counterscales, that might emerge from alternative ontologies and epistemologies, and that have the potential to reconfigure political commitments to water and to other people in more ethical and equitable ways. In short, this chapter illustrates the world-making work of the watershed scale and the world-making work of human-water relations that disrupt it and produce the world otherwise.

Thai Waterscapes as Thai History

In San-Lek, as in all the villages where I work, rice planting is a community activity. In the rainy season, when enough rain has fallen to fill the paddies and the canals that feed the paddies, every day is planting day until all the seedlings have been tucked into the deep silty soils. San-Lek's fields surround the village center, sloping away from the canal systems that feed the tiered steppes. Areas where the soil was cracked and each step was marked with a fading trail of dust in the dry season are now so thickly muddy that you could lose a shoe if you are not careful. On a misty morning, I walk out into the tiered rice paddies with a few other villagers, school children, and some interns from a university in Thailand's drier Isaan (northeast) region. The student interns are here to record the practices of the community and create a portfolio of materials that might help with anti-dam and land rights campaigns in the future (the two are inextricably tied together). We wind along the raised edges of paddy ledges, carefully stepping over the sections of hand-hewn mud walls that have been carved out to strategically allow surplus water to drain to the next tier of fields. These rounded edges are slick and our feet slip and slop as we make our way from the already planted fields to an area where village women are laboring, planting the empty fields. In knee-high rubber boots, long sleeves, brimmed hats, and scarves to wipe their brows, these women stoop in a common field. In one hand each woman holds a clump of rice seedlings; with the other hand she takes a single plant and, in a swift motion, inserts the roots into the thick silt beneath the inches of gray-brown water. The result is a narrow tuft of green stalk standing out above the water; she then moves a few inches further in the row and inserts another stalk, repeating the process across the field. The other women work different rows, the small paddy quickly filling with young rice seedlings. As the water evaporates over the next months, each plant, nestled into the wet paddy fields through the labor of human hands, will grow a rich rice yield that will be harvested once again by this same aggregate of human laborers.

The women working the fields pause as we walk through, saying hello and pointing us toward the sturdy bamboo hut at the top of the hill, elevated on stilts a few feet above the canal of water feeding these paddies. They tell us to help ourselves to rice and water if we need a snack on our hike and then return to their labor. We each take turns getting a sip of water from the cooler bucket sitting near one of the pillars of the hut, careful not to take too much and thus compromise the farmers' water supply for the day. Already we are at least a kilometer from the village so returning to the village for fresh, chilled water would be rather inconvenient. More likely, the women would work their way to one of the many springs in the forest and refill their bucket from the fresh water there, making the assumption that these water supplies had not been compromised by changes in land use, chemicals, and farming strategies around the region.

The rice cultivation practices in San-Lek, and in many areas of Thailand, are embodied and social. Women, and sometimes men, work together, filling each other's paddies and enjoying the company of collaborative labor. One villager explained that she learned to cultivate rice at a young age from her grandma, doing the work the same way it has been done for generations. The difference, she explained, is that the Karen in this village now plant more wet-rice and plant fewer fields in traditional hill side red rice (*Bu' Ko* in Karen) or sticky rice (*Pi-i Bu'* in Karen) (Pinkaew 2002: 232-233). "We must rotate hillside fields and we have fewer hillsides to plant on so we cannot plant as much at once. But we plant more wet rice now so we have enough." There is a rhythmic labor to the planting process, knowing the seedlings are correctly planted by the feel of the soil rather than by sight.

Up the hill, we run into a group of men who are working the mud of one of the canals to reform the course of the waters into the tiered paddies. One of the students explains that silt and debris had accumulated in the edge of a curve in the canal, so these villagers were working to clean out the excess debris. Like the women planting rice, these men labored with their hands to shape the canal and make the rice crop possible.

All of this work is an expression of human-water relations that produce an effective subsistence agricultural reality that exists alongside a reality of large-scale interventions, technocratic water management, and unpredictable material flows. These rice-farming practices have evolved and adjusted to shifting social and ecological conditions over time, but have resonances with long histories of human relations with water in the region. The persistence of these practices demonstrates the durability and adaptability of the kinds of worlds these practices constitute. Entanglements with water at the level of human interaction create forms of hydrosociality in which rivers are water-beings critically and collaboratively constituting social, political, and cosmological conditions. Here, I trace some of the roots that made possible the persistence of these practices and also made possible the invocation of the watershed scale as the paradigmatic model for effective water governance. In particular, I highlight the ways water-beings were enrolled, and sometimes coerced, into the shifting social, political, and material objectives of early kingdoms and the emerging Thai state. Terje Tvedt and Eva Jakobsson (2006) argue that water history is world history; by extension, Thailand's water-beings and forms of hydrosociality have always been at the center of defining the course of Thailand's history and creating the conditions of possibility for its potential futures.

Local and Tensile

Long before Thailand's geopolitical borders were established and long before territory could be framed as a geo-body (Winichakul 1994), the area of Thailand was part of the expansion of water-based civilizations. Thai architect and scholar Sumet Jumsai (1988), in his analysis of the "Asian waterfront," claims Siam as an exemplar of water-based cultural progression. Over 10,000 years ago, as the ice of the ice age melted, people moved with the receding ice, following waterways that developed from this melting. In the landmass that is now Thailand, this means that people moved from the coast progressively upstream, through the Chao Phraya and Mekong deltas northward following the waters that would become the rivers' tributaries.

As people settled and wet-rice cultivation became an increasingly common and reliable strategy for subsistence, people worked with the water systems and earth, building *khlongs* or canals to draw water in and out of paddy fields for effective rice crops (Bray

1986). From planting techniques and diversifying rice species to building new paddies, terraces, and canal systems, these entanglements with water developed in tandem with the differentiation of wet-rice varieties (Bray 1986, Watabe 1978). Tadayo Watabe (1978) draws on archaeological evidence to argue that wet rice and upland dry rice varieties were not differentiated in the way they are now; he suggests that fields were indiscriminately planted and that early rice could likely adapt to a variety of environments. Over the centuries, the genetic variations reacted to environmental conditions resulting in wet-rice and upland field varieties and in cultivation practices common today.

Across central Thailand and in the intermontane valleys of northern Thailand, wet-rice cultivation became the preferred variety over time, leaving upland rice limited to the hillier upland terrain. As its name suggests, wet-rice farming has a key limitation: it requires a ready supply of water. Keeping paddies continuously wet sustains the fields' fertility; flooding the paddies with irrigated water tends to draw in more nutrient content (Bray 1986: 16). While Thailand is located in a monsoon climatic zone, rainfall is only seasonally abundant; except for flood plains, many areas of Thailand are incredibly dry the rest of the year and a monsoon season with less rain might compromise even the single season of rice cropping (Ishii 1978). Since maintaining an adequate supply of rice was a primary objective for subsistence farms, this need encouraged a set of entanglements with water that would work to improve growing conditions and thereby minimize the risk of a poor growing season. Specifically, to make perpetual wet-rice cultivation possible, communities invested their energies and their laws on developing and maintaining irrigation technologies. Using the terms *fai* for small dams and *muang* to refer to canal systems, irrigation technologies appear in annals for northern Thailand as early as the late thirteenth century, during the Mengrai dynasty of the Lanna Kingdom, the seat of which is contemporary Chiang Mai (Bray 1986:

85, Cohen & Pearson 1998). *Fai* were originally constructed using bamboo rods driven into the river bed and then rocks and more bamboo to weave and fill in between them. These tensile structures effectively blocked the water's flow, redirecting the waters into canals that fed paddy fields. Modern versions include more permanent and stable concrete *fai*, but the temporary versions made from local sourced materials are still common as well. Small-scale irrigation systems started as a means of manipulating rainfall along the contours of the region's topography but this did not overcome the constraints of limited and unpredictable yearly rainfall. To provide a more reliable supply of water, farmers eventually built diversion dams directly on the river. Relying on the rivers to sustain their crops, farmers engaged with water-beings through their labor, expending their own energies to harness the energy, capacities, and nutrients of the water system and enroll it to produce particular material worlds. This work involved digging, building, and maintaining earthen irrigation canals, literally leaving the hand print of the workers in the soil banks of channels until this trace melded with the waters coursing through.

These irrigations strategies are assemblages of complex configurations of humans and water producing early forms of technologies. Martin Heidegger (1977: 294) addresses the broad scope of technology in his explanation of the related Greek word "*techne;*" this word traces technology back to practices of skill, artistry, and "knowing." For Heidegger, technology is a way of knowing and revealing the potentiality contained in particular materials, such as rivers. For Francesca Bray (1997) technologies comprise a similarly expansive field of material interventions. In her analysis of the culture of reproduction in medieval China, she defines "a technology as a system of techniques for producing a specific material world" (Bray 1997: 277). These definitions unsettle the perhaps more dominant perception of technologies as a set of post-Industrial Revolution phenomena and instead open the category of technology to practices throughout history that aspire to reveal or produce particular material realities. I apply this framing here because it prevents long-rooted practices from being categorized as tradition, a labeling that relegates these dynamic practices to a static condition of past-ness and carries the stigma of being backward. Instead, Bray's characterization places older practices in the same category as newer: both earthen dikes and hydroelectric dams are technologies equally vested with the capacity to shape the material world.

I push Bray and Heidegger's framings a step further. While neither of these scholars are explicitly endorsing the idea that water might itself be part of constituting technologies, of defining the worlds that emerge from them, I suggest that there is an opportunity to rethink entanglements with water not as purely utilitarian but instead as human beings and water-beings becoming-with (Haraway 2008). Becoming-with in this context is a way of recognizing that technologies are implemented in place and thus must respond to and work with the capacities of material presences in order to produce the world in the ways intended. These fluid technologies are assemblages of humans and nonhuman.

Early technologies like human-made *muang* and *fai* were targeted at local, small scales, striving to create effective subsistence farming conditions. These technologies work with the sediment load of the waters, the geomorphology of the stream to create systems that affect the local aquatic and terrestrial ecosystems without compromising the ecosystem services of the waterways downstream. A *fai* on a small tributary to a larger river would alter the geomorphology of that stream, but *fai* respond to seasonal changes and are easily removed by high seasonal flows (Ishii 1978). They ultimately allow water to move as it needs in times of excess and thus provide resources for all communities downstream. This technology is part of a set of local socioecological relations in which water-beings and human beings collaborate in constituting the material world, transforming it in particular, co-defined, interdependent ways.

Similarly, the design of housing in many northern areas was predicated on understanding waters as co-creators of the material world. Paleohydrological research analyzes layers of sediment to suggest that floods have long been common occurrences along riverways in Thailand; even now, seasonal *naam tuam* (flooding) is common as a product of both the monsoon rains as well as global meteorological systems like La Nina (Lim, Boochabun & Ziegler 2012, Wood & Ziegler 2008). Historically, the expectation of floods meant that many early homes in northern Thailand were build on stilts lifted above the ground to prevent the waters from entering homes; others were built as floating homes lining canals and rivers that buoy upward with increased seasonal discharge (Ng, Wood, & Ziegler 2015). These strategies are common even in contemporary northern Thailand. In San-Lek, all the homes are still built on stilts; this allows waters from seasonal rains to cascade down the hillside without compromising the homes. The spaces beneath the homes also provide convenient locations for pigs to roost and provide storage for harvested rice during the dry season. In other villages like Saiap, the homes are in the flatter floodplains; while much of the living area remains in the elevated section of the house, the area below the homes has frequently been developed to include tiled floors, an indoor cooking space, and other modern accommodations. These lower levels are no longer intended to be expendable to floods, and reciprocally, floods are often no longer considered the norm, but the aberration in human relations with water-beings.

These early processes of becoming-with shaped both people and the material world. Richard White (1995), in his analysis of the Columbia River, argues that people learn to know nature through situated labors on and with rivers. This kind of knowledge of a river is both local and embodied; "even when learned from others, the messages sent through nerve and muscle constantly validated or modified acquired knowledge" (White 1995: 9). Situated in contingent local ecologies and in adaptive human bodies, this type of knowledge gave rise to similarly local and adaptive technological interventions. These technologies – such as channels built by human hands – were dynamic, local ways of working with the water-beings to fulfill the needs of rice-farming societies.

Growing Hydrosocial Structures

From the water-human-rice assemblages that allowed for subsistence farming, new forms of sociality also emerged. These tensile and small-scale water interventions called *Muang Fai* or "People's Systems," had scalable potentials and as they scaled-up, they became embedded in regulatory and community organizations (Cohen & Pearson 1998: 94). Yoneo Ishii (1978) explains that villagers exchanged labor for systematic, managed irrigation and both water supply and exacting of labor were monitored by village headmen. Ishii argues that portions of these enlarging systems were made possible only because of growing forms of government supervision and financing. Using historical annals, he argues that gravity irrigation for subsistence became of utmost importance and that the "controllers of the waterways became simultaneously the masters of agriculture" even before the Kingdoms like Lanna rose to power in the 13th century (Ishii 1978: 26).

By enrolling water-beings, human authorities mediated human-water relations and forged social authority and social structures based on socio-ecological and political relationships of interdependence. Farmers in need of water supplies traded labor maintaining *muang* and *fai* for water resources increasingly institutionally managed and distributed. The development of burgeoning kingdoms thus depended on and produced these sets of socio-ecological relationships: amplifying the rice-growing capacity necessitated a relationship with water and managing the exchange responsibly was a strategy for making merit for the leaders, an emerging qualification of sound Buddhist leadership (Winichakul 1994). The multi-village collaborations, or *mandalas* as they are sometimes called, and the increasing political powers vested in the charge of managing the *Muang Fai* facilitated development of inter-village social relations and social structures and made even early Thai kingdoms hydraulic or at least quasi-hydraulic societies (Cohen & Pearson 1998, Ishii 1978, Ongsakul 2005, Van Beek 1995, Winichakul 1994).

In northern Thailand, this confluence of water need and regulatory purpose allowed for the rise of the Lanna Kingdom as an hydraulic society (Ongsakul 2005). Established in the late 13th century, Lanna aggregated a series of smaller kingdoms into a unified single authority under King Mengrai. Lanna eventually became a vassal to the Kingdom of Siam in the 18th century, but remained a semi-independent principality until the mapping of Thailand's borders as a modern state in the late 19th century (Ng, Wood, & Ziegler 2015). Called Lanna or Lan Na, the name of this kingdom translates to million (*laan*) rice paddies (*naa*), naming the strength of the kingdom as its rice producing capacities and, by extension, its organization of *muang fai* systems and its effective and affective relationship with water (Forbes & Henley 1997). In part, the growth of the kingdom stems from its ability to effectively manage and distribute water resources in exchange for allegiance and service.

Even as polities like Lanna grew and socioecologies became implicated in their political arrangements, humans and water-beings remained respectfully responsive to each other. Water-beings necessarily effected change in the political arrangements produced through and around them even as human actions reconfigured the material waterscapes. A notable example of this reciprocal, responsive hydrosociality from Lanna is the movement of the kingdom's capital. In the late 1280s, King Mengrai moved the capital of Lanna from

Chiang Rai to Wiang Kum Kam, just south of contemporary Chiang Mai on the east bank of the Ping River. The site was ideally located next to the river, making trade, transport, and irrigation all convenient. In the Northern Thai dialect, 'Wiang Kum Kam' translates to "fortified town that controls the water" (Van Beek 1995: 22). Yet according to the *Chiang Mai Chronicle,* the authoritative history annals of the Lanna Kingdom, the capital remained at Wiang Kum Kam for only five years before it was relocated to the current setting of Chiang Mai, a city equipped with a bray system around the city center and a gated pier that led to the Ping River (Wyatt & Wichienkeeo 1995).

After that, Wiang Kum Kam slowly disappeared. The capital city remained a legend for centuries afterward, a story people would tell about the origins of the Lanna Kingdom and King Mengrai but with little evidence of its reality. In the 1980s, ancient tablets were discovered under Wat Chang Kam, a temple in the area of the legendary Wiang Kum Kam. The tablets spoke to the existence of the ancient city ruins and archaeologists, under the auspices of the Department of Fine Arts in the Ministry of Culture, began a concentrated effort to unearth the remains of the city. The excavation revealed a rectangular city wall and over thirty different associated buildings within and beyond the walls. Archaeologists trace the origins of settlement in that area back to the eighth century, long before even King Mengrai deigned to make it the Lanna capital. Floodplain stratigraphy of the region proved what had long been suspected—that Wiang Kum Kam was eventually subsumed under sediment and debris of repeated floods (Ng, Wood, & Ziegler 2015). Perhaps even more importantly, careful analysis of sediment stratigraphy identified a paleochannel suggesting that the course of the Ping River actually rerouted; Wiang Kum Kam, now east of the Ping, was originally on it western bank (Hinz et al 2010). The capacity of the river to change course, to overflow, to bury all evidence of a city beneath it, are demonstrations of the power of water-beings; the movement of the capital and reconfiguration are evidence of water and people becoming-with each other over time.

Amphibious Kingdoms

Further downstream, in the Kingdom of Siam that would eventually become the recognized and centralized authority of modern Thailand, water was equally critical in the development of political and social structures. As the capital of Siam moved further and further south, from Sukhothai (1238-1438 CE) to Ayutthaya (1351-1767 CE) to Thonburi (1768-1782 CE) to the nation's current capital of Krungthep (better known as Bangkok, 1782-present), water was a constant and necessary companion. These capitals were all built through the becoming-with of water and people.

Paralleling the development of kingdoms in northern Thailand, water and irrigation systems were critical features in shaping political power for the Kings of Siam. Han ten Brummelhuis (2005: 15) refers to the early eras of the Kingdom of Siam as the development of "amphibious city-states." Each of the capital cities existed on rivers, allowing the waterways to be central to both the rice crop as well as trading patterns and even military actions. Further, each capital was also navigable primarily by the canal systems or *khlong* that carved through these cultural epicenters of power and authority (Brummelhuis 2005). Canals better served the purpose of movement and navigation than the construction of roadways for early kingdoms. During Ayutthaya's prime, scholars estimate the capital had around 200,000 boats of varying sizes and for varying purposes (Brummelhuis 2005, Sumet 1988). The watery structure of the city not only allowed for better irrigation of surrounding lands, but also provided defense of the city center island. Later, as the capital continued to move further south and the number of Europeans in the region grew, Bangkok was referred to as the Venice of the East; the city did not see its first true terrestrial street until almost 1860

(Brummelhuis 2005, Van Beek 1995). Early maps highlight water both to depict routes to other kingdoms and as a cosmological set of relations. Thongchai Winichakul (1994) argues that these maps are forms of indigenous conceptions of space that preceded modern geography. The prevalence of water ways and spirits depicted in them further reinforces the prominence of water in developing social and political systems.

Internal Territorialization of Water

As the kingdoms and their governing capacities grew, so too did the management of ecological systems. Both social and ecological management were gradually scaled-up to accommodate not only growing territory, but growing populations, their socialities and hydrosocialities, and a shifting set of participants in complex assemblages with water-beings.

As explored in the previous chapter, early practices of state-making in Thailand involved the state laying claim to lands and waters as common property of the crown, a practice of internal territorialization. This process made forests resources and created conditions of inclusion and exclusion into the state based on this resourcification of the landscape. Managing water had a similar effect: shaping particular kinds of behaviors that both aligned with the objectives of the state and made people removed from the central authority nonetheless visible, taxable, and legible as subjects of the state. Two particular departments came to represent both internal territorialization and economic development through water and persist even in contemporary Thailand: the Ministry of Agriculture and the Royal Irrigation Department. *Kromna*, the ministry or department of agriculture became one of the first and most enduring institutions of these expanding administrations, overseeing the use of land, taxation, and labor on irrigation systems (Brummelhuis 2005). Similarly, the Canals Department, originally tasked with maintaining canals for travel, transportation, and military purposes, became the Royal Irrigation Department (RID) in 1904, charged with managing water resources and canals for irrigation to better serve the agricultural purposes of a modernizing nation (Brummelhuis 2005, Variwuttikul et al 2017).

In the 1930s, as the economy lagged in a global depression, Siam could not support all its development plans and ideals on water or on land. In 1932, Siam's absolute monarchy acquiesced to the demands to the People's Party to relinquish authority to make Siam, eventually renamed Thailand, a constitutional monarchy (Hashmi 1962). The bloodless revolution changed the political structure of Thailand while also demonstrating substantive changes in the socialities of the nation that had been percolating for many years as education, liberation, communist and capitalist ideologies and practices spread. While the revolution may have been bloodless and relatively peaceful in form, the transition to a constitutional monarchy was complicated and contested. While leaders in Bangkok vied for particular positions, policies, and objectives to be represented in the developing constitution, democracy would continue to be an incomplete process. In rural areas, national development strategies would become an important indicator of changes in political authority and objectives.

In the years that followed, water became integrated into national economic policy as a resource for maintaining land and crops and into national development strategies as indicators of modernity and progress. This impetus for water management via political channels points toward an awareness both of the importance of water within the state and a sense of the relationships between water and place that comprise a watershed.

Performativity and Scalar Effects of the Watershed in Thailand

Ben and I met for coffee at the former site of the royal hospital in Bangkok. In his skinny jeans and canvas sneakers without laces or socks, Ben represented a modern, young

Thai aesthetic. He dressed like he could have stepped out of an advertisement for the latest channel 3 Thai soap opera with his stylish haircut and pink button shirt, short-sleeves rolled once to show more bicep but still be respectfully dressed. We sat in the garden area, enjoying miniature lattes and pork spread on tiny toasts while Ben talked to me about his latest international adventure to South Africa. Ben and I had been friends for a few years, connected by a common friend who now lives in Canada. I explained why I would be in Thailand for at least a year for this visit to conduct interviews and do research to better understand how people in northern Thailand relate to rivers and work with their unpredictable flows. Immediately, Ben began pointing animatedly at the aerator wheel in the moat area on the side of the old hospital building.

"That was designed by the King!" he exclaimed. Reading the confusion on my face, he elaborated. "The King is very intelligent and an inventor. He invented that wheel especially to aerate waterways in Thailand. The King is genius and really cares about the condition of rural life and our natural resources." From my research based on river systems and the threat of large-scale interventions displacing people and their sense of place, Ben made the instantaneous connection to King Bhumibol and his fascination and expertise in caring for Thailand's waters. I learned quickly that one cannot talk about water in Thailand without understanding King Bhumibol's role in water development and projects to improve the life of the rural poor.

Sentiments of reverence toward His Royal Highness King Bhumibol permeate Thai society. The long-reigning, recently deceased King Bhumibol Adulyadej (known as Rama IX or King Bhumibol the Great) earned almost deity-like respect from the Thai public. He saw Thailand through thirty prime ministers and the majority of Thailand's twenty-one coups. While HRH King Bhumibol took office in 1946, over a decade after the absolute monarchy had been dissolved, he was revered as a moral guide and constant in the midst of tumultuous government structures and shifting leaders for his seventy-year reign as constitutional monarch.

Given his support of rural communities and rural development, HRH King Bhumibol was commended with the appellation of “Developer King” for his work to improve the nation for all its people (Baker & Pongpaichit 2005). Bhumibol’s reputation as a strong moral leader permeates all facets of Thai society; over the seventy years of his reign, his authority and religio-symbolic status grew through the narratives, projects, and discourses that surrounded him (Blake 2015, Fong 2009, Jackson 2010). His work and reputation extended to water governance and hydraulic interventions as well. Credited with Royal Projects to aid the impoverished and areas stricken with disasters like floods, a patent for royal rainmaking technologies, facilitation of large-scale hydrological interventions like dams, inventions like the paddle wheel aerator, and other subtle and overt recommendations for water management and engagement strategies, Bhumibol was well-respected for his creativity and technological savvy related to water development (Blake 2015). His hydrological interests are reinforced in the discourses and pervasive images of the king throughout the nation, many depicting him in watery environments. Even the back of the one thousand baht note in Thailand depicts the King’s hydrological prowess, showing an artistic rendering of the King “paternally gazing down” on the Pasak Cholasit multipurpose dam in the central plains (Blake 2015: 259). In addition, images like this are evocative not only of a past when the monarchy was fully in power, but a past when water was a means of producing this authority of the quasi-divine.

Government officials, from prime ministers to directors of the Royal Irrigation Department, have furthered this discourse by championing Bhumibol’s commitment to water management (The National Identity Office 2000). Handley (2006: 164), in his unsanctioned and critical biography of the king, *The King Never Smiles,* writes that the mythology around the king "even goes so far as to say Bhumibol was born with a hydrological bent, predestined to develop sustainable water supplies for all his people." While Bhumibol arguably received greater recognition for his efforts to maintain political and public peace than for his role in engineering the Thai waterscape, his engagement with water was strategic, complementing his carefully curated presentation as a benevolent king on the cusp of divinity (Blake 2015).

For hydrological matters, this quasi-divine authority meant that the King had the clout to leverage development projects while mitigating the threat of popular unrest. When Bhumibol endorsed a particular project, it was difficult if not impossible to counter it without seeming to question divine authority and cross the strict laws of lese majeste. For example, the King is often credited with reigniting the development of two large-scale irrigation and flood control dams at Tha Dan and Pak Panang by endorsing the project's rationale in his 1993 annual birthday speech to the nation (Blake 2015, Handley 2006). These interventions had been stalled through protracted disagreements between various constituencies. Bhumibol's support compelled political action and quelled discontent, causing the dam to be completed without further problem. Similarly, Molle (2007: 368) explains that the RID "has frequently borrowed from the symbolic and political power of His Majesty the King, a long time supporter of dams as the means to control floods and provide irrigation water." By citing Bhumibol's development ideals, the RID mitigated friction against some projects and practices, regardless of their efficacy (Blake 2015).

However, because Bhumibol's reputation was carefully arbitrated, he did not lend his name and support to all water development projects, leaving room for disagreement and keeping the king from being part of the most contentious projects the state would propose, particularly some of the hydroelectric interventions in the 1980s and 1990s. Further, scholars suggest that the King did not lead these hydraulic charges alone, but through what McCargo (2005) calls a "network monarchy," meaning the the King relied on proxies who had political authority to make decisions. Blake (2015: 661) extends the concept into what he calls the "hydraulic monarchical network," a "strategic alliance of actors…who have substantially facilitated and benefited from a situation of monopolistic state governance over national water resources infrastructural development." While this network system creates undemocratic forms of development, opportunities for corruption, and inefficiencies in water development, it also allows the King distance from any of the contentious development agendas as necessary and thus allows for political protest without compromising the King's reputation as benevolent, moral leader. In fact, as I will demonstrate further in Chapter 5, the anti-dam protest movements in northern Thailand work to strategically align themselves with other facets of King Bhumibol's development interests and agendas as a way of demonstrating their nationalistic identities, pride, and belonging.

King Bhumibol developed his hydraulic authority in tandem with the production of the watershed scale in Thailand. Throughout the twentieth century, the watershed came to dominate the Thai waterscape as a strategic and privileged scale for understanding water and for framing interventions on Thai waterways. However, this scale was not a pre-existing container, but was produced through discourse, inscriptions, and material ecologies that altered Thai waterscapes and socialities. Yet as Norman, Cook, and Cohen (2015: 19) argue, "scales are political tools" and the selection of scales is therefore always a political action intended to serve particular political objectives. In the Thai context, the watershed scale aligned the politics of nation building and expanding fields of hydrological and engineering expertise to produce a common scale-making project. King Bhumibol became a figure who could represent both the ideals of the modernizing watershed-scale and the vestigial persistence of older forms of hydrosociality simultaneously.

From the start of the 20th century, the watershed had been touted as the "natural" scale of water and therefore the rational scale for water interventions globally. From the Tennessee Valley Authority to France's hydroelectricity generation, Francois Molle (2009) explains that the watershed or river basin was inextricably linked to development projects in Western countries in the post-World War II era. He explains that "the idea of the basin first emerged as an operational concept for the development and management of water resources" (Molle 2009: 484). Molle (2009) also explains that even though the watershed was imagined as a natural hydrological unit, it gained credibility because it could be strategically deployed in support of particular political interests for development and modernization. The watershed was part of constituting forms of political power through resource management and development. In the 1950s, what makes the watershed scale so appealing in the Thai context is precisely this association with development and progress based on scientific principles. Through inscriptions, discourses, and practices, the watershed was instantiated as a critical instrument for creating Thailand as a modern nation. Drawing on Kaiser and Nikiforova's (2008) work on the "performativities of scale," Harris and Altout (2010: 149) explain that "we need to be attentive to the iterative processes and practices through which scales become (seemingly) fixed and naturalized, and to what effects." Kaiser and Nikiforova (2008) argue that by examining the iterative processes through which particular scales become imbricated and maintained as privileged, we also begin to see the power relations and social dynamics that stem from scalar effects. As Harris and Altout (2010: 150) explain, "it is imperative to analyze the ways that particular hydro-scalar constructions are deployed for particular political ends (politics of scale), and serve to consolidate the very ideas of state, nation, and territory (performativities of scale)."

In the following sections, I discuss the watershed scale as an engaged universal. As Tsing (2005: 8) explains, "engaged universals travel across difference and are charged and changed by their travels. Through friction, universals become practically effective… *All* universals are engaged when considered as a practical project accomplished in a heterogeneous world." By first focusing on the universalizing concept of the watershed scale, I demonstrate the iterative discourses and practices that try to stabilize this universal in Thailand and create effects on governance, decision-making, power structures, and hydrosocialities. Specifically, I will outline the ways discourses of nationalism and development invoked the watershed scale to produce Thailand as a modern nation. In Thailand, as in many areas of the world, the watershed scale became a universal, trying to make everything everywhere the same and "reducing mysteries to facts" (Tsing 2005: 91). The production and performance of the watershed scale often works to obscure other kinds of engagements and entanglements with water, reducing the local hydrosocialities to idiosyncracies that can be faulted when water-beings prove unpredictable. In this section, I focus on the alignments of state agendas with the watershed scale, demonstrating how it becomes a privileged scale, universalizing because it served particular political interests and simultaneously worked to exclude other forms of hydrosociality, though never fully succeeding. The next section picks up this project by demonstrating how the watershed scale actually takes shape in contingent local settings that transform it and are transformed by it.

Performing the Watershed Scale as National Identity

For Thailand, the formation of a national identity and political unity was paramount in the post-World War II era. With political authority still perilously contentious and a new constitutional monarch working to establish his own credibility, with the borders perceived as porous with upland populations not fully assimilated and thus vulnerable to communist insurgency and uprising, the apparatuses of the Thai state were working overtime to find methods for integrating and protecting people while demonstrating their authority (Bowie 1997, Handley 2006, McCargo 2002, 2005, McKinnon 2011b). As mentioned in the previous section, one strategy for extending authority or internally territorializing was asserting control over natural resources and access to them in the early years of the expansion of the Siamese Kingdom. Beyond defining territory, producing a nation involves a complex set of processes to interpellate citizens and effectively administer both people and place. Scholars have analyzed the development and the spread of nationalism both in a global context and in Thailand specifically (Anderson 2006, Winichakul 1994) and highlighted the importance of common practices and beliefs for a unified national identity, such as Buddhism or the constitutional monarch in Thailand (Handley 2006, Keyes 1971, McCargo 2005, Ricks 2008). While these varied analyses of nation-building demonstrate the complexity and variation in developing national identity, I am interested in two particular elements of nation-building that are tied to the invocation of the watershed scale: making people and places legible to the state and performing shared social imaginaries (Gullestad 2006, Scott 1998).

In the work of administering the state, the watershed was a useful way to organize space and people to make them legible to state apparatuses. As James C. Scott (1998) explains it, legibility is a process of creating order within a citizenry and its landscape to increase the possibilities and methods of control over them. Scott sees the process of legibility as both necessary and problematic in nation-building. Developing processes for rationalization and standardization is fundamental to the modern state, allowing central authorities to intervene in the lives and landscapes that comprise the nation. This includes actions that aim to improve the lives, potentials, and capacities of these people and landscapes through public health measures or disaster relief or energy generation, for example. However, these efforts to create a more

> "administratively convenient format" to evaluate the needs and methods of intervening are largely "simplifications…like abridged maps. They did not successfully represent the actual activity of the society they depicted, nor were they intended to; they represented only that slice of it that interested the official observer…. Rather they were maps that, when allied with state power, would enable much of the reality they depicted to be remade" (Scott 1998: 3).

Legibility, then, is about reinforcing the power of the state by imagining conditions that justify state intervention.

Water, by connecting people upstream and down, by crossing borders, and by the mobility tied to its materiality, is particularly challenging to make legible. Water governance through the watershed scale offered one avenue for consolidation of state authority and increased legibility of water. In their genealogy of the Mekong basin, Sneddon and Fox (2015: 60) explain that

> "there are multiple ecological and hydrologic relations the occur within a basin that are defined by the basin's spatial contours and topography (e.g., fish migrations, floodplain dynamics, sediment flows etc.). Yet…the perception of the basin as a unitary object susceptible to human interventions hinges to a significant degree on a host of technologies, inscriptions, and discourses in the service of a scalar categorization that is deeply political."

They illustrate how inscription devices like maps and graphs helped stabilize the basin scale, enabling it to be reiterated and integrated into state planning and development documents. These official documents and inscriptions performed the watershed scale and produced it as the privileged scale tied to state power.

In the Cold War era, Thai agencies along with the U.S. Bureau of Reclamation produced development plans and engineering designs for the Chao Phraya that invoked the watershed scale (U. S. Bureau of Reclamation 1957). Here, the watershed created legibility for internal management of water resources and human behavior and was quickly integrated into policies and practices. For example, the Royal Foresty Department (RFD) used the watershed scale as a way to categorize land, creating policies for forest use and conservation based on the watershed characteristics and boundaries (Forsyth & Walker 2008, Kanjan & Kaewchote 2004, NESDB 2001). Through these policies, the watershed scale made the geography of Thailand and the peoples in it at least partially legible to apparatuses of state monitoring and management. The performance of the watershed scale, however, is political: it dictated permissible and illegal behaviors within watersheds as means of monitoring people and structuring behaviors of upland residents. These policies, based on watershed classifications, reinforced the state's position to arbitrate and adjudicate human entanglements with water, privileging the state perspective over local practices that have historical precedent for understand water as beings and as relational. Further, these iterative state policies made the watershed scale a frame applicable across the varied geography of the Thai nation and provided a standard through which the state could evaluate systems and provide intervention. This is not to suggest that water did actually become legible; instead these were the practices that allowed state agents to imagine they could standardize and classify and organize the proliferation of human entanglements with water across Thailand. Even with state interventions at the watershed scale, all the communities I worked with built their own small irrigation weirs to divert water and used forest reserves as places to gather edibles.

While the watershed-scale could not administrate all human behaviors, it did aid in creating a common social imaginary of the nation and interpellating peoples. Nation-building is a process of instilling in people a sense of belonging to a place and a sense of commonality with other citizens (Lavenda & Schultz 2017). Benedict Anderson (2006) explains this as producing an “imagined community,” a socially-constructed aggregate of peoples that recognize themselves as belonging. While water may not be at the center of most conversations about creating an imagined community and nation-building, in a nation like Thailand that relies so heavily on water for life, livelihood, and tradition, the watershed scale acts as an important fulcrum for creating the shared social imaginary of the nation. Harris and Altout (2010) explain that basins are powerful scalar representations in part because performing the scale of the river basin is an integral part of constructing national identity and national authority. Their argument, based on contested waterways in the Middle East, argues that performing the basin scale creates legitimacy, marginalizes other claims to water, and consolidates territory and power. This work is done through iteratively reproducing the watershed scale in alignment with the nation as an idea and as a centralized authority.

To create this alignment between watershed and nation depends on two implicit assumptions about watersheds: 1) that the watershed scale can account for all upstream and downstream factors; and 2) that people will value and participate in governance initiatives at the watershed scale and thus collaborate across the borders of local jurisdictions (Cohen 2015: 41). Both of these assumptions require people to think of the imagined community within the watershed and to trust in and participate in the water management schemes promoted by the state. Ultimately, both of these assumptions are false. Often the watershed cannot indiscriminately address the needs of all water uses across the basin (as demonstrated by the implementation of dams that displace some people while providing for others) or account for the diversity of experiences, practices, ontologies, and epistemologies of water in place.

Still by offering interventions at the watershed level, the state compels people into relationships with state authorities as the arbiters of water resources and as capable of solving water problems through watershed-scale management. Francois Molle (2015: 37) explains that

> "it is fascinating to see, as one 'zooms out' from the local to the basin, how problems and differences fade, human diversity is reduced and groups aggregated; benefits are increasingly seen with a macro-perspective, costs tend to be glossed over and minimized, and the environment seems to become more easily amenable to manipulation….But aggregation is also a result of the difficulty to comprehend and anticipate the sheer complexity of cross-scale interactions associated with the movement of water, silts, pollutants and sediments in river basins."

For the Thai state, the watershed offers the promise of being able to see across broad geographies, hydrologies, and hydrosocialities to equitably and effectively serve the needs of varied residents; at the same time, the complexities of situated realities within a watershed act as justifications for states to intervene at less granular scales. This is the invocation of "the river basin as a unit of national development to be harnessed for the benefit of society" (Sneddon 2015: 55).

The watershed scale provided a standard for intervention that aligned with objectives of nationalism in Thailand. Specifically, the scalar effects of the watershed mobilized large-scale development initiatives and legitimized a transition toward singularizing ways of seeing water-beings in Thailand. Yet Warner, Wester and Bolding (2008: 123-124) explain that "by representing [watersheds] as natural, they acquire supernatural, untouchable legitimacy. Current water policy, then, works to depoliticize important issues of scale and voice and may prematurely close very necessary debates on appropriate institutional arrangements for river basin management." The next section demonstrates how the watershed scale moved human assemblages with water-beings toward prescriptive ends that served a national development agenda rather than emergent potentials or the voices of marginalized peoples and water-beings.

Watershed Development as Scale-Making

In the second half of the 20th century, The Chao Phraya basin, as well as most of Thailand's watersheds, became part of the nation's development planning. Here, I want to highlight the ways the watershed scale became complicit in, and often synonymous with, Thailand's water development and management agendas and draw attention to the material, epistemological, and ontological effects of linking development with the watershed.

Globally, the regime of development became a new discursive strategy for categorizing peoples and places according to difference: First World/Third World, developed/undeveloped or underdeveloped. This distinction then created the grounds for First World actors to intervene in the Third World as bearers of expertise to reform to improve other places. From poverty alleviation to economic growth, education to health care, nations of the Third World (and primarily global south) were targeted as places and peoples in need. In his rigorous work on developmentalism as a discursive field, Arturo Escobar (1995: 5) explains that development "achieved the status of a certainty in the social imaginary" across the globe. Shifting from an emphasis on economic principles in the 1950s to serving basic human needs and the distribution of economic growth by the 1970s, development theory had become a type of "colonization of reality" perpetuated by institutionalized power structures on global and national levels (Escobar 1995: 5). Not only did development seem inescapable, but it became the desire and aspiration of many of nations and their political agendas.

Thailand, like other nations labeled "under-developed," created a series of development plans for increasing economic growth, power generation, transportation and communication infrastructures, and expanding education with benchmark objectives to achieve according to a regimented timeline (Ayal 1962). Since 1961, Thailand has created several iterations of the National Economic and Social Development Plan focused on different goals and time frames; 2017 marked the shift to the 12th National Economic and Social Development Plan (Vimolsiri 2017). Each of these development plans includes alterations to Thailand's waterscapes as a facet of national development whether through irrigation, hydroelectricity, flood and drought relief, water quality, or water access, but with varying degrees of specificity. Here I focus on a few specific moments captured in these development plans that performed the watershed scale and in doing so, reconfigured Thai waterscapes and assemblages with water beings.

The first National Economic Development Plan, released in 1961, states that its central objective is straightforward: "to raise the standard of living of the people of Thailand" through infrastructural development including dams for irrigation and hydroelectricity generation (NEDB 1964: 9, Pawakaranond 1990). At this point, the focus was on developing expertise to manage water and coordinating these objectives with the primary external funders and technical experts for Thailand's water infrastructure projects: the United States and the World Bank (Ayal 1962, NEDB 1964).

In 1957, the RID and hydraulic engineers from the US Bureau of Reclamation created a design for the Bhumibol Dam on the Ping River. Two-thirds of the $100 million project was funded by the World Bank (Van Beek 1995, Sneddon 2015). Initially conceived of as managing water for irrigation needs across the watershed, during Thailand's first national development plan the dam design was reconfigured to generate hydroelectricity (NEDB 1964, Van Beek 1995). As Thailand's first hydroelectric dam, the Bhumibol Dam was completed and fully operational in 1964. Administered by the Electricity Generating Authority of Thailand (EGAT), the dam is a concrete arch gravity structure, stands 154 meters high, and generates 779.2 megawatts of electricity (Electricity Generating Authority of Thailand 2013). At the time of its completion, the dam was the largest in South East Asia and seventh largest in the world.

The Bhumibol Dam was marked as a development success. The Ping watershed, and by extension the Chao Phraya basin, was reformulated and moving toward the ever-receding goal of rationalization; the waters within these watersheds were now more predictable and amenable to further economic development agendas like agriculture and industry. As Sneddon (2015: 55) discusses, the U. S. Bureau of Reclamation scaled up the practices employed to reconfigure waterscapes in the United States by spreading their efforts across the globe, creating a world-wide fraternity; he explains that "such transformations required advances in technical knowledge and engineering skills as well as a particular understanding of human-environment relations that conceived of nature as a resource to be controlled and harnessed exclusively for the benefit of human societies." An extension of earlier eras of plans by international engineers like Homan van der Heide, the plans from the U. S. Bureau of Reclamation promoted basin-scale interventions and imagined aggregate human interests rather than particularized forms of hydrosociality, singularizing the capacity of water rather than considering a multiplicity of possible assemblages with water-beings (Sneddon 2015). As Timothy Mitchell (2002: 35) explains of the Aswan Dam on the Nile, "in manufacturing the dam, the engineers also manufactured nature." In Thailand, the construction of the Bhumibol Dam started a process of development by large-scale infrastructure that privileges particular epistemological and ontological relations with water-beings.

In the ensuing decades, Thailand sanctioned the building of numerous dams, both for irrigation and hydroelectric purposes. For example, "the Nan River flows into the Sirikit Dam—the largest earthen dam in Thailand—named after the now queen mother and further underlining with royal symbolism the national significance of these northern river systems"

(Forsyth & Walker 2008: 31). The naming of dams after royalty also suggests that the dams themselves carry an unimpeachable prestige that parallels that of their namesakes. This includes the Bhumibol Dam and the Sirikit Dam both built in watersheds that are part of the northern quartet of rivers that flow together to make the Chao Phraya as well as hydroelectric facilities in other areas of the nation named for the royal children (Electricity Generating Authority of Thailand 2013). The EGAT currently manages 14 dams in Thailand; the Bhumibol remains the largest in term of megawatts of electricity generated. The dams collectively try to perform the watershed scale as the "natural" scale for making rivers measurable, controllable economic resources. Yet the recurrence of floods and droughts across Thailand suggests that this system, and perhaps the watershed scale altogether, misunderstands the materiality and ontology of water-beings. As the dams reconfigure the Thai waterscape, they introduce new components into the myriad possible assemblages across Thailand's ecologies and socialities and create unexpected results.

Because of the value of water for hydroelectricity, transportation, agriculture, and fishing, Thailand's watersheds have remained a compelling part of the national economic development plans for decades. The *Fourth National Economic and Social Development Plan (1977-1981)* included water extensively and performed the watershed scale more explicitly. Distinguishing between types of water—rainfall, surface, and groundwater—the plan states that "the largest and most important basin in the country is the Chao Phraya Basin which covers about one-third of the national land area and has an average annual runoff of approximately 25,000 million cubic metres" (NESDB 1977: 155). The Chao Phraya is made a basin of utmost significance for development and simultaneously is portrayed as knowable through particular quantifiable metrics. This subtle reference is a shift in epistemologies, a movement away from knowing water as a cosmological and material presence to knowing water as modern and measured (Linton & Budds 2014, Stensrud 2016).

The next iteration of the national development plan (1982-1986) extended this measurability by discussing water development as an energy target, aiming to "double the electricity generation capacity from hydro-sources from 1,269 megawatts in 1980 to 2013 megawatts in 1986" (NESDB 1981: 80). This drive for greater hydroelectricity generation within Thailand stemmed from changes in global energy availability and cost and an economic and development desire by the nation's leadership. Saiap, however, experienced this impetus for hydroelectricity as a threat to their home, community, and ways of life when a large hydroelectric dam was proposed on the Yom River at Kaeng Seua Ten (Dancing Tiger Rapids). At that time, Saiap commenced what would become a decades-long protest against a dam on the Yom River, demonstrating the multiplicity of hydrosocialities and water-beings that persisted in assemblages there despite the development agendas and practices of legibility. In this development plan document, there is no discussion of conflict over watershed development objectives and no discussion of the overlapping uses of watersheds as potentially counterproductive, problematic, or even impossible. Instead, the watershed-scale became a development panacea.

While the emphasis on the watershed-scale persisted, the next development plans included water in development agendas differently. By the late 1990s, Thailand's development board acknowledged that the rapid development trajectory of past eras had degraded Thailand's environmental resources; the new development paradigm required reinvesting in these natural resources to improve their quality rather than their productivity, with the expectation that the latter would come from the former. Even though the aims had shifted to remediation, pollution control, water quality standards, and flood and drought prevention, the modes of evaluation and intervention to achieve these forms of development remained at the watershed scale, at least in state agendas, even though experiences of pollutants differed dramatically across the watershed. These objectives consistently sought to remove any uncertainty from the watery materials of the nation whether in quality or quantity.

The most recent National Economic and Social Development Plan was issued in 2017. The first plan issued since the extensive 2011 floods, the current agenda for development responded to the unpredictabilities of Thailand's water-beings. Specifically, it includes a goal for

> "building water security and managing both surface and underground water resources efficiently: manage water resources at the watershed level to achieve a balance between demand and supply; solve water shortages, and minimize the number of affected people; increase the efficiency of water use in both production and consumption, while decreasing loss and damage from floods and droughts" (NESDB 2017: 133).

The plan does not elaborate on how this security might be achieved, refraining from mentioning the controversial water management plan proposed after the 2011 floods. Despite the vagueness of this water and development objective, the watershed is once again invoked as the critical scale at which to intervene with Thai water-beings despite the abundant evidence from the 2011 floods that this scale has not yet fulfilled its ideological promise.

Over the past sixty years of development in Thailand, the watershed has been naturalized in public discourse and documentation as the scale through which to understand and intervene on water systems. Chris Sneddon (2015: 53) explains that "in effect, river basin development programs bound together narratives and practices representing global and regional geopolitics, national-level political and economic calculations, and a host of technical and environmental processes at basin and dam site scales." The National Economic and Social Development Plans in Thailand demonstrate the iterative and repetitive ways that the watershed is invoked as the privileged scale for any of a variety of economic, social, and ecological challenges related to water systems. Yet these development plans occlude the reality that the watershed scale is complicit in performing the politics of scale and performing particular forms of hydrosociality that intentionally compromise the capacities of water-beings and their social assemblages to shape the world otherwise. Perreault (2015: 130-131) notes that "the institutional arrangements of water governance stem from a desire to achieve particular socio-spatial orders: governing *through* nature." The shift from the construction of human-made canals and weirs made of bamboo, rock, and earth to concrete-lined river beds and hydroelectric dams, however, is ever incomplete as these practices of bamboo weirs and earthen canals remain the steady projects of upland communities.

Watershed-scale development has not yielded all of the primary benefits expected developmentally. People-centered development paradigms are the core of modern initiatives globally and in Thailand (NESDB 2017). This form of development focuses on sustainability, social equality, and more equitable distributions of wealth and resources. Water infrastructures have led to uneven distributions of benefits and ill effects (Walker 1999). While dams provide electricity to some, villages like San-Lek remain disconnected from the power grid, other communities were displaced to make those dams possible, and still others are left without livelihood resources as fisheries and water ecologies are irreparably changed by watershed-scale interventions. Sneddon and Fox (2015: 64) focus on the Mekong basin and argue that administrative inscription framing the watershed as a whole "eliminates the multiple ecohydrological processes (e.g., floodplain dynamics, estuary processes) that drive the incredible productivity of this aquatic system." Instead, the watershed scale serves the the main objective of the riparian states: "cheap energy that would in theory drive industrialization" (Sneddon & Fox 2015: 64). Escobar (1995) points out that despite the guise of altruism tied to it, development is an illusion; the discourse of developmentalism ultimately served purposes counter to its proposed intention. For example, rather than alleviate poverty, development practices deepened economic disparities; rather than delivering people out of oppression, development discourse was about "imposing Western economic rationalities and cultural and political forms in ways that continue to support the dominance of the West and the poverty of the 'rest'" (McKinnon 2011b: 15). Duncan McCargo (2002: 57) argues that "a pervasive feature of Thai development was its unevenness, its unfairness, its lack of guiding principles of social equity, and its persistent failure to redistribute the gains of high growth to more deprived regions of the country." Development, then, is a hegemonic discourse of promise produced through uneven global power relations that effectively perpetuate inequality and oppression. As Michael Goldman (2005) demonstrates in his analysis of the processes that produce and sustain the World Bank, this central global lending entity uses regimes of power and knowledge around the discourse of development to embed itself in the global south through development experts and lending structures that predominantly benefit the "developed" global north. The World Bank, a critical actor in Thailand's early development plans, therefore contributes not to helping the oppressed but further disenfranchising people in the Thai uplands. The watershed scale is complicit in both the hopes and the unfulfilled promise of development.

Yet even in the midst of poorly imagined or failed development strategies, there are people: development workers with the best of intentions, community members who are hopeful and share the will to improve conditions for their own lives, and even government actors who recognize a paternalistic commitment to people that might often be exercised in ways misconstrued as corruption (Li 2007, 2014, McKinnon 2011b). Similarly, performing the scale of the watershed to instantiate it as the ideal scale for water management is work done by people, often *chonlakorn* or water experts in Thai, who believe that the watershed scale gives them the best possibility for the advancement of the nation. Human engagement with the watershed naturalized and privileged this scale in Thailand, and yet human engagement also transformed the meaning and possibilities of this scale.

Engagement and Multiplicity in Water Assemblages

"*Maa caak lum naam Yom.* I'm from the Yom watershed." Boon, at eight years old, knew precisely where he lived. He articulated his home locale to me not by village, district, and province—though, when I asked, he could of course tell me that as well—but by his watershed. A resident of a village within the Yom watershed, one of the few rivers in Thailand that remains dam-less, Boon had learned to appreciate the place of his home not just within political jurisdictions but within watery ones as well. When I shared this story with water professionals in the United States, one person from the Minnesota Pollution Control Agency expressed amazement at the level of water literacy this child has at such a young age. She explained that the majority of Minnesota's residents of any age could not identify the watershed in which they live. Yet for Boon, this use of the watershed as defining home is not a performance of state-sanctioned water literacy; he is not articulating his watershed as a way of reinforcing his participation in state agendas for national development. For Boon and his village, Saiap, the watershed-scale is a strategy for resisting development agendas that will displace people and irreparably alter local hydrosocialites. For Boon and his village, invoking the watershed-scale for their own agendas, as part of their own assemblages, helps disrupt its naturalization as an engaged universal.

Molle (2015) argues that watersheds gain their credibility and appeal because they serve the values of economic development, social equity and participation of all basin stakeholders, and environmental sustainability. In the Thai context, these values united around water, whose material unpredictability became a challenge economically and socially if not ecologically during the latter half of the twentieth century (Molle 2007, Van Beek 1995). Water management at the watershed scale is a strategy to “frame problems and solutions in particular ways to favour specific courses of action” (Molle 2007: 359, Lebel et al 2005). However, these courses of action do not necessarily have to be those wielded by state actors alone. Certainly this history lays the foundation for the state to create the water management scheme that emerged in the aftermath of the 2011 floods; the watershed scale is the predominant scale for the currently proposed interventions and dams (see Chapter 4). However, the watershed scale is also integrated into how local communities express their needs, interests, and epistemologies. Often the watershed is a strategy for marshaling support for state development agendas; however, the watershed scale also has the potential to marshal other kinds of support and be emancipatory. Sneddon and Fox (2015: 43) explain that “in its idealized form, the modern basin is a ‘rational’ planning unit that, if managed properly, can spur economic growth, promote the advancement of marginalized regions, and even foster grassroots decision-making processes.” The promise of the watershed scale is that it might give communities like Saiap a way to make other epistemologies and ontologies related to water visible. Tsing (2005: 9) reminds us “universals beckon to elite and excluded alike.”

In this section I demonstrate the frictions that alter the watershed scale by focusing on this scale as an engaged universal (Tsing 2005). Seeing the watershed scale as an engaged universal makes visible the ways that local hydrosocialities disrupt and exceed the universalist ideal of the watershed scale. Drawing on Tsing’s framing, I track how that the watershed scale as an engaged universal is subject to local conditions, contingencies, and reconfigurations as it encounters the ecologies and socialities of different places. Situated practices invoke the watershed scale as multiple, evoke water-beings as cosmologically eclipsing the watershed scale, and also highlight the impossibility of uniformity within a watershed. I argue that local scale-making practices disrupt the watershed scale's universalizing intentions politically, epistemologically, and ontologically through the creation of counterscales.

Counterscales, like counternarratives and counterknowledges, are strategies for disrupting an established discourse or taken-for-granted set of conditions (Choy 2011). In her discussion of scale frames and counter-scale frames, Hilda Kurtz (2003: 896) explains that "whereas scale frames formulate politically meaningful linkages between social problems and their possible solutions…efforts to contest scale frames [are] *counter-scale frames*—discursive strategies directed at undermining" the dominant scale frameworks in order to redefine them. Kurtz uses counter-scale frames as a way to analyze how people create space for environmental justice concerns to gain resonance when they might be otherwise obscured by dominant narratives. Drawing on Kurtz's work, I discuss counterscaling as a way of drawing attention to the multiplicity of scale-making practices that complicate the dominant watershed-scale administered and privileged by the state. Like Kurtz's counter-scale frames, counterscaling may result in reframing the terms of state development, but here I also demonstrate the ways counterscaling is part of making the watershed-scale an engaged universal that is changed through assemblages with people, places, and water-beings.

Engaged Watershed-Scale Governance

A couple weeks before the watershed gatherings coordinated by the RID, I met with Khun Kovit, a local RID official stationed in Chiang Mai. He worked out of Royal Irrigation

Office 1 (RIO 1). According to RIO 1's website, the office is responsible for 822,590 rai of irrigated land (over 1300 square kilometers) and has over 1000 employees, nearly half of whom are part of the government civil service (Royal Irrigation Office 1 n.d.). The RIO's primary responsibilities involve the study, implementation, and operation of irrigation projects in cooperation with the other water management organizations and government agencies, as well encouraging public participation for more effective management and protection.

Sitting in the recently remodeled offices of RIO 1 east of the Ping River in Chiang Mai, Khun Kovit welcomes me to ask any questions and insists on having our conversation wholly in English. He shows me maps of RID work in his region including repair work on existing structures as well as the sites of future possible interventions and infrastructures. As we look at the maps of his region, I note that his charge is for watershed or basin management but RIO 1's domain is actually delineated along provincial lines rather than watershed parameters: RIO's work is dedicated not to the Ping River watershed but to Mae Hong Son, Chiang Mai, and Lamphun provinces. As part of their mandate, Khun Kovit explains, they are responsible for working with provincial authorities to collaboratively manage water resources. Even though their district stops at the borders of the provinces, their work prioritizes the basin as a way seeing both social and hydrological issues and solutions. Khun Kovit's work and that of the RID more broadly is a demonstration of compelling the watershed to move, of an engaged universal turned, twisted, and renegotiated through assemblages of local power, ecologies, and socialities.

This process of negotiating how watershed-scale governance works in practice is not new or special to Thailand, even though the particular assemblages are local coalescences. Eve Vogel (2015) explains that watershed-scale governance is idealized for its holism, but proves difficult to administer accordingly; she delineates three different modes of watershed management that emerge in practice. The first mode is an autocratic management model where decisions are made at upper levels of political authority, often at some remove from the enactment of the plans; the central objectives are often to maximize economic gains and displace externalities onto marginalized communities and the environment. This is the model that has been key for the Thai state, facilitated through the early national development agendas. As Vogel asserts, this is a mode that often becomes autocratic and creates an uneven distribution of negative impacts, often adversely affecting populations who have the least opportunity for recourse. In Thailand, this autocratic ideal of watershed-scale management aligned to displace populations that had already been marked as part of the hilltribe problem, backward peasants, or security risks (Forsyth & Walker 2008, McKinnon 2011b).

The Pak Mun Dam controversy in Thailand brought this mode of watershed-scale governance to a critical and problematic juncture. Approved in 1989, the Pak Mun Dam was completed in Ubon Ratchathani in 1994 and has the distinction of being Thailand's last hydroelectric dam (Foran & Manorom 2009). Just 5.5 km upstream from the confluence of the Mun River and the Mekong River, the Pak Mun Dam has been criticized since its inception for compromising fish populations and aquatic ecologies as well as lives and livelihoods. Protests spread during the early construction phases, involving NGOs, a petition of 12,000 names, demonstrations at the dam site and in Bangkok, and the formation of a protest organization with broad-reaching aims and civic entrenchment called the Assembly of the Poor (Foran & Manorom 2009). Even after the dam opened, the protests continued. With these protests putting international, media, and financial pressure on the Thai state, the government agreed to conduct a one-year study of the dam's effects by opening the gates; ultimately the state agreed to leave the dam gates open for four months each year primarily argued as a resolution to preserve the health of fisheries (Ishida 2007). Even now, nearly 25 years after it was commissioned, the Pak Mun Dam remains a site of controversy and contestation with many people dissatisfied by the current conditions and impossibilities of change in hydrosocial relations with water-beings.

Despite the fact that the dam was actually built, the prolonged civil society and public protest movements demonstrated the ineffectiveness of the authoritarian model for watershed-scale management and provided an example for future protest movements like the current anti-dam movement of the Northern Rivers Network. The engaged universal of the watershed scale shifted and changed both the universal ideal of how to implement watershed-scale governance as well as the local material and social landscapes. The local communities and NGOs created a space for resistance and for reshaping what watershed-scale governance looks like in action. Specifically, “civil society actors have learned to mobilize, often in cross-scalar coalitions, to re-politicize knowledge and capture public arenas of deliberation by undertaking, compiling, and publishing their own data and research” (Foran & Manorom 2009: 76). The Thai state, in response, may not have ceased to promote watershed-scale interventions, but recognized the complexities of enacting development plans and the kinds of social and ecological outcomes they provoke.

The second mode of watershed management delineated by Vogel is often what results from the failure of the first: rather than basin-wide strategies that take into account the needs of people, practices, and ecologies across the watershed, people turn to traditional political jurisdictions to adjudicate water management. Often this is because money is allocated to these traditional jurisdictions, from counties to provinces to cities, and facilitated through elected officials who are loyal to their constituents, not the watershed. The result is a form of fragmented management and planning with benefits and costs unevenly and unknowingly distributed. For example, while Thailand's larger and hydroelectric dams were facilitated through the authoritarian model of watershed management, communities who were not recipients of irrigation interventions created their own methods of water provisions. Each of the villages I worked have weirs constructed in tributary rivers that enable the routing of water into their paddy fields. In San-Lek, the weirs remain tensile, made of bamboo and rock. In Both Saiap and Baan Mae Roo, the impermanent bamboo structures were unreliable and each village advocated to get concrete structures through local political channels. All of theses structures serve the water needs of communities that are otherwise not being served by the irrigation enterprises of the state. The engaged universal of the watershed scale here means the persistence of small-scale structures in gaps left by watershed-scale services.

The third mode of watershed management Vogel (2015: 73) highlights is a "parcelling out" of the watershed that necessitates negotiation with varied stakeholders, agencies, and other human constituencies and involves almost constant mediation of conflicts and anticipation of potential future conflicts. With strong local management and cross-watershed communication, this form of watershed-scale governance is a collaboration between basin-scale oversight and local jurisdictions, trusting local communities and water users to be able to envision the watershed as a whole and act in the best interests of peoples across the geographic scale. This form aligns with Sneddon and Fox's (2015) explanation of the watershed scale as having the potential to be emancipatory, giving people the tools to negotiate for their own needs within a watershed while also respecting that there is a geographically dispersed mutual dependency on shared waters.

This "parcelling out" form of watershed management also highlights the complexities of a universal engaged in a local place. Practicing the watershed scale through this form of engagement with local needs and practices involves a commitment of time and relationships building to establish trust. After decades of an authoritarian model of watershed development in Thailand and small-scale acts of serving water needs unmet by the state agendas, there is little trust between government agencies and the three river communities where I conducted fieldwork. P'Jay, one of the NGO workers from LRS, explained that what brings the communities together in part is that all the members of the NRN consider their objectives and work to be in opposition to the government. This adversarial stance stems from decades of being marginalized by state agendas, of having to fight to keep land and to claim it legally, and of reaping few if any benefits from the large-scale development agendas that have been part of Thailand's history since the 1960s.

Vogel's (2015) central argument in laying out examples of these modes of watershed management is that any structure must grapple with the geography of a watershed and the range of socio-ecological differences across it. She argues that all watershed management might best be imagined as "interactive," requiring parties to actually engage with each other to better understand the watershed-scale, local needs, and the relations between them. Vogel is pointing to the challenges and friction of performing the watershed-scale in place. As an engaged universal, the watershed-scale is performed in multiple ways and transformed multiply by encounters with local hydrosocialities and socioecologies, often causing reconfigurations of water governance structures and practices in the process. These shifting forms of governing demonstrate how local conditions can affect how the watershed-scale is implemented politically.

Yet the watershed scale poses challenges that go beyond political expediency in watershed governance. Scale-making is an epistemological practice, a way of delineating not only what is included and excluded, but a way of prescribing how people should understand the world around them. In the case of the watershed scale, the universal ideal prescribes that people understand their relationship to water and other people based on scientific principles of hydrology. However, as the universal of the watershed-scale travels and gains credibility in local settings, the epistemology is also transformed in the encounter. In the next section, I demonstrate how local and global epistemologies become interwoven and overlap by exploring the ways that the watershed is invoked by local communities as a practice of counterscaling.

Claiming and Counterscaling

Across the communities of northern Thailand, people identified their home both in terms of politically delineated geographies and their watersheds. As the watershed circulates as a meaningful scale, it becomes a tool not just of centralized management, but also of dispersed resistance and protest as it is integrated into the practices of local communities and performed as part of strategies to make local knowledges legible to the state. This practice became clear at the RID meetings hosted in Phitsanulok that started this chapter.

I arrived at the RID meetings in Phitsanulok alone and looked rather obviously out of place at these meetings premised as opportunities for administrator-community engagement. I registered at the busy tables outside the main hall, writing my name in English and in Thai on the registration form. The worker helping me added a couple of notes to my registration, denoting that I am American and a researcher. On the list of registrants above my name, I noticed that participants identified themselves by watershed - *lumnaam Ping, lumnaam Yom, lumnaam Wang, lumnaam Nan.* I considered writing *lumnaam Ping* to represent where I was living during my research or *lumnaam Mississippi* to demonstrate my own water literacy about my home waters, but I decided that since the meetings were public listening sessions, the RID would likely not be interested in the Mississippi River even if there may be ways for an exchange of learning across these distant and disparate watersheds.

After registering, I entered a side door to the large hall where people bustled around greeting each other. People were dressed up for the meetings; most of the men wore dark pants and button shirts that were all freshly pressed. Women wore similar attire with a few in skirts as well. Yet what stood out more was the variety of clothing that marked people as coming from Thailand's ethnic minority groups. The members from the Karen communities I worked with were almost exclusively dressed in locally woven shirts and skirts, the colors denoting their status as single or married. While clothing woven in the Karen tradition seemed the most abundant, there were some other clothing styles as well that marked people from other ethnic groups in these regions. Within these communities, there are often restrictions on travel for members (regulations that existed even before the military coup) and limitations to rights and recourse under the Thai state (Sakboon, Leepreecha, & Boonyasaranai 2017). Despite these complications, many of these communities are located within the Ping-Wang-Yom-Nan watersheds and thus are impacted by the state management of these resources; therefore, people from these communities were present to have their voices heard and, perhaps just as importantly, to gather information to take back to their own communities during an uncertain time.

After a few minutes of standing awkwardly, P'Tan and his assistant, Nong Lu found me at the edge of the crowd and guided me to the group of attendees from the Northern Rivers Network. Nong Lu and I sat behind P'Tan, at the back of the ensemble that included representatives from Living River Siam (LRS), Saiap, San-Lek, and Baan Mae Roo among others. P'Tan was greeted by every newcomer to the group as well as people from other communities; each person *wai*-ed him first, indicating that he is the senior, respected person. P'Tan occupies an interesting social position: he is based in Bangkok and has earned the respect of civil servants, legislators, and academics; at the same time, he has effectively demonstrated his commitment to the needs and interests of upstream communities and has thus earned their respect as well. At the RID meetings, P'Tan was also somewhat anomalous as he does not live within the four watersheds at the center of these meetings. In fact, P'Tan travelled to each session hosted by the RID. His presence offered a reminder of the connectedness of these waterways, the interconnectedness of water systems and social systems across geography, even as they were considered independently in these meetings.

The meetings started amid fanfare and formality. The initial welcome started by identifying attendees by the provinces from which they came, rather than by watershed, and made special welcome to the local and regional government officials present. Rather than singing the national anthem, we honor the King by standing while the King's Anthem played and attendees sang along, moved by the grainy images of then King Bhumibol visiting rural communities. Next we hear from a selection of esteemed speakers, each voicing common threads about the need for better water management that serves not just the 20% of the country that is agricultural land, but the other 80% of Thailand's lands used variously as well (these numbers, however, do not reflect the reality that nearly two-thirds of Thailand's population is rural and farm in some capacity). The 2011 floods are the centerpiece as examples of the challenges to water management's effective implementation and as threats to both the agricultural and non-agricultural sectors of Thailand's populations. One speaker presents a financial argument for new dams framed not in terms of the cost of these concrete infrastructures or the costs to upstream communities, but in terms of the financial savings for avoiding future flood disasters impacting downstream communities. The lesson was simple: the most financially savvy moves are those that consider the river—and interventions on rivers—at the basin scale. Another speaker used a series of maps to demonstrate probable dam locations, isolating the watersheds to demonstrate the kinds of benefits the dams would lead to in each. His graphics and argument reproduced the universal logic of water management: the best solutions are basin-scale interventions. Throughout the presentations, news crews from across the nation recorded and community members held up tablets and phones to take pictures of the slides, gathering information to share with villagers unable to attend.

After this introduction, the meeting broke into four smaller sessions focusing on each of the central watersheds—Ping, Wang, Yom, and Nan—to discuss issues specific to each. Despite the meeting's geographic distance from the watershed, over 100 people, the largest group of community participants, gathered for the session on *lumnaam ping*, the Ping River watershed including members of Karen upland communities, residents of urban districts like Chiang Mai city, rice farmers from the river valleys, and fishers and farmers from downstream communities living near the expansive catchment pond of the Bhumibol Dam and even further downstream. The main purpose of the breakout sessions was to allow people to express their local concerns. The introductory sessions had already reaffirmed the importance of the watershed scale; while the sessions were framed as opportunities for the RID to listen to local communities, they also emphasized connection among communities from across the watershed to reinforce their responsibility to each other.

One community member started the conversation by focusing on pollution: "I have trees that have been growing well until a factory moved nearby a couple years ago... Now, during the rainy season, we cannot use the water for many things; we cannot wash with the water or use it in our bathroom or drink it, oh oh oh and finally the trees are not as healthy. We need to rehabilitate the waters." The RID facilitator listened while two people behind him scribbled furiously on flipcharts to capture the concerns accurately and succinctly. This concern translated to "pollution, need to rehabilitate rivers."

"I am worried about building dams because they create problems in the forest for people and the environment. If the dam is built, the water regulations change how we live," another person said. I recognized her as part of the group from Lamphun and a member of the Northern Rivers Network.

Another Northern Rivers Network activist spoke up as well. He elaborated on the dams as displacing people, explaining that national parks and protected wildlife areas had already created challenges for traditional practices and sustainable farming strategies. "I want to tell a story about protecting the waters and fish. I am worried about the orders to to leave the forest and waters because we all use them and are responsible for them. We disagree with these policies." Again, the RID official responded with agreement as the recorders behind him wrote the reductive “dams” on the flipchart.

Each speaker localized their concerns, but tied them to the watershed. In this way, demonstrating the multiplicity of experiences within the watershed, the participants are counterscaling. Through their place-based stories, they engage the universal watershed scale and disrupt the paradigm that this scale equally and effectively serves the needs of all residents within its hydrological boundaries. Instead, they focus on the ways that invoking the watershed scale actually obscures local concerns, some that are even created through the privileging of the watershed scale and coordinating interventions. As Harris and Altout (2010: 150) explain, “for debates related to ‘water and conflict’ in particular, a multi-scalar perspective exposes weaknesses of over-focus on state or national scales, often hiding other key intra-state or regional processes.” The listening session between the RID and residents of the Ping River watershed certainly began to demonstrate that the watershed scale makes particular processes, practices, and concerns invisible. The community participants began demonstrating their own epistemologies as ways of understanding connections between water and place.

After a couple other people mentioned dams, the RID official began to object. "Throughout the countryside people have problems, like it rains a lot and it creates a flood and the water spreads everywhere. It is the trend." He made this a declarative statement and re-unified the sets of concerns, drawing people back together to a common set of problems and, by extension, a common solution: dams. He pointed to a particular previous speaker and asked him about his experience living near the Bhumibol Dam on the Ping in Tak Province. “You get benefits from living near the dam, right? Electricity?” he asked, pointedly. The conversation was polite, but quickly growing contentious.

“*Mii khrap.* Yes. We have electricity and we use the basin for fishing and tourism now,” answered the man.

The RID official seized the opportunity. “That is more than many others have.” His statement silenced the conversation for a moment. In his attempt to bring people together for the good of the watershed, he managed to create a rift along the lines of development.

Another constituent spoke about his concerns, stating that "the trend is not to take care of the entire watershed. I have to care for my fish, farm, and trees. Where is the help for me?" He discussed the need for more information (*khomul*), which was a trend in conversations among members of the Northern Rivers Network as well. Information was not provided and development, particularly of watershed-scale infrastructures, was not transparent. The speaker is counterscaling to once again point out that the watershed scale is insufficient for addressing all the needs across its socialities and geographies.

The RID official chimed in again: "So you are saying we need more studies to understand local needs. We all have stories, but need to do research. Even though we have knowledge that flooding in Bangkok is a problem, we need to continue to study for solutions." While he is validating the concern voiced by the man, he is also reframing the comment to again reflect the watershed scale; by invoking Bangkok and its flooding, he is once again drawing people to think about the scale of the watershed and tying studies and decision-making to that scale.

Ajarn Lamon, the quiet activist from Mae Chaem who runs a small NGO for environmental advocacy, also spoke up, offering his own counterscale and refocusing on local problems and local solutions: "If the dam is built, it will take away homes. If it happens, it will take away all the people who are there and their beliefs. They will be flooded. If we wait and do more studies about the watershed we might find better solutions. I am 99% sure we could find better solutions."

For the hour, the RID listened and recorded the statements of community members from across the watershed. The flipchart pages filled with concerns and different voices, inadvertently displaying the tensions between the needs of upstream and downstream river residents and users (Pinkaew 2000). As each person spoke, the watershed became an engaged universal, a socialscape filled with divergent experiences with water and ways of engaging it. Each person offered a counter-scale, disrupting the discursive privilege of the watershed-scale by demonstrating the gaps in its effectiveness and the problems that it provokes.

Shortly thereafter, the session broke up for a lunch break. As I gathered my things, P'Tan started hurriedly herding people from the Northern Rivers Network out the door, up the stairs, and into another small room that was formally arranged. As the crowd moved out of the main hall, he peered over his shoulder, beckoning me to hurry and join them. I slipped into the room after conversations had already begun to find every seat filled. I found a corner to stand in, uncertain about what was about to happen; this was not part of the formal schedule of events outlined by the RID officials at the start of the day. At the front of the room sat three officials at a long table with microphones in front of them. The audience space was filled with people from the Norther Rivers Network, all members of the anti-dam coalition as well as a camera crew with a boom microphone to capture the conversation. Over the next 20 minutes or so, each group sent a single member forward to the RID table with a packet of information documenting their stewardship and sustainable care practices in the Thai uplands. In their analysis of narratives that shape the Thai environmental landscape and socioecological relations, Timothy Forsyth and Andrew Walker (2008: 100) explain that the "nationwide system of watershed classification is motivated primarily by a desire to preserve forest upland water sources." The watershed provided a scale to invoke to regulate behaviors with land and water. The villages, however, were demonstrating their efforts to fulfill the same objectives—protect water sources and preserve forested uplands—through their own local practices and even local regulations.

Announcing their home by watershed, each person proceeded to briefly explain the practices in their villages that are either in line with larger regulations from the state on watershed use and preservation or exceed the expectations of the state. For Baan Mae Roo, P'Decha explained the tree planting campaigns the village undertook to reforest areas that had been degraded, particularly areas closest to waterways thus ensuring the banks did not erode further. P'Boon discussed the regulations the local communities in Saiap imposed on the use of forest resources, particularly the felling and use of the valuable golden teak trees. This strategy used by community anti-dam activists parallels the discursive projects of environmental justice advocates traced by Hilda Kurtz (2003: 888), emphasizing "the multiple ways in which environmental justice activists invoke geographic scale(s) to negotiate the meaning and extent of environmental injustice, both among themselves and for the benefit of government decision-makers" (Kurtz 2003: 888). Collectively, the communities argued that their care of water and the environment was epistemologically different from the state's agenda; the state cared about the watersheds as a resource to be rationalized, but the communities cared about the watershed because their lives were intertwined with the waters. This practice of counterscaling, of demonstrating that local efforts are part of improving the condition of Thailand's watersheds because of situated experiences and interdependent relationships with water, challenged the state's universalized ideal of how to best manage water at the watershed scale. Both frameworks invoke the watershed, but to divergent ends, illustrating that "different human agents engage in scale-making projects that imagine locality, nationality, or globality in ways that fit their social identities as as well as their political motivations" (Sneddon 2015: 54). For the state, the watershed scale is an epistemology complicit with nationalism, development, and reproducing state power. For the communities that are part of the Northern Rivers Network, the watershed scale is a discursive terrain on which to make their local practices and claims legible to the state apparatus.

This method of counterscaling engages the universalizing watershed scale, yet simultaneously disrupts it. Watersheds are characterized as vast territory with variability among residents or water users, geographies, hydrologies, and hydrosocialities (Norman, Cook & Cohen 2015). The objective of the watershed perspective, however, is to mitigate these differences in order to make water policy and governance across difference without acknowledging the uneven distribution of effects, privileging particular engagements with water and particular assemblages while obscuring the epistemologies of others. As an engaged universal, however, the watershed scale circulated because it offers an opportunity to be legible to the state, to make the concerns of local communities both resonate with and disrupt the expectations of the watershed managers like the RID. Rather than creating a singular, universal, the watershed scale provides a new field for discursive multiplicity.

Historical Echoes

Even as an engaged universal, the watershed scale can never completely fulfill its promise of singularizing and erasing past patterns of engagement with water. Instead, echoes of previous water practices and eras disrupt the watershed as artifacts of different hydrosocialities and ontologies emerging in archaeology, museums, and festival practices.

Archaeology

After being hidden for centuries, the unearthed Wiang Kum Kam has become part of the expanding city of Chiang Mai. Several of the buildings that were part of Wiang Kum Kam have been excavated or reconstructed as well and the area is a tourist destination. During my first trip to Thailand as an undergraduate student in 2004, my host family took me to visit the museum at Wiang Kum Kam. They are part of the village that now inhabits the area around the historic sites, a community that was flourishing before the 1984 rediscovery of the ancient city. As a tourist, the main mode of interaction with this historic site is terrestrial: our guide led us through some of the main reconstructed sites in a horse drawn wagon. Yet this terrestrial engagement nonetheless evokes the watery history of this place. Ten years later, I returned to Wiang Kum Kam and toured some of the more remote structures that had been excavated. Driving my motorbike through narrowing, winding roads that circled homes and businesses, I realized that many of the ruins of Wiang Kum Kam were tucked behind the contemporary structures, some almost hidden. The excavated structures have been carved out of deep sediment and debris and so are entrenched in ditches and valleys. Modern infrastructures have included drains at low ends of the ditches to help keep these low-lying areas from filling with water and further compromising the material structures. Here, in newly engineered valleys, the relationship between people and water is reconfigured: no longer a collaboration of humans, water, and land burying history, this area is now part of a story of water management evoked by an older story of the agency of water-beings. Now, the objective is to modernize this historical setting as a tourist destination and the call for protecting it from water comes from ministries of the central government in Bangkok.

Royal Barge Museum

In contemporary Thailand, one place to see remnants of aqueous kingdoms is at the Royal Barge National Museum in Bangkok. On the west bank of the Chao Phraya, the museum is best accessed by long-tail boat that can navigate the narrow canal route from the river's mainstem to the large shed structure that stores the barges. By land, the route to the museum is circuitous, accessible by following irregularly posted and sometimes hand-painted signs along paths wide enough only for pedestrians or skilled motorbike drivers. As I walked through stretches of path that looked like community dumps and others that seemed like people's backyards, I stopped a couple of times to ask people lounging against motorbikes whether or not I was going the right direction.

The museum, a shed structure with an arced ceilings and cement floors with slips for the barges, is actually more of a workshop for the barges than a curated museum. Housing eight barges, the museum is where the watercraft are refurbished and maintained for ongoing use in the occasional Thai Royal Barge Procession. This tradition is a continuation of practices of older kindgoms and became a critical part of the establishment of Bangkok. The barges, boats that are over 40 meters long and only a couple meters wide, are ornately decorated with gold leaf patterns and colored glass or jewels. The barges require upwards of 50 oarsmen to row royalty or Buddha images perched on the platform in the middle, under a canopy. The ends of the barge rise up off the water; the front of each is a different creature from the cosmological landscape of Thai spirit animals such as the nine-headed naga (water serpent) or characters from the Thai national epic, the Ramakien. The most famous and important barge is the Suphannahongse with the 'golden swan' as the figurehead. Called the Royal Barge, the Suphannahongse is made of a solid piece of teak wood and was completed in 1911 under Rama VI. It remains the centerpiece of contemporary processions on the Chao Phraya with the other barges and boats organized into a pattern called *Daw Lom Duan*—Stars Surrounding the Moon.

Figure 3.1 Royal Barge Museum featuring barge with Naga head.
Image courtesy of the author (2014).

Historically significant as demonstrations of militarily prowess, these vessels retain their honor and royal prestige now through ceremony. During various eras of warring, barges were damaged and destroyed; in particular during World War II, the Royal Barge dock was destroyed by bombers leaving many of the barges in disrepair. Rama IX, King Bhumibol, is credited on the placards as initiating the restoration of the vessels. The eight barges that currently reside in the museum have long histories but have been refurbished during the last few decades and are now part of the the rare royal processions on water. Whether they are used regularly or not, the vessels are now religiously maintained and on display daily at the museum. During my visit in the early part of the rainy season, the museum was a space of active labor. Workers were scattered throughout the facility, some selling entrance tickets to the museum as people walked in or as boats approached the dock with tourists, others selling postcards and Thai trinkets, others setting up and taking down the structures necessary for restoring parts of vessels damaged by time, weather, or high waters. Scaffolding surrounded a couple of the barges where people worked to replace and repair worn pieces of wood and decoration.

While these barges are no longer used as military vessels, displaying them in the museum is a way of evoking the histories of affective bonds with water-beings. The ceremonial naval fleet in some ways laid a foundation for recognizing connectedness along the tendrils of watery routes. Their continued presence offers a response to the project of modernity that renders them obsolete. Instead of disappearing into history, the boats surface as an echo of these histories that cannot be negated. As the barges show, the histories of water as beings and water as a critical contributor to the development of kingdoms are not erased but are overshadowed as the constellations of participants in the waterscape shifts and as the scales and forms of hydrosocial relations in Thailand are renegotiated.

Festivals

Discussions of the watershed scale as an engaged universal by humans ignores a critical set of social relations that enable human intervention: relations with water-beings themselves. Water-beings, in their ontological complexity, are invoked in various human practices and processes that are not contained by watersheds, but instead demonstrate why the scale-making project of the watershed is ever incomplete.

Astrid Stensrud (2016: 92) argues “that the different attributes of water—as defined according to source, space, time, policies, rituals, use, measurement and flow—are not aspects of a single Water with an essence (e.g. H20) that hides. Rather they are different versions of water… performed not only as perspectives, but multiple realities of water.” These multiple realities become visible in the ongoing practices that evoke water-beings. For example, Padii Sah drinking river water (described in the opening of this text) participates in a set of cosmological relations; this world-making practice makes visible a reality that is incompatible with the the state’s watershed-scale management perspective. This is more than a scalar incongruity; for Paadii, the rivers are not part of political negotiations over whose scale is better for managing a resource. Instead, this is an incommensurability because these cosmopolitical relations challenge the ontological basis of scale-making practices all together. Padii Sah does not see these water-beings as political and rationalizable but as multiple, overflowing, and relational, actively and creatively part of co-constituting the planet materially and socially.

Practices that invoke water-beings as ontologically complex are not limited to individual behaviors. In fact, Thailand’s two largest festivals revolve around water and point toward a set of relations that preceded rationalized rivers and robustly-engineered waterscapes. This paired set of festivals that honor water-beings, Loy Krathong and

Songkran, reflect a relational sensibility: people recognize their responsibility to manage water through relationships and through their behaviors. The two festivals bookend the rice growing season and the willing participation of water-beings is understood as critical for effective agricultural practice. These festivals help to facilitate a quality relationships between people and water-beings. With long histories preceding the Thai state, geopolitical borders, and engineered infrastructures, these two festivals are currently practiced in ways that evoke not just history, but a relational world that overlaps—and at times collides with—the world of contemporary water management.

According to tradition, each November, or at the end of the twelfth lunar month, people across Thailand gather at rivers to honor them through the festival of Loy Krathong. The festival focuses on saying *khoo thoot* (apologies) and *khoop khun* (thanks) to the river, offering apologies for harms humans have caused the waters and thanks for all the ways the waters have sustained people throughout the year. Taking place at the end of the rainy season, as rivers often overflow their banks and after the rice crop has been planted, Loy Krathong pays homage to the Goddess Mae Phra Khong Kha, the Mother of Water (Walton & Tudsawan 1992). Each year, people craft *krathong*, small rafts made of porous banana tree stalk, or its more contemporary counterpart Styrofoam, decorate them with intricately folded banana leaves and flowers, a small candle and joss sticks; sometimes people include betel nut, betel leaf, or small coins. The rafts are then floated on the water on the evening of the full moon. Paying tribute to the water goddess, the inclusion of hair or fingernail clippings on *krathong* make the festival an opportunity for people to cast out and float away human indiscretions as well (Rajadhon 1953).

The origins of the festival are debated and stem from widely different cultural and spiritual traditions. One version of the origins of Loy Krathong links the festival to a Hindu story about an albino crow who becomes the water goddess and hatches her eggs as humans; the festival replicates her directive to her children to float boats on the water when they miss her. A Buddhist explanation ties Loy Krathong to an apocryphal story of Lord Buddha leaving a footprint on the shore of a river for his followers. One version of the story suggests that the King of Serpents asked for this blessing and then compelled women to float gold trays of perfumes and flowers on the river as a thank you to the Buddha, a practice now replicated with decorative *krathong*. Later, King Lo-Thai of the Phra-Reung Dynasty in what is now Thailand made the festival a state-sanctioned event in an "astute act of regal statecraft," making Loy Krathong a demonstration of public rejoicing after the labor of planting rice (Walton & Tudsawan 1992: 116). The differing origin narratives tie the festival to various waves of authority that shaped the region and varied ontological understandings of the capacities and agency of water-beings (Rajadhon 1953, Walton & Tudsawan 1992).

Similarly, the festival of Songkran also invokes water-beings not as political but cosmopolitical participants. Songkran takes place at the end of the hot season as a way to call the rains. People in Thailand do this by sprinkling water on each other as a blessing for a new year or, in contemporary practice, by dousing others with buckets of ice water or with water guns and hoses in one of the world's largest water fights. Originating as a solar myth, one legend suggests that the seven daughters of the sun god protected the earth from seven dry years by stopping their father's head from touching the earth. The festival honors the daughters by calling the rains they enabled to return each year and establishes the transition to the rainy season as a marker for the progression from an old year to a new year. To welcome the new year, the festival includes cleaning to remove the physical and cosmological grime of the previous year. To do this, water is sprinkled and splashed to "invoke life-giving monsoon rains and to confer the blessings of renewal" (Walton &

Tudsawan 1992: 110). As Songkran became a critical practice of agricultural cycles and integrated into Buddhist practice as well, the days immediately following the cleansing came to include merit-making through giving alms to monks and washing Buddha images with with scented water.

Regardless of the origins of these festivals, Loy Krathong and Songkran are ultimately sets of practices that point to the capacities of water as exceeding human forms of scientific management and simultaneously evoke a continuity with the past. Honoring rivers as providing for people, as goddesses, and as beings worthy of thanks and apology suggests an intimacy of relationship between people and water. Appealing to a goddess to provide rain waters similarly speaks to an appreciation of the material world as agentive, as responding to human engagement but not entirely controlled by human intentions and designs. Together these two festivals are integrated into practices of the contemporary Thai state, marked as national holidays, and celebrated with multiple days of festivities. The holidays are among the most important and most widely practiced in Thailand and their persistence underscores the ontologically esteemed position of water—in rains and rivers—in the Thai context.

Yet even as these festivals persist, they are not static. Loy Krathong and Songkran are artifacts of a pre-modern era with threads of continuity. In contemporary forms of Loy Krathong, the varied practices with *krathong* themselves make this ontological multiplicity visible and political. *Krathong* remain a key part of the community festivals both as a way to offer thanks and apologies to the river and as a demonstration of elegance and celebration. In Chiang Mai, the moat around the old city is adorned with stationary, reusable *krathong* over six feet tall, colorfully lit, and ornately decorated each year. In addition, the city hosts a parade of elaborate boat-sized *krathong* floats that wind from the city center down to the river. The parade includes the large *krathong* that will actually float on the river as well as people dancing in choreographed procession holding offerings for the river or acting out parts of Thailand’s national epic, the *Ramakien.* Many of the *krathong* from the parade grace the river, adorning the waters so passersby and see them as they cross over city bridges, but then removed from the waters after the three-day holiday period. In rural communities like Saiap, the festival has a similar pageantry. There is a parade with dances and offerings made both to the monks of the local temple and to the river. The pageantry is part of the tourist appeal, but these patterns of engagement with water are forms of hydrosociality that suggest water is more than a resource for human manipulation, but instead has capacities to arbitrate appropriate human conduct. These practices have long “blurred the known distinction between humans and nature” by affirming that nature has capacities that parallel or exceed those of humans (de la Cadena 2015: 5). Water in these practices is ontologically complex and incompletely knowable.

Figure 3.2 Selling *krathong* alongside the Ping River, Chiang Mai
Image courtesy of the author (2014)

People also continue to craft or purchase personal *krathong* to float on the river. During Loy Krathong, the flats around the river in Chaing Mai as well as the flower market area on the Ping River’s west bank are filled with vendors constructing *krathong* and selling them so people can place them in the water as their own tribute. These boats remain a symbol of honoring the river, of casting out the sins of the past year and having the waters carry them away. Friends in Chiang Mai also explained that the festival has romantic overtones now. When people are dating, they attend the festival together and each place individual *krathong* on the water. The goddess of the river then forecasts the success of the relationship through the floating *krathong*: if the boats float together, the couple has a good future ahead but if the boats begin to drift apart, it is an omen that the couple is similarly destined to flounder and separate. I heard this version of the meaning of Loy Krathong from many people over my ten years of visiting and living in Thailand, but almost exclusively from younger people and always with a bit of coyness, a though they are aware that they are altering the intention of the festival to focus on human-water relations, not romantic ones. Other people have chosen to reimagine the potential of the festival as lucrative for the daring swimmer. People still often place coins on the *krathong* as a financial offering to the river and as a way of making merit in Buddhist terms. In the era of neoliberalism, as economic disparity deepens in Thailand thanks to uneven and ill-advised development schemes, it is common to see people swimming in the rivers and canals collecting the change from the *krathong* as they float downstream (McKinnon 2011b, Kongsai & Kalayanawisut 2014).

Over the years, the number of *krathong* using synthetic foam or plastic bases had been on the rise (Pongrai 2013). The materials had begun to wreak havoc on Thailand's waterways, effectively damaging the rivers during a festival designed to apologize to them for human acts that have degraded them. In 2013, a public awareness campaign began to have effect as environmentalists and the Natural Resources and Environment Ministry suggested people use biodegradable materials only for *krathong* (Pongrai 2013). The campaign and local restrictions succeeded in minimizing the volume of non-biodegradable *krathong*; in 2014 the Bangkok Metropolitan Administration stated that 90% of the nearly 1 million *krathong* floated on the Chao Phraya, canals, ponds, and other waterways in Bangkok were made of eco-friendly materials (Kongsai & Kalayanawisut 2014). Still, these *krathong* and the millions floated in the rest of the nation are typically gathered by municipal workers as they gather behind dam walls, in eddies, or along riverbanks. The environmental repercussions of this cosmopolitical act draw the festival into metrics of modern watershed health. These multiple onto-epistemological worlds exist as overlapping water realities.

Songkran points to a similar ontological complexity. A practice for calling the rains points again to the agency of nonhumans and the importance of appropriate human conduct to facilitate a quality relationship. At the same time, the festival has become known as the world's largest water fight, with people enjoying the refreshing waters as a way to cool down from the hot season heat. During the three days of the holiday, the roads around Chiang Mai's old city are filled with people on foot and in cars, moving slowly as buckets full of water are thrown about as blessings. People expect to be completely doused by the end of the celebration. Many people would use municipal water supplies to fill garbage cans toted through the city in the back of pickup trucks. However, Chiang Mai's city moat is also a convenient source of water to dump over others. People use buckets on long strings to gather water that they can pour over others. However, in 2014, just a week before the Songkran holiday, the local office of the Ministry of Natural Resources and Environment determined the water was unsafe for use during the holidays; the mayor committed to cleaning the moat water by draining the water and adding chemicals to ensure the pollution levels were improved before the festival (*CityNews Chiang Mai* 2014). Here, concerns over water quality invoke public health interventions. Yet whether the moat was clean or not, the festival persists demonstrating a tension between the ontology of water as creative and agentive and the ontology of water as an object polluted and in need of regulation.

The tensions in practices demonstrate a multiplicity of human engagements with water all inspired by holidays to honor water-beings rather than by watershed-scale politics. These festivals are not tied to ideas of the watershed scale or development initiatives or anti-dam protests. Instead, they are about placed-based relationships with water that disrupt political practices and escape the watershed scale as the privileged way to know water. Through the festivals, people across Thailand demonstrate a different way of knowing water-beings as participants in co-creating the world. Loy Krathong and Songkran are not scale-making practices; they are world-making.

The practices of obligation and respect to water-beings, from festivals to greeting water-beings to other examples discussed in later chapters, create a world that co-exists and overlaps with a world of tourists who fill Chiang Mai's streets for Songkran, touted as the world's largest water fight, and with a world where state metrics, the watershed scale, and engineering interventions aim for rationalization of waterways rather than collaboration and co-creation with water-beings. This multiplicity is what Isabelle Stengers (2005) calls an ecology of practice. Astrid Stensrud (2016: 80) elaborates that an ecology of practices "does not have any ambition to describe practices 'as they are'—water management as we know it, for instance—but as they may become and how they may connect. The different water practices and water worlds co-exist and are deeply entangled." The festival practices demonstrate both connections and disconnects across time, geographies, and onto-epistemologies and point toward a possibility of human-water entanglements that exceed the watershed-scale by creating a proliferation of possible hydrosocialities that can be tied to neither time nor place (Lowe 2006). Making visible this proliferation of water-beings as potentiality makes it possible to tell other stories about how people might engage water differently. The watershed scale may be privileged in governance structures, but in practice, local patterns disrupt this scale through embedded world-making projects.

Conclusion

After the RID public listening session wrapped up in Phitsanulok, several of the villages gathered outside near their vans to discuss the information they would take back to their communities. People were jovial; today, they had been heard, they explained. When I asked if this would make a difference in the dam projects, P'Boon said "I'm not sure, but I have hope." At the meetings, these communities disrupted the paradigm of state-sanctioned development at the watershed scale, but the outcomes remained uncertain and the watershed scale remained firmly entrenched in discourse and inscription.

This chapter outlines the conditions of possibility that enabled the watershed scale to come to this position of privilege. As an engaged universal, this scale both organizes the Thai waterscape and is disrupted by it. Further, this project did not erase the previous eras of practices and technologies, but instead expanded the set of potential outcomes, constellations of participants, and possible worlds. The effect is multiple, overlapping water realities that sometimes exist peaceably and at other moments exist in tension. The flooding in 2011 is a particular set of conditions that leaves these worlds in antagonistic disjuncture. The next chapter focuses on the floods, the precarity of the post-flood period in Thailand, and the kinds of political commitments and world-making projects that emerge from the disruption to social and ecological norms.

Chapter Four

Water-Beings Overflowing

“Are you doing research on floods or rivers?” P’Rut asked, eyeing me with a suspicious grin. We were crouched on rocks at the edge of the Khan River along with several other men and boys from villages across northern Thailand, all activists campaigning together against the threat of dams on rivers in their villages, dams proposed as a preventative measure after the most recent iteration of dramatic floods inundated downstream communities a couple of years before. Since the floods and the ensuing dam plan, these communities have rallied and campaigned to arrest progress on dam construction. P’Rut’s question surprised me; I naively considered floods and rivers as a related course of study—after all, the rivers overflowed and this overflow was the water of the floods. Certainly the movement of water through the hydrologic cycle and straightforward understandings of ecosystem services supported that seamless connection (Linton & Budds 2014, Brauman 2015). I conceived my research as an intellectual pursuit to engage water beings in the Thai context. P’Rut continued: “Because in Bangkok they have floods; up here we have rivers,” he explained. His question to me was punctuated by a laugh that diffuses the biting challenge. As he questioned me, P’Rut scanned the group around him to see each of the onlookers laughing or lifting their chins in assent. In that moment, I became aware that water beings are more complexly implicated and understood through the kinds of assemblages in which they participate. This includes the socially and politically motivated definitions of *naamtuam* or flood which carries with it connotations of threat, aberration, and need for human remedy as distinct from *meenaam* or river as a representation of a water being that carries both the promise of being a rationalizable resource and the potential of multiplicity and ontological unsettledness.

I had just been introduced to the group by P'Narong, an anti-dam and community activist from Isaan who travels to each new site of development crises to rally people and offer his experienced wisdom. He introduced me with a summary statement: This is Laurie, she is an anthropologist who studies floods. This introduction had a predictable effect: in that context, in the middle of a 4-day hike as a campaign action against the proposed dams across northern Thailand and as part of their action to honor International Day of Action for Rivers (and against dams), research on the floods that precipitated the current state dam plan makes me suspect; research on rivers might make me an ally in the anti-dam protest movement. Gathered along the edges of the Khan River, a river threatened by the current state proposed dam plan, we perched on rocks that would be submerged in the wet season, surrounded by tree-lined bluffs of the river valley that would all be submerged should a dam be built on the river. P'Rut's question delineates the distance, both geographically and ideologically, between the state administrative center with its urban flood victims in Bangkok and rural upstream communities. In the aftermath the 2011 floods, rivers and floods, *meenaam* and *naamtuam*, index different experiences of water and distinct socio-material relationships with water-beings. These words and the hydrosocial relationships they index became central to political negotiations and human subjectivities in the post-flood period.

This chapter gives an account of the 2011 floods in Thailand and the responses it provoked. I approach the floods as a disaster that unfolds over space and time through the relationships between people and water, mediated by infrastructures, documentation, discourse, experience, and privilege.

To understand this disaster and its political and social aftermath we must examine the both the human and material dimensions of the floods. Through the floods, social and material relations are fractured and transformed (Hoffman 2010). I argue that the floods produced a rupture with normalcy that created challenging conditions but also opened up opportunities to forge new socio-material relationships and transform human subjectivities. Franz Krause (2016: 282) explains that “being connected through and with water reflects and constitutes social ties and human subjectivities.” I draw on this framing to examine how political priorities and claims are mobilized through flooding and simultaneously how the flooding disaster reconfigures how people relate to water and each other. Here I am less interested in specific disaster management metrics that might focus on recovery and resilience, adaptation and building community capacity; instead, I focus on how this flood disaster creates a rupture in expectations of socio-material relations and enables the possibilities of new identities, claims, and hydrosocialities in the Thai context.

This chapter first explores how unexpected watery flows came to be understood as a flood disaster. I analyze the development of a disaster as the convergence of social and material processes. Through the floods, water became visible not just as an matter out of place, but as creative, unpredictable, and multiplicitous material presences. This affirmed the critical role of water in political and social considerations; the floods brought water into political encounters in ways that reconfigured the Thai waterscape and socialscape.

However, experiences of the 2011 floods differed dramatically based on geography and time and as the waters receded physically, conflicting hydrosocial claims emerged. Temporal framings of the floods and the capacities of water-beings shapes questions about causation, claims to victimhood, and the kinds of responses presented as viable disaster responses. As I demonstrate in the latter portion of this chapter, disasters like floods become contested grounds for defining visions of Thailand's futures ecologically, socially, and temporally. The flood disaster intertwines humans and nonhumans in the tense, fragmentary, and creative work of world-making, and how these aggregations of people and water, humans and nonhumans more broadly, come together is shaped by the terrain of the social and ecological landscape created by the floodwaters' disruption and by what is left by the receding waters.

Naam Tuam

As I left Thailand in late August 2011, the rainy season was off to an impressive and alarming start. Flash floods in the upland hills were reported as early as May; the remnants of tropical storms Haima and Nock-Ten stalled over the northern provinces for days at a time in June and July, respectively (Gale & Saunders 2013, GFDRR 2012). Rivers in the north had already exceeded their banks weeks before the usual peak, their waters unsettling communities along the tributaries of the Chao Phraya basin. As the monsoon rains accumulated, rivers grew in volume and force; with swollen currents, rivers surged down the upland hills, tearing down trees, homes, and paddy steppes in slippery mudslides. In Chiang Mai, during dry moments, people frequented the banks of the Ping River, leaning over the railing atop the cement embankments or along bridges, watching the floating debris of trees and homes carried from upstream, talking about the most recent forecasts, and deliberating on if or when the Ping would exceed even the high, constructed banks at the center of the city and flood into the markets on either side as it had a handful of times in the previous decades (Guy Carpenter & Company 2012). Dislodging earth and people, the Ping River's currents pushed the excess water and its collection of debris into the catchment pond behind Bhumibol hydroelectric dam downstream from Chiang Mai. Positioned on the larger tributaries like the Ping, catchment ponds across northern Thailand are designed to collect water in the rainy season and the RID manages its release to ward off drought during the dry season. These catchment ponds are designed as a development scheme intended to rationalize river basins, making their flows, at least downstream, predictable. Yet these catchment ponds have created a false sense of security for communities downstream. By September, several rivers had swelled beyond the capacities of dam reservoirs; ten major flood control structures such as large-scale dams and dikes were compromised by the persistent waters, allowing the waters to flow unimpeded downstream with fervor and force (GFDRR 2012). Displacing people and businesses, homes and livelihoods, the surging waters etched a destructive path across the landscape.

Figure 4.1 Aerial of Chao Phraya in the Central Plains before and during the 2011 Floods. Image via NASA Earth Observatory (Allen and Simmon 2011).

By October, the waters had reached the outskirts of the Thai capital. The swampy earth of the Chao Phraya floodplain, either already saturated or paved over, could not absorb the consistent flow from upstream and persistently falling rains from further tropical storms across the region. The excess collected in three rivers that drain to the Gulf of Siam, the Chao Phraya being the largest and most central of these rivers, cutting through Bangkok en route to sea. Thanks to an earthen and man-made diversion barrier called the King's Dike, controversially bolstered by 2.5-ton sandbags, the water was mostly channeled around the Don Meuang Airport and the city center just to its south (Fredrickson 2011, Meehan 2012). While protecting the central business district, the water was diverted to Bangkok's periphery and growing suburban areas, forcing people in these outlying districts to contend with water up to two meters deep.

Obstructing routes in and out of the city, Bangkok like the industrial campuses in the plains to the north, was at least partially paralyzed. At the peak of the floods, friends within Bangkok's protected perimeter posted on social media that their offices were closed, from university instructors to airline employees. Since people could not get in or out of the city, much work stalled for a few days to a week or two. Other friends in the suburbs shared that they had fled their homes; they were safe, but they expected their homes to be lost to the enduring high waters pushing through doors and windows if not walls to transform homes to soggy wastelands. Mobs began targeting the sandbag walls that protected the central city and as a result, soldiers were dispatched to patrol them (Yarina 2018). Through December and into early January, the excess water was still draining around Bangkok.

The effects of this excess water were disastrous materially, economically, and socially. Over 800 people lost their lives to the rising waters and over 13 million people in 66 of Thailand's 77 provinces, nearly 20% of the population, was affected (GFDRR 2012, Guy

Carpenter & Company 2012). More than 14,000 businesses closed, unable to survive the deluge and thousands of others suspended work, creating challenges for wage earners (Guy Carpenter & Company 2012). Across the central plains, industrial estates the size of cities were put out of commission until the waters drained; producing goods like hard drives, car parts, and other electronic components for companies like Sony, Honda, and Toyota, the suspension of production caused ripple effects in global electronics markets (Aon Benfield 2012, Guy Carpenter & Company 2012, Meehan 2012). The World Bank estimates the losses caused by the overflowing waters to be around THB1.36 trillion (approximately USD 4.1 billion) (Wongruang 2018). In all, approximately 100 billion cubic meters of water drained across 30,000 square kilometers leaving social and ecological messes in its wake (Aon Benfield 2012, roosuflood 2011a).

By any measure, the forceful waters moving across the Thai landscape for days, weeks, and months created turmoil and chaos. Here I analyze how spatiotemporal differences in experiences with excess waters frame discourses of floods and rivers, normal and aberrant flows. I argue that the resulting discursive framings have political and ecological ramifications, including legitimizing claims to vulnerability and victimhood and establishing biopolitical foundations for state action.

Socio-Material Assemblages as Floods and Disasters

During one of my visits to Baan Mae Roo, I stayed with the local *or-bor-dtor* (Tambon Administative Organization or member of the local administation hence forward written as OBT) and his family. I arrived in the evening, just as the rains were beginning to clear, in a pickup truck with NGO workers who would be hosting a meeting the next day focused on conservation actions as anti-dam protests. Meeting me outside on the cement porch of their home that abutted the red clay road, the OBT and his wife invited me into the kitchen where a few other people were still seated on the bamboo mat on the floor finishing dinner and invited me to eat the roasted pork, sticky rice, seasoned omelet, and stir-fried greens and garlic they had been sharing. With the rains that had guided us into the village, the darkness had come quickly and thickly, but I could hear the churning of the Chaem River just beyond the short walls of the open kitchen as I ate slowly, my stomach still churning from the unsettlingly quick and winding journey along the slick mountain roads. As we sat in a small circle, the elders drifting away after they finished eating and the OBT shared his experience with the 2011 floods on the Chaem River. The OBT's house is in the river valley, the first house after the bridge that crosses the Chaem River in Baan Mae Roo. Some homes in the village were the traditional elevated style, but this house was built for whoever occupied the formal position of government official and was therefore designed to represent modern tastes and appeal; his home is built on a concrete slab on the ground with a large porch area in the front to greet and entertain visitors. While it sits on the bluff a few meters above the flowing waters of the Chaem River most of the time, in 2011, he explained that the waters continued to rise and intensify over a 12-hour period. At their peak, the river waters were powerful enough that as they curved around the property, they eroded part of the bank and the waters careened into their home. The OBT gestured toward the half-walls of the kitchen and explained that the waters had pounded those walls, big swells pouring over them. The structure had stood, but the home had been inundated. A day later, the waters had drained from their home. During one of my later visits I saw large construction equipment beside the OBT's home; three years after the floods, they were moving the thick clay earth and rock to rebuild the bank to protect their home for the future. The scars of the flood were still visible at the school in Baan Mae Roo as well. Across the street from the OBT's home, the school fields were the lowest part of the village. The high waters covered the school field up into the school rooms; despite cleaning, some of the buildings still had stains marking the water level.

In Baan Mae Roo, the community spoke of this event as a flash flood or *naam laak*. The waters were high and powerful but receded in less than a day. People responded to the damages using local capacities to recover. Sitting outside an elementary school in Mae Chaem city, the Chaem River burbling quietly through the valley a few blocks away, Ajarn Lamon explained that these kinds of floods are frequent in the city as well as in the villages. Still, the damage had been minor compared to the challenges it posed much further downstream.

In San-Lek, the 2011 floods were experienced as mudslides. The stilted homes tucked along the steep slope of the hillside were not in any danger of having water inside their walls; however, the movement of water across saturated hillsides threatened to destabilize homes not robustly pillared in place. The slick thickness of mud kept people from straying too far from home during the heaviest rains and created challenges with roadways and paths as well. Yet for this community, as P'Rut explained, there was no flooding, only rivers and rain, water-beings existing and creating the world.

In Saiap, people talked about the Yom River and the surrounding tributaries being high but not about floods or damage. The low-lying grounds near the waterways are primarily paddy fields that surround the villages. The excess water filled the paddies, obstructed some roads, but they did not experience anything they would call flooding. While the tropical storms and weather patterns certainly contributed to a magnitude of excess water unusual across the country, in the northern regions, smaller flash floods, mudslides, and even water escaping the riverbanks are recurrent and even common occurrences.

The massive amounts of water alone, then, did not make the conditions of 2011 a flood disaster. Instead, scholars of disaster argue that this kind of disruption unfolds over time through the interaction of social and natural conditions that are co-constitutive of each other (Oliver-Smith 1999a). Disasters like floods are processual phenomena and understandings of these flows of water are multiple; they become understandable as a flood and a disaster only as these water-beings encounter particular human social forms. Floods are produced through hydrosocial relations as people make meaning out of watery flows that disrupt human projects and practices rather than acquiescing to them. In his analysis of flooding and flood defense concerns in Gloucestershire, England, Franz Krause (2016: 683) argues that flooding is “an upsetting of orderly flows that disturbs an assumed normalcy in socio-material relationships.” These disorderly flows reveal that some kinds of hydrosocial relationships have been normalized and naturalized while others are labeled aberrant and problematic; water is always moving, down drains, through soil, down hillsides, draining along riverbeds to sea, but “when it moves in different quantities, into different places and to different depths” people take notice of the change in “kind, tempo, intensity, and direction of water movement” (Krause 2016: 293). In this case, “flood” or *naamtuam* names the watery flow that displayed this unexpected intensity.

This kind of watery flow is not new to Thailand. On smaller scales, water that exceeds narrow river beds and flash flooding conditions in highland areas (as mentioned above) and urban streets is quite common. As mentioned in the introduction, 80% of Thailand’s rainfall comes between May and October due to monsoon rains mixed with typhoons and tropical storms. With an average of 400-500mm of rain accumulating over August in September each year, a single relentless and heavy storm can produce flash flooding in a matter of hours on impermeable city surfaces or slightly longer in already saturated uplands (Thai Meteorological Department 2014). Living in Chiang Mai, I learned to navigate the flash floods during the rainy season. When out on my motorbike, I knew which streets to avoid during torrential downpours to ensure that I did not literally flood the bike's motor. Sometimes this meant staying put for an extra hour or so or leaving early to try to beat the heaviest rains home. It was not uncommon to see traffic back up even more than usual when the flash floods compromised main routes and roadways. These hydrosocial engagements pose only minor disruptions to social norms.

Other floods have posed larger-scale disturbances to forms of sociality and hydrosociality and have been socially coded as *utokpay*, dangerous waters and a disaster. The first official record of this kind of disruptive flooding on the Chao Phraya was in 1831 when Thailand was primarily still amphibious (Meehan 2012). More recently, official records and reports suggest that the Chao Phraya experienced major flooding in 1942, 1983, 1995, 1996, and again in 2006 (Guy Carpenter & Company 2012). In risk assessments compiled for international investors and insurance purposes after the 2011 floods, previous floodings were classified according to their expected frequency - their return period (Guy Carpenter & Company 2012, Meehan 2012). According to these calculations, the 1942 flood ranks as the most dramatic having a return period of 100 years; the 1995 flood had a return period of 50 years (Guy Carpenter & Company 2012: 2). Various hydrological calculations suggest the 2011 flood was approximately a 25- to 30-year flood, though some measures suggest the return period might be shorter or longer (Gale & Saunders 2013, Meehan 2012). These episodes of disordered waters across history were severe enough to deserve a return period calculation. This form of risk analysis, calculating the return periods for unusual disturbances in socio-material relationships, serves its purposes for underwriters and investors to evaluate probabilities of recurring hazards. The series of floods across Thailand's history is thus marked as causing sufficient material disruption to be evaluated by these social and economic measures.

Return periods are part of the discourse that helps circulate the social coding of these socio-material disruptions as disasters, yet they are also temporally problematic. First, this type of analysis reinforces an idea of disasters as events, temporally bounded. The temporal calculations of floods are a way to capture these unpredictable material events in frames of human time rather than the time of water-beings. Disaster-as-event promotes the errant interpretations of disasters as upsets to an otherwise static set of socio-material relations (Barrios 2017a, Oliver-Smith 2010). Yet water flows are part of broader assemblages and are constantly becoming through their correspondence, interaction, and collaborations with other human and nonhuman beings. The expectation of status quo socio-material relations disrupted at precise temporal increments does not align with the ontological reality of socioecologies. Second, these calculations of return period offer false comfort that this kind of disaster should not recur until that time period has passed; however, floods are not events "isolated and temporally demarcated in exact time frames" but processual and effecting change for the unfolding of future sociomaterial relations and conditions (Oliver-Smith 1999a: 30). Certainly framing a flood as having a distant time horizon for repetition can offer comfort, particularly to people most impacted or to the apathetic who can use this as an excuse to avoid timely adaptive action. However, despite the year allocations, this time horizon is not a guarantee, but a risk assessment of a given moment. The ways water-beings and human projects and practices come together is constantly changing the conditions of possibility for future disasters and human actions have profound impacts on how disasters come into being and their frequency.

The emergent possibilities of changing sociomaterial assemblages and the extended timescale of high waters are precisely what made the 2011 floods so dramatic: human projects and practices have changed, and with them the expectations of water-beings. Since the 1990s, international investment, growing populations, and shifting priorities have altered the Thai waterscape. In the past, the vast floodplains of central Thailand welcomed the rainy season floodwaters that carried nutrient-rich alluvial soil into their wet-rice paddies (Middleton 2555). In contemporary Thailand, these open, permeable-earth floodplains, have been reconfigured and reimagined as spaces of economic possibility for agribusiness and manufacturing. Investors have developed the Chao Phraya's central plains with large-scale industrial estates. Most were constructed with large dikes built around them to prevent annual swells of water from breaching their campuses, but they were insufficient protection in 2011 (Guy Carpenter & Company 2012). In addition, there is a growing trend of suburbanization in Thailand leading to sprawling cities building up and paving over floodplains. The natural sponge of the plains has become impenetrable and the previous spaces for overflowing waters to spread are now constrained by dikes, buildings, and the design of a modern nation.

The effect of all these changes to the landscape is that there was less territory for the water to seep into and move through; the volume of water that moved across the landscape faced bottlenecks that caused waters to rise and slow. Given these alterations to the landscape, the repercussions of the 2011 flood were not wholly unexpected and in fact had been predicted (Meehan 2012). Yet, as the previous chapter outlines, the modernizing Thai state and its technocratic *chonlakorn* or water experts, perpetuated an ideal of water as rationalized, managed and maintained within particular parameters. If water-beings were containable, then forms of hydrosociality could be reimagined; the plains became a space that could be seen as having the potential for development rather than watery territory. Different relationships with water-beings made possible different forms of sociality and modernity.

Yet water-beings and their capacities are ontologically, epistemologically, and temporally more complex than human modes of management; changes in forms of hydrosociality affected reciprocal changes in water-beings as well. Scholars of disaster studies have argued that disasters are neither wholly natural nor wholly social, but instead form a sort of "ontological transubstantiation" in which both social and natural are embedded within and relationally impact each other (Barrios 2017a: 161; Franklin 2008). Working to contain and rationalize water-beings in Thailand did not render them tame, but instead instigated different assemblages with infrastructures, political power, and expertise; in these assemblages, water-beings are yet becoming and becoming not necessarily more managed, but perhaps also less predictable. Similarly, shifts in forms of hydrosociality often do not leave people more able to control water, but instead sometimes more vulnerable to its changing capacities. The effect, predicted or not, is that the flood disaster of 2011 left large swathes of Thailand in perilous conditions, compromised. In all, the floods took nearly 160 days to drain giving this disaster the distinction of having the longest crisis period (Aon Benfield 2012). In the lower half of the Chao Phraya, aside from Bangkok's protected central district, the waters were high and enduring, wreaking havoc with homes, businesses, lives and livelihoods. In this context, social organization and the materiality of water colluded to create a flood disaster.

A Whale of a Tale or Inscribing Hydrosocialities in the midst of the Flood Disaster

As a social and material product, the floods had dramatic human and ecological impacts in the central region of Thailand. As the specter of flooding haunted the Thai capital, a large swath of the Thai population was vulnerable to high and enduring waters. One effect of disasters like floods is that they expose social norms and structures that might otherwise remain invisible, including unanticipated vulnerabilities (Faas & Barrios 2015). Further, disasters cause fractures in forms of sociality, and, I contend, forms of hydrosociality; these relationships are necessarily reconstituted, but also have the possibility of being transformed (Hoffman 2010). During the 2011 floods in Thailand, water became a contested terrain; how people understand their relationship with water-beings was being reconfigured by experiences with excess water.

In this period of uncertainty, fear, and panic, Roo Su Flood, an NGO based in Bangkok arose out of the chaos of information and misinformation to provide instructive content about how to cope with the floods and their aftermath. Translated as "Know, Fight, Flood" and sponsored in part by Thai PBS and with technical support from a variety of flood experts Roo Su Flood put together a series of short, informative animations to help people understand and prepare for the potential approaching problems. In ten episodes posted to YouTube and Facebook, Roo Su Flood offers tutorials in Thai with English subtitles on how to assess your flood risk, how to protect your home, how to be prepared without hoarding or hurting others, and how to cope with the lingering aftermath of the floods. The three Thai animators explained that they saw a lot of confusion and panic; they decided to put their animation skills to work to provide quick, clear information in simple animations and simultaneously to alleviate the sense of fear that was escalating with the flood waters (Pholdhampalit 2011). The first animation received over 700,000 views in one night (Pholdhampalit 2011). With over a million hits on their pages and over 100,000 followers on Facebook during the flood period, the organization gained widespread notoriety for both the quality of information and the friendly animations. The animations became a critical source of information for people as a source trusted to clarify how to cope with the floods. Roo Su

Flood created a framework through which people could understand their experiences with the floods and their entanglement with water, yet also re-inscribed particular kinds of hydrosocial relations while obscuring others. To demonstrate this, I examine three main elements of Roo Su Flood's work: the animation of water, the educational agenda, and the moralistic overtones.

One of the central features of the Roo Su Flood's animations is comparing the flood waters to whales: 100 billion cubic meters of water surging across the Thai landscape translates to the weight of 50 million blue whales. These jolly creatures are portrayed as bright blue on the screen and as distinct, wobbling creatures. In later episodes, the whales are black with pained looks on their faces and X-es over their eyes to represent contaminated, unsafe water. The whales are depicted as blocking traffic on roads, getting into people's homes, and clogging routes for water to drain to the sea. As a device for clarifying the volume and problematic qualities of the floods, the whales are useful and even clever. Yet these animations also complicate the material and ontological realities of the floods in a variety of ways. First, the whale animations index an inability or even a discomfort with conceptualizing water as water; instead, for people to make sense of it, the water has to be contained in the bounded body of a whale. The animations suggest that the diffuse materiality of water, its fluidity and capacities for permeation make it difficult grapple with; whales become a container to simplify the incomprehensibility of the materiality of water. Second, these animations diminish the ontological complexity of water by reproducing a stark and strategic divide between good water and bad water, the social world and the natural world. The animations do this by constraining the capacities of water to a more manageable form (the whale) rather than the reality of its material presence that transforms other materials through interaction. Third, as a representation of water-beings, the hydrosocial messaging conveyed by the whales is clear: water in riverbeds and managed spaces is docile, acceptable, even desirable; water that flows beyond these banks is unquestionably out of place and troublesome—both materially and ontologically—like whales in homes and on dry land. The relationships between people and water-beings, the mutually transformative sociomaterial relations that have been part of the process of the disaster, are obscured by the single frame of water out of place. Finally, throughout the animations, the whales are given agency to act, but only in specific ways: always as a problem, as out of place and misbehaving. For example, in the first episode focused on explaining the flooding happening around Bangkok, the narrator explains that water pressure is a concern and clarifies by saying "imagine all the whales, anxious to go back to the sea, pushing against the levees obstructing their way" (roosuflood 2011a). The whales, and by extension the water, have agency, but it is rudimentary and simple: pressure and a gravitationally-determined desire for the open sea. The whales are depicted not as vengeful, but as discombobulated, eyes rolling awkwardly as they wiggle uncomfortably out of their element. This depiction of water not only suggests that it is wholly knowable by human capacities but also that it is a monolithic and uncomplicated object as well.

The ontological complexity of water, however, is not the primary objective of the Roo Su Flood animations. Produced in the midst of a crisis period in a disaster, Roo Su Flood's main objective seems to be educational. Several of the episodes offer insight into facets of water in Thailand, focused largely on the experiences and infrastructures of Bangkok. The first episode gives a basic formulation of the hydrologic cycle and explains the floods as abnormally high rainfalls and changes in land use upstream (roosuflood 2011a). "Episode 7: All About Water System" focuses on water supply systems, discussing the function of the municipal water treatment plants, septic systems, and the complications posed by flood conditions (roosuflood 2011e). “Episode 8: Get to grips with putrid wastewater” explains water quality by discussing the levels of dissolved oxygen and microorganisms that feed on organic waste in water (roosuflood 2011f). Through these short animations, Roo Su Flood is creating a form of water literacy, providing information on both the ecological conditions and infrastructures are part of the water system. In the years preceding the floods, increased infrastructures and technologies mediated relationships with water and the process of water provision became invisible for many people, especially those in urban and suburban areas with municipal water authorities. Scholars of infrastructure have posited that infrastructural sources of material provisions are invisible until they fail in some way, until there are consequences that force people to acknowledge them (Star 1999, Collier 2011, Larkin 2008). This invisibility of infrastructures also made water predictable, the material itself visible only in particular, managed ways. The floods forced people to see water afresh, as more than its delivery in faucets and bottles, but as part of larger social and ecological systems. Because of the flooding and the contamination of water systems, Roo Su Flood deemed it important not to just warn people about foul water but instead to educate people about the water system as a whole. These educational components reproduce the existing scientific forms of water management and expertise. While they create water literacy and visibility, they perpetuate a narrow perspective on what water is and can do. Water may be more visible, but it remains within forms of social normativity.

Roo Su Flood’s animated series not only provides resources for water literacy but also offers guidelines for human behavior in the midst of disaster crisis. Because disasters disrupt everyday life, fracture social systems, and reorganize physical places, the crisis phase is often marked with disorder and uncertainty (Hoffman 2010). Roo Su Flood’s animations responded to a range of affective experiences of the flood and the emotions of fear and panic these experiences were often translated into (Barrios 2017). Primarily targeting downstream communities most adversely affected by the enduring high waters of the 2011 floods, the animations offered prescriptive modes of moral conduct for viewers that might be overwhelmed by their experiences. For example, the first episode focuses on *sati* or consciousness and being composed (roosuflood 2011a). The narrator explains that during the flood crisis, “we can see that there are many different types of people. Some are news maniacs who have to know the latest situation” and get bombarded with content, not all of which is sound or reliable (ibid). Other people take advice from social media and hoard goods, park on high ground blocking traffic, and even buy boats in preparation; others remain calm, unsure of what will happen. After explaining the information available about the floods using the whale animations, the narrator returns to human behavior saying “so if we cannot expect any certain remedy, overloading ourselves with information will only lead to useless panic. The only thing we can do right now is to stay calm” (ibid). At this point, the head simple animation that represents the human has the word *sati* written across the face. The episode promotes composure in the face of crisis and uncertainty. This composure remains a theme throughout the subsequent episodes as people are offered tools for assessing their own situations and how to move forward, strategies for protecting people, home, and goods, how to evacuate safely, and how to handle the after effects of the floodwaters as well (roosuflood 2011b, 2011c, 2011d, 2011g, 2011h). Each episode offers strategies for taking action, encouraging people not to be hapless victims, but agentive individuals who can remake their own flood experiences through correct, moral conduct and composure (Ronsbo & Jensen 2014). In the midst of social and ecological upheaval, Roo Su Flood’s animated episodes passively police behavior and create conditions of moral normativity and continuity.

The crisis phase of disasters creates disjunctions in socialities and hydrosocialities, opening up the possibility for shifts and reconfigurations of how people relate to each other and to water. Yet in the crux of crisis, sometimes preexisting kinds of relationships with water are reproduced. Gregory Button (2010) points out that often narratives of disasters reassemble prior socialities and hegemonies. Roo Su Flood demonstrates the process of re-inscribing previous norms and forms of relationships through animations that code appropriate behaviors for both people and water.

However, disasters involve diachronicity; they are not simply events that happen and pass but conditions that evolve through social and material relations over time. While the crisis period may not have been seized as an opportunity for reconfiguring hydrosocial relations, how people make sense of these disasters produces further fissures and further opportunities for water and people to constitute the future differently, for better or for worse.

Causation as Hydrosocial Imaginings

Long before the waters had fully drained and still years after, people articulated different explanatory frameworks for how the 2011 floods came into being and why they seemed so particularly terrible. P'Rut, expanding on his previous distinction between rivers and floods, asserted that it rained a lot and that leads to an overabundance of water; no wonder there was flooding. Not diminishing the experiences of people downstream, he suggested that people were less in tune with water in contemporary Thailand and less prepared to cope with phenomena like floods that were historically recurrent, even appreciated. P'Rut offered a perspective of hazards like floods as a normal part of ecosystem functions; the variations in magnitude are in part due to the biogeophysical and cosmological effects of relationships between people and water (McCabe 2002, Oliver-Smith 2002). In short, his explanation suggests that the relationships between people and water have changed; neither is explicitly at fault, but neither should be exempted from fault either. Instead, he points to the entanglements of people and water as both culprit and potential solution. If mismanaged relationships with water lead to disasters, then attending to these relationships differently might mitigate them; this also points toward his hydrosocial imaginings for the future: a change in relationships with water-beings rather than infrastructure development of more and more dams.

P'Rut's explanation of the floods captured the complexities of defining and explaining these disasters: by citing relationships between humans and water, he leaves open the spectrum of possible interpretations for causation and blame. His expansive explanation is perhaps most accurate even if not the most popular. After all, floods are rarely explained by one-dimensional cause-and-effect relationships but are instead assemblages of "heterogeneous elements in space and time," a particular coalescence of material presences and social practices (Krause 2016: 684; Walker et al 2011). As Anthony Oliver-Smith (2002: 38) explains, disasters disrupt socialities and ecologies in ways that compel people "to construct meanings and logics that enable individuals and groups to understand what has happened to them and to develop strategies to gain some degree of control" and "all the social characteristics that significantly structure people in a society will play a role in the ways those meanings and explanations are constructed." He argues that seeking to find a cause for a disaster experience is common, but the variations among people and communities, states and internal states, objectives and power structures, produce different, inconsistent, even contradictory explanatory frameworks. The varied causal explanations for the floods thus emerge from particular social positions and are widely varied. However, four particular explanations have gained credibility through discursive circulation and each have implications for designs on the future of Thailand's waterscapes: a failure of infrastructure management, political maneuverings in an unstable state, upland deforestation, and global climate change. Each of these causal judgments of how the floods emerged demonstrates a particular understanding of the ontology of water-beings, promoting some forms of hydrosociality and obscuring others. Here I unpack each of these explanations to examine how these causal stories produce the future of Thailand's waterscapes, how they promote some possible futures while foreclosing others.

Infrastructural Mismanagement

Since the 1960s, Thailand's waterways have been immensely infrastructured as part of the national scheme of economic and social development (see Chapter 3). While dams have been built and irrigation canals forged, the rivers have remained untamed; people across the nation experience repeated floods and droughts despite the development promise of rationalized rivers with consistent flows. This chronic condition has made some people skeptical of the efficacy of the Royal Irrigation Department (RID), one of the primary agencies with the responsibility of managing Thailand's watershed-scale infrastructures like dams and catchment ponds. As the 2011 floods intensified, people began to scrutinize the RID's management of upstream infrastructures.

The Upper Chao Phraya watershed includes seven dams (including the Bhumibol and Sirikit) with a total reservoir capacity of 24.7 billion cubic meters (Guy Carpenter & Company 2012). For the RID, in conjunction with the broader Ministry of Agriculture, the objective is to balance the water supply across the rainy and dry seasons, storing enough water in the catchment ponds during the rainy season to provide irrigation and water resources for downstream constituencies (agriculture, municipalities, and industries) during the dry season. Adequate distribution across these constituencies has proved challenging with changing practices and demand; Forsyth and Walker (2008: 136) contend that "water demand rather than a decline in water supply" has made water increasingly a site of contestation. In the year preceding the 2011 floods, Thailand faced a spectacular drought; "by early 2010 the capacity of the Bhumibol Dam (the country's largest) had dropped to a threateningly low level, impacting the drinking and irrigation supplies of tens of millions of people within the Chao Phraya River Basin" (Pavelic et al 2012: 55). Eighteen months later, during the height of heavy rains in 2011, the Bhumibol Dam was overflowing (Meehan 2012).

For water users and the RID, this complicated relationship with water-beings shifting between flood and drought regimes complicates water management. Typically, the RID follows a set of guidelines referred to as "Rule Curves" developed in the 1990s (Meehan 2012). The rule curves aim to balance the reservoirs, ensuring that they are filled in the rainy season, but not beyond capacity and can therefore provide sufficient supplies downstream in the dry season. These are temporal and meteorological calculations that are imprecise. This balancing act depends on rainfall which itself is only partially predictable. As a result, some years the dams are not filled as fully while other years they are filled too quickly. The RID is responsible for carefully adjudicating the release of waters to maintain this ideal level.

In 2011, the unusually heavy rainfalls across the season put the RID in a difficult position. Early in the season, the officials had been working to build up the water supply in the catchment ponds to avoid a recurrence of drought. However, the dam catchment ponds filled more quickly than anticipated. In September and October, the Sirikit and Bhumibol dams, respectively, were overflowing and the gates were opened for short periods, introducing further excesses of water into the central plains (Meehan 2012). By mid-October when the lower part of the floodplain was saturated and inundated, the dams in the upper catchment areas remained full to overflowing. The two largest catchments, Bhumibol and

Sirikit, were both at 99% capacity despite off-loading excess in the preceding months; the smaller Pasak Jolasid, Ubolratana, and Lam Takong dams were over capacity, at 137%, 120%, and 110% respectively (Jikkham & Wipatayotin 2014). The remaining two catchments were also hovering around 100% capacity leaving little opportunity to the RID to intervene at that point in any meaningful way to prevent downstream flooding (ibid).

These conditions—the overflowing catchments and the release of excess water into already submerged floodplains—became reasons to see dam mismanagement as ultimately causing the 2011 floods or at least making the experience of the floods worse. Many experts from offices like the Thai Meterological Department, the Science and Technology Ministry, and the Strategic Committee for Water Resources Management disparaged the RID saying that more waters should have been released before the rainy season began to provide more retention capacity (Samabuddhi & Wipatayotin 2012). Several people I interviewed expressed similar sentiments. P'Lung from the Chiang Mai NGO LRS suggested that if the current dams could not be effectively managed, more dams could not possibly be useful in flood prevention.

The reality of these accusations of mismanagement is unclear. Reports suggest that the Bhumibol release added approximately 1% to the total flow of the Chao Phraya in 2011, hardly enough to have dramatically amplified the already dire flood situation (Meehan 2012). Yet the timing of the release of water remains suspect, aligning with a perception of prolonging downstream suffering. Whether the water could have been regulated more effectively through existing infrastructures or not, the discourse of infrastructure mismanagement persists and has gained credibility. In the months following the floods, the RID was repeatedly denounced and questioned for their role in the floods and for their potential continued mismanagement of water resources. Early in 2012, as the excess water was still being slowly discharged from the catchment ponds to prepare for the next rainy season, the National Disaster Warning Council chairman argued that the RID “must urgently release water from the dams to make sure there is enough room to receive new inflows during the approaching rainy season” that promised to be complicated by weather phenomenon La Nina (qtd in Samabuddhi & Wipatayotin 2012). Despite promises from the RID that they were acting responsibly in the pace of discharging the excess waters, the organization was once again caught in the spotlight of problematic care for water and therefore people.

By 2014, while I was conducting my fieldwork, the SBOC or National Office of Water and Flood Management Policy, had created a website, waterforthai.com, to provide updated and transparent information on water resources across the nation (JICA 2013). Each day, the office would track a series of water measures as a way of monitoring water in seventeen catchment ponds, sixteen different canals and waterways, and river basins across the nation.

The online reports provided meteorological forecasts, information on rainfall excesses and deficits, reservoir status using easily readable gauges, and written assessments compiled for regions across the nation. I followed the daily water reports offered by the SBOC, watching the catchment ponds deplete during the dry season, and struggle to rebound in the rainy season as the nation experienced below average rainfalls. These reports were a strategy for transparency, a way of reassuring people that the appropriate government action was being taken to monitor and manage the reservoir capacities and prevent repeat inundations.

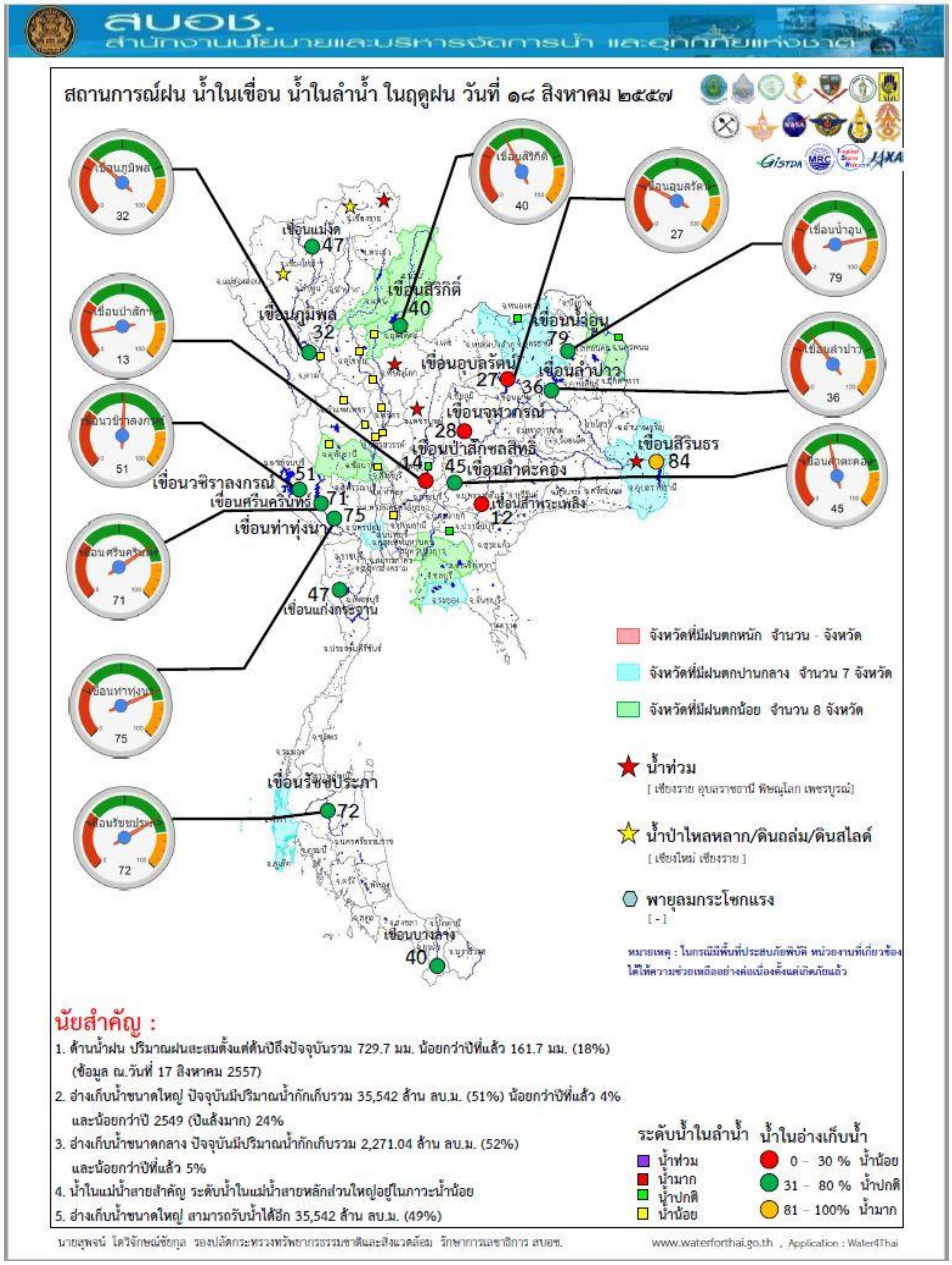

Figure 4.2 Dam Reservoir Gauges across Thailand August 18, 2014.
This is an example of the report from the SBOC from August 18, 2014 highlighting the locations and water levels of dams across the country. This kind of report was produced daily for a few years following the 2011 floods and posted to waterforthai.go.th. The website was discontinued in 2014.

The discourse of infrastructure mismanagement and the waterforthai.com daily water reports reinforced the visibility of a single cause of the 2011 floods: faulty administration of water resources. In his analysis of the poetics of infrastructure, Brian Larkin (2013: 330) argues that "the act of defining an infrastructure is a categorizing moment. Taken thoughtfully, it comprises a cultural analytic that highlights the epistemological and political commitments involved in selecting what one sees as infrastructural (and thus causal) and what one leaves out." Explaining the 2011 floods as a problem of infrastructure focused attention on water-shed scale technological and material interventions on Thai waterways. This discourse did not ultimately reconfigure what is considered infrastructural nor did people question the efficacy of the infrastructures themselves, but rather the human errors in controlling them. Through this explanation, water-beings are not appreciated as agentive and disruptive on their own but made problematic through the agency of human failures. The dominant cultural analytic here determines what is seen as infrastructures and thus privileged and obscures other epistemologies and political commitments that point toward more complicated and complicating entanglements between humans and water than infrastructure management. The effect is that this causal explanation for the floods does little to disrupt hydrosocial relations in Thailand as mediated through watershed-scale infrastructures; in reality, it makes these interventions seem like plausible solutions to future water uncertainties if only humans can manage them effectively.

Politics and Biopolitics

A couple months after the May 2014 military coup, the SBOC was subsumed by the Strategic Committee for Water Resource Management under the Prime Minister. The waterforthai.com website disappeared and with it the transparency of information the previous administration sought to cultivate. The Yingluck Shinawatra administration insisted on this clarity and openness because the Prime Minister had been overtly accused of causing the 2011 floods.

When the 2011 floods overtook the Chao Phraya basin in 2011 and barreled toward Bangkok in October, Yingluck had been Prime Minister for a couple of months, since the beginning of August. The youngest sister of Thaksin Shinawatra, one of Thailand's most controversial former prime ministers who was ousted by a military coup in 2006 and now lives in exile, Yingluck faced "questions from the start about her qualifications and autonomy" (Mydans 2011). Before she had a chance to test her political acumen and develop relationships with cabinet ministers she barely knew, the deluge forced the new government to focus all its energy on the accumulating waters, damages, and lives lost. Initial miscues and miscommunication in the administration during the early phases of the flooding caused public distrust; the protection of central Bangkok at the expense of outlying areas caused further discontent with state management (Pongsudhirak 2011).

This suspicion of then-Prime Minister Yingluck led to rumors and later an investigation by the National Anti-Corruption Commission for the possibility of dereliction of duty in water management resulting in the 2011 floods (Post Reporters 2017b). In 2014, these accusations continued to circulate. In a restaurant in Chiang Mai, an expat from Texas named Dan invited himself to join me for dinner one night to share his insights about the 2011 floods. When he heard this was why I was in Thailand he immediately responded: "The 2011 floods? Those were man-made." Dan's explanation made the 2011 floods a conspiracy theory rooted in the turbulent disagreements of the two main political parties represented in Thailand at the time as the Red Shirts (the United Front for Democracy and against Dictatorship or UDD) and the Yellow Shirts (the People's Alliance for Democracy or PAD). The political divide is often simplified as the rural majority who supported the policies of deposed fugitive former Prime Minister Thaksin Shinawatra comprising the UDD and the royalist urban elites, academics, and middle class comprising the PAD (Naruemon 2016).

However the the parties were comprised, the reality was that both had taken to the streets of Bangkok and other cities across Thailand to protest what they each saw as government corruption. While the conflicts started with Thaksin's administration, the dispute had become increasingly contentious over the ensuing years leading even to bouts of violence. When Yingluck, supported in part by the UDD, became Prime Minister, she replaced a PAD-supported Prime Minister, further fueling the party disagreements. Dan explained that because the flooding happened so close to the change in leadership, he had heard accusations from both sides: the floods were the strategy of one party or another to make the other seem incompetent. He suggested that dam mismanagement was intentional, but it was difficult to discern who had ordered it, Yingluck's administration or the PAD administration that preceded her. In the villages where I worked, people did not cite a particular political party as culpable nor did they overtly state their political affiliations. Perhaps this is because by the time I was visiting the villages, Prime Minister Yingluck had proposed large-development projects that caused some rural communities to waver in their otherwise unmitigated support.

Despite the rumors, there was little evidence of this kind of political tampering. In 2017, the National Anti-Corruption Commission dropped charges against Yingluck in absentia for dereliction of duty during the 2011 floods saying there was no evidence of corruption or major flaws in how Yingluck handled the flood crisis (Post Reporters 2017b). Irrespective of its veracity, however, these explanations for the floods circulated, once again reinforcing human-centered agency taking action with water. What is lost in these political explications is the possibility of a cosmopolitical explanation, of appreciating water-beings as co-constitutive of a reality that overlaps with the world of political negotiations and blame. In her discussion of earth-beings in Peru, Marisol de la Cadena (2015:62) writes that "my world cannot fathom that what it deems to be its 'other' already inhabits, participates, and influences the nation-state that we all share." In the politics of modern Thailand, people cannot begin to consider a world of water-beings as part of constituting disaster and therefore part of constituting solutions. For future prevention strategies, this translates to a reproduction of typical watershed-scale interventions and human management agendas rather than a radical redesign that might invite water-beings to be co-conspirators.

Upland Deforestation

Ajarn Lamon sat comfortably in the shade at a concrete table painted in bright colors outside the Mae Chaem city elementary school. His children were inside finishing up their school day as we met to talk about future steps for the Northern Rivers Network and Ajarn Lamon's work to connect Mae Chaem's upland and lowland communities. He had agreed to meet with me on short notice; I had been in Baan Mae Roo in the mountains over 30 kilometers from the city center for the previous week and as I drove down the winding road, I called to ask him to meet with me so I could formally interview him and record some of his insights. By members of the communities in the Northern Rivers Network, he was called Ajarn not because of official credentials but because he was respected as a teacher and thinker who had the best interests of all the communities at heart. Ajarn Lamon lived in Mae Chaem city, in the valley below the mountains. He was part of the anti-dam protest work not because his home and life would be directly impacted by the dams, but because he believed in social justice and equity; to him, the state development proposals were unethical and corrupt. His work was not only to provide information and insight for communities facing these challenges, but also to be a source for rallying allies by appealing to their sense of injustice.

When I asked Ajarn Lamon how he would explain the floods, what he considered the main cause, he paused for a moment to deliberate and responded:

> "The flood here was caused by, well the first reason is that the trees have been cut down, we don't have as many trees so when the rain falls it flows a lot, freely. The second reason is the rain. It rained a lot more than normal in the forest, and when we do not have trees, the waters flow quickly. We understand the water can run quickly. In 2011, we had water in Mae Chaem city; we had a flash flood."

Ajarn Lamon's explanation draws on ecological knowledge that suggests forest act as sponges, able to absorb excess water during the rainy season. Forsyth and Walker (2008: 109) explain that "forest soils often have high rates of infiltration that can absorb high levels of rainfall…some forest soils can absorb a remarkable 280 millimeters per hour." Ajarn Lamon is also demonstrating his knowledge of Thailand's extensive history of deforestation. Forsyth and Walker (2008) argue that deforestation is a politicized environmental narrative that conflates state use of forests for revenue and expanding cultivation practices, framing both as problems. Across Northern Thailand, the tree cover has decreased approximately 50% since 1900 arguably a result of both logging and agricultural development (Forsyth & Walker 2008). After decades of extensive logging concessions and management of forests as state revenue sources, Thailand passed a national logging ban in 1989 in an attempt to remedy this loss (Forsyth & Walker 2008, Hirsch 1990). Despite the illegality, logging continues to happen in Thailand and people continue to clear cut forests for arable land, both in and outside of forest preserves (see Chapter 2 for a discussion of local forest protection laws and Chapter 6 for a discussion of agricultural changes in the Thai uplands).

Despite the basis in ecological knowledge and environmental narratives, the relationship between forest cover and flood prevention is neither simple nor unequivocal. One complication is that the absorption contribution of forests is not only based on the presence of trees, but a larger set of multispecies, multimaterial relationships that give soil the characteristics of sponges (Forsyth and Walker 2008, Kirksey 2015). Another is that the morphometry or topography of the drainage area has a profound impact on drainage and absorption features of forest landscapes as do saturation levels of the soil (Calder & Kaimowitz 2004, Marston, Kleinman & Miller 1996). These studies can neither prove nor disprove that changes in forest cover contributed to the 2011 floods in Thailand.

Instead, Ajarn Lamon's framing of causality then speaks to both scientific understandings and works to position the communities of the Northern River Network as acting responsibly in alignment with ecological principles. Offering an explanation that connects forests and water articulates with globally circulating, scientific knowledges and is a demonstration of sophisticated ecological analyses and modern thinking. By focusing on forest loss, Ajarn Lamon is also suggesting that the solution to the flooding is in reforestation, in caring for the forest better. He explains that communities surrounding Mae Chaem city are actively planting trees; this is one of the strategies that is often shared with the state agents like the RID officials in Phitsanulok as evidence that communities in the uplands are independently managing water supplies responsibly.

At the same time, Ajarn Lamon emphasizes what he can see and what the communities upstream are doing; he can see changes in the forest cover and extrapolate the relationship between those material alterations and the effects on water movement. Yet even as he frames this ecological relationship, he does not foreclose the possibility that there is more than he can see to relationships between people and water. He explains to me that the members of the Northern Rivers Network must make their arguments clear and obvious; state agencies like the RID do not have the time or capacity to fully understand all the local practices so the communities must work to make their efforts resonate with how the organizations already think, align with objectives that are already believed and supported. His statement creates a distinction between two entangled epistemological and ontological worlds: the first a world of politics and integrated management strategies through scientific analysis of water and the other a world of cosmopolitics where these same practices of reforestation build hydrosocial relationships of collaboration and co-constitution between water and people, humans and materials, beyond the purview of government officials. Ajarn Lamon's explanation, then, indexes a complex understanding of the material and social ecologies of the Thai uplands.

In addition, unlike the first two explanations that suggest immediate causes, this explanation demonstrates a longer temporal scale for the development of such an occurrence. Hillsides were not suddenly denuded, but progressively transformed into more vulnerable landscapes. As a counter to the calculations of floods return periods, this explanation points to a temporality that it explicitly tied to human actions and practices.

Climate Change

As a global phenomenon, climate change is creating physical transformations that are expected to become more and more extreme, frequent, and expansive; as a result, global climate change is credited with causing and intensifying disasters globally and even with diminishing resiliency of both human and ecological systems (Crate 2011, Dyer 2002, Hoffman 2010, IPCC 2007). While climate change may not have been a prominent explanatory framework for floods in Thailand's history, by 2011 it seemed an almost unquestionable culprit or at least co-conspirator.

The threats of global climate change were increasingly codified in policy framings and public discourse preceding the 2011 floods. Thailand has been part of international climate change agreements including the Kyoto Protocol and the Paris Agreement, confirming a public and policy commitment to climate change mitigation (UNFCCC 1997, 2015). State ministries and organizations like the Pollution Control Agency in Thailand developed strategies for mitigation and preparing for climate change impacts (Simachaya

2010). A World Bank (2011: 10) report on Integrated Watershed Resources Management published just months before the 2011 floods highlighted that already farmers in particular "have been facing economic and financial risk due to climate changes and water-related emergencies." The report explains that climate change poses uncertainties and risk; in particular it argues that climate change has affected rainfall and caused more frequent and extreme floods and droughts.

Concerns over climate change had also taken root in the public discourse of rural community members. In Saiap, the first thing I noticed was a large, hand painted sign hanging on the temple grounds that reads "*yut kheuan lot lok roon*" or "stop the dam, reduce global warming." The sign did not surprise me: this community has a vibrant social media presence and is always looking for ways to make connections with communities across the globe who face similar problems and wage protests against state actions; global climate change offers an immediacy of connection that relates almost everyone, but especially highlights the shared experiences of the Global South, argued to disproportionately face the detrimental impacts of climate change that is unintentionally more the fault of the Global North (Hughes 2013). A sign hanging from another home in Saiap read "*baa sak thong kheu bot khong lok"* which translates to "the golden teak forest is the lung of the world." As the home of one of the largest remaining golden teak forests in Thailand, this sign highlighted the particularity of the village's contributions to mitigating global climate change.

Sitting in the *sala* on the temple grounds, I motioned toward the monks' quarters where the first sign hung and pressed P'Som, a community activist, leader, and photographer to explain why this is a particularly salient way for the community to think about the dam and to explain what climate change means to them in the northern mountains of Thailand.

Figure 4.3 Protest sign in Saiap
This sign hangs on a home along a busy thoroughfare in Saiap. It translates to "the golden teak forest is the lung of the world." Image courtesy of the author, 2014.

P'Som casually puffed on his cigarette for a moment, then explained: "In the city, people have air conditioning so they don't know. But in the village, people know the weather has changed. The hot season is hotter and the storms are more violent. In the rural areas, we know." He went on to elaborate that the forest around us that would be felled to make the dam reservoir is critical for keeping the area and the planet cool, explaining the principles of a carbon sink as they related to the lived experiences of people in the villages. As an articulation of the scientific evidence of climate change, the sign was a self-conscious linking of their work on rivers in Thailand to the broadly circulating discourses on climate change mitigation, making their forest an invaluable ally against this global challenge.

The broad circulation of climate change discourses in Thailand made it almost inevitable that climate change would at least become part of the conversation about causes of the 2011 floods, perhaps as a way of explaining the seeming severity. The logic I heard in urban and rural settings followed this path: climate change alters weather, causing unpredictable and extreme conditions like too much rain or too little. In 2011, the weather patterns created too much rain. The meteorological evidence confirms that rainfall was unusually abundant throughout the year and particularly August and September 2011 (Gale & Saunders 2013, roosuflood 2011a). Despite widespread popular opinion that cites climate change as a contributing factor to the 2011 floods, in an analysis of several extreme weather events and disasters in 2011, Stott, Peterson, and Herring (2012) argue that Thailand's floods were likely not caused by climate change. As an evolving and global condition, it is difficult to extract the particular influences of climate change over other causal agents and conditions and similarly "difficult to prove that a particular extreme weather or climate event was not in some way influenced by climate change" (Stott, Peterson, & Herring 2012: 1062). This ambiguity makes climate change an easy scapegoat. As such, post-flood analyses suggest climate change is at least a contributor to the conditions of the 2011 floods and is a critical consideration for future planning (GFDRR 2012, JICA 2013).

Whether climate change induced the floods or not, this causal explanation had discursive salience and reproduces particular forms of hydrosociality. Because of the uncertainty of climate change influences, this explanation introduces ambiguity into water management strategies. Climate change as an explanation for the flood disaster in Thailand has the effect of displacing blame from agents within Thailand's political and water management systems and instead makes Thailand's ecological and social systems victims of this larger global phenomena. David McDermott Hughes (2013: 571) analyzes the victim as a “slot” with analytical and political importance in climate change; he explains that “the ‘victim’ serves as an absolute category of people both vulnerable to and innocent of their given crime.” While Hughes is focusing on societies and sectors who contribute to climate change yet are perceived as victims, I suggest this “victim slot” also allows people to circumvent other forms of responsibility as well. In the case of the floods in Thailand, climate change absolves politicians, water management officials, upland farmers, and even people who construct homes and business in the floodplains of any wrongdoing. Further, it exempts these constituencies from scrutinizing their relationships with water much less reconfiguring them. As the biogeophysical planet is affected by climate change, the work of water management is less predictable, but goals remain the same: rationalized water systems. This explanation reaffirms existing hydrosocial relations even while acknowledging that these relationships are unstable.

Climate change also offers an entirely different kind of temporality for the floods; now it is tied to atmospheric and geological time. Since climate change conditions are expected to intensify in the foreseeable future, the state uses this as justification to provide measures of protection; specifically, climate change lends legitimacy to a series of large-scale interventions on waterways proposed in the aftermath of the 2011 floods. Simultaneously, as I discuss in the next chapter, climate change discourse is also prevalent in anti-dam protest campaigns that promote climate change mitigation and prevention of disaster conditions rather than preparation for floods as inevitabilities. Climate change is a complex physical phenomena that is intentionally and unintentionally reconfigured through its discursive circulation and application.

Collective and Incomplete

Despite the inconsistencies and regardless of veracity, these four distinct causal explanations for the 2011 flood circulated in Thailand and they demonstrate which forms of hydrosociality are privileged in Thailand and which are largely obscured public discourse. None of these explanations are invalid because they are believed and yet, none are complete either. In his analysis of crisis, Roberto Barrios (2017: 153) notes that the conflation of disaster and crisis is common; he explains that when scholars use crisis as a way to discuss disasters,

> "a key concern is that, in its current political utilization, the term reduces our analysis of a particular situation to the query 'What went wrong?' Such a question steers the observer's evaluation away from the quotidian and normative practices that engender such occurrences as economic recessions and the flood of cities (e.g., fiscal deregulation, river delta development practices inextricably tied to the development of capitalist economies) and presents catastrophic outcomes as the effect of errors or accidents that are aberrations of the normal operations of things."

Barrios reminds us that everyday practices and social norms contribute to how disasters emerge and are experienced. While people discuss changes in the Chao Phraya flood plains—the industrial estates, more homes and suburban sprawl—these practices are not cited as causal; they are ways of understanding vulnerabilities. Anthony Oliver-Smith (1999a: 29) explains that "a disaster is made inevitable by the historically produced pattern of vulnerability" and this vulnerability is part of the structure and organization of society. The everyday practices that have modernized, industrialized, and developed Thailand may also have contributed to the 2011 disasters; yet seeing them as explanations for the disasters would require intervention and remedy, an overhaul of social norms that is perhaps more radical and revolutionary than overflowing waters can be expected to produce.

Still, through this disaster, water became a contested site through which to formulate futures locally and nationally. With so much at stake, framing explanations of the floods in ways that are legible to broad, modern audiences helps constituencies advocate for particular kinds of solutions. The next section considers the state agenda that emerged in the aftermath of the flood and how this plan has created new victims-in-waiting.

The Continuing Unfolding of Disaster

In early August 2012, just a few months after the floods had effectively been declared over, while people and companies across the central plains were facing challenging questions about recovery, rebuilding, and removing, I sat in the headquarters of Living River Siam (LRS) with P'Lung poring over maps discussing the new state agenda for water management. As soon as the waters receded, apprehensions about recurrence loomed; state offices and agents, reeling from the accusations and aspersions cast during the 2011 flood season, responded with alacrity. After a study of the floods published in a 350-page report, the Thai state began promoting an integrated flood management (IFM) agenda (GFDRR 2012, Thai Meteorological Department 2012b). The formal proposal, called the Master Plan for Water Resource Management, allocated THB 350 billion (approximately USD 11 billion) for 21 new dams and a flood diversion channel the size of a river over five years (SCWRM 2012). The dam sites, as mapped in the introduction, include four dams that would displace Baan Mae Roo, San-Lek, and Saiap.

P'Lung explained the plan as a surprise: the state had basically halted construction of dams in the late 1990s in response to widespread protests about the Pak Mun and Rasi Salai Dams in Thailand's northeast region. Instead, the Electricity Generating Authority of Thailand (EGAT) moved its attention to importing power from Laos, Burma, and China, supporting controversial hydroelectric projects in each country (International Rivers n.d., Molle, Foran & Kakonen 2009). While people across Thailand had expected state action to follow the floods, this infrastructure development focus seemed a strident disjuncture from the recent eras of water management in Thailand. Met with tepid approval in many areas downstream, the proposals galvanized the resolve of communities upstream who would be permanently displaced by the dams and catchment ponds and who saw this master plan as compromising sociomaterial assemblages and relationships. This common uncertainty led to the development of the Northern Rivers Network.

In 2014, after the nonviolent military coup deposed former Prime Minister and Master Plan for Water Resource Management advocate Yingluck Shinawatra, these same communities thought they might have a reprieve. In June 2014, the new administration, the National Council for Peace and Order (NCPO) led by then General Prayut Chan-ocha, halted the plan to review it (Jikkham & Nannuam 2014). While community gatherings and plans for advocacy diminished for the first few months of the military junta as people assessed a new political milieu, there was also a spark of hope that this aggressive new leadership would permanently suspend the previous water management plan. I left Thailand amidst this bubble of hope; in my last visits with each community and with LRS people were cautiously optimistic. By January 2015, just a few days after I had left Thailand, this hope had dissipated: the NCPO expanded the water management agenda to a THB 900 billion (nearly USD 28 billion) over ten years; at the time, the plan was left without elaboration except to say that elements of the previous administration's plans would be "reviewed" (Mahitthirook & Kupferman-Sutthavong 2015). The statement was neither wholly promising nor wholly discouraging: its ambiguity meant that the work of the anti-dam network was not yet complete and they were left in temporal limbo.

Rather than focus on the details of the state water development scheme—the size of the dams, the expected catchment size, the cost, the number of rai that would be compromised, the proposed dates for environmental impact assessments to be conducted, the number of people who would displaced (thousands)—and rather than comment on whether or not the dams would be effective for flood prevention, in the final sections of this chapter, I reorient to consider this plan as part of the long unfolding of the flood disaster and the social reconfigurations it provokes. Anthropology of disaster scholars analyze the diachronicity of disasters, often focusing on the preceding social and material arrangements that contribute to situations of vulnerability, "those aspects of society that reduce or exacerbate the impact of a hazard" (Hoffman 1999, Oliver-Smith 2002: 27). However, the effects of recovery efforts and designs often have the effect of creating further vulnerabilities as social and hydrosocial relationships are either reconfigured or reaffirmed. In this final section, I engage the state water management plan as a process of inscribing hydrosocialities and provoking new vulnerabilities. In particular, I am interested in the temporality of victimhood in the context of a disaster. I suggest that the experiences of upstream communities and their relationship to the state agenda produces the flood as perpetually present and their vulnerability as a future threat. Despite efforts to resolve the floods, the state water agenda ultimately creates a new set of vulnerabilities and victims-in-waiting.

Reproducing Socialities and Hydrosocialities

As state agents contended with accusations of mismanagement of dams and political corruption intensifying the floods of 2011, news articles forecast that Yingluck's response to the floods would be the determining mark of her administration (Pongsudhirak 2011). With millions of people affected by the floods, the pressure was on. Yingluck's administration responded with quick action to put together a comprehensive water management agenda that would overhaul the Thai waterscape in the name of protecting people from future disasters. Before any elements could even be enacted on the landscape, the water master plan had political and discursive influence to reinscribe existing hydrosocialities and socialities by reassuring victims, promising rationalized rivers, and inviting international contracts.

Accused of disregarding the health and safety of people during the floods, the state water management plan was a resolution to demonstrate Yingluck's commitment to the lives and well-being of the people she was to lead. The plan focused on the perceived sense of ongoing vulnerability that pervaded the recovery atmosphere of Thailand. Recurrent floods are not atypical in the Thai context, but after the floods of 2011, any excess water was a presumed indicator of flood threat (Guy Carpenter & Company 2012, Middleton 2555, Samabuddhi & Wipatayotin 2012). David Hughes (2013: 571) argues that "a pervasive sense of vulnerability crowds out a more searching analysis of responsibility" (Hughes 2013: 571). He is focusing on climate change and the ways that societies and areas of the world that identify or are identified as vulnerable to climate change often escape more intentional scrutiny of their behaviors that might be complicit in problems of climate change. However, the "victim slot," as he calls it, whether applied to victims of the nebulous and multiplicitous realities of climate change or to victims of a more tangible disaster, offers certain freedoms from culpability and instead places people in a category of requiring intervention. The plan demonstrates that people can and should rely on the state to protect them rather than assess their own complicity in the disasters or their capacities for adaptation and resilience. By focusing on changes the state will make to intervene in their lives, this both exonerates people from examining their own choices and reaffirms the state's role as biopolitical protector. This sense of fear gave affective legitimacy to the state's large-scale, comprehensive water management agenda.

The water management scheme also impeded opportunities for reconfiguring relations with water by reaffirming management ideals of rational waters at the watershed-scale. As Francois Molle (2007: 358) explains in analyzing the Chao Phraya Basin in Thailand, "conventional water management approaches see river basins as rational units where technical ingenuity strives to ensure that supply remains in line with social demand." Molle further explains that any inconsistencies, like the 2011 floods, become the failure of the state on behalf of its citizens and therefore the responsibility of the state to remedy. Not only did the state promise to intervene on rivers to protect people, but these interventions took a familiar form: dams and canals at the watershed scale. Workshops and planning meetings tied to the water management agenda promoted it as part of a strategy of integrated flood management (IFM) (Thai Meteorological Department 2012b). The World Meteorological Organization explains IFM as follows:

> "Integrated Flood Management (IFM) is a process promoting an integrated – rather than fragmented – approach to flood management. It integrates land and water resources development in a river basin, within the context integrated water resources management, and aims at maximizing the net benefits from the use of floodplains and minimizing loss of life from flooding" (APFM 2009: 4).

The premise of integrated water resources management is an awareness of the connection of water across a watershed, the recognition that an action in one part of the basin will have impacts to the whole (APFM 2009). As a set of strategies for flood prevention, IFM sees water as a contiguous whole watershed and sets a biopolitical objective to protect human life through intervening on the watershed. The state management plan proposed immediately following the floods established dams as the appropriate intervention to create the desired effects on the material and social landscapes. In doing so, state agents stabilized the possibility of radically reconfigured hydrosocialities by radically reconfiguring the Thai waterscape in ways that reproduce the watershed-scale and the rationalized waters it indexes.

Reproducing hydrosocialities also had financial implications that benefited state agents and private companies. For many years, large-scale development projects like dams had lost favor as a method of development both in Thailand and globally. The World Commission on Dams (2000) final report created ripple effects on global water and energy planning. Specifically, the report argues while dams have had positive contributions to development in areas of the world, there is a lack of equity involved through the process of dam implementation that compromises people and nonhumans and the assemblages in which they participate. Their policy recommendations included an emphasis on human rights and assessing possibilities for alternatives to dams; this set of principles, if followed, makes it much more challenging to see dams as the best water and energy development strategy. Between the global pressures and the social unrest that had plagued the last of Thailand's hydroelectric dams, no administration had proposed this kind of infrastructure development for a while. The floods reinvigorated the prospect of large-scale development and with it, the development of international business partners.

In the months following the water management proposal, state agents focused not on public hearings and gaining input from diverse constituencies, but on establishing connections with companies who would bid to complete the projects. This effort follows a paradigm Roberto Barrios (2017:8-9) calls "disaster neoliberalism" where in relief efforts work often "toward the rearrangement of relationships between government and the private sector." In each of the villages as well as from NGO workers, I heard suggestions that the flooding was leading to a fiscal boon for cronies of the Shinawatra family; the floods offered material justification for large-scale development projects like new dams and therefore an opportunity to the government to award contracts to key allies, making rich businessmen richer at the expense of communities permanently displaced upstream. For each of the 21 proposed dams and the flood channel, the Thai state quickly opened up a bidding process that allowed international companies to compete for the projects. By June 2013, Korea Water

Resources Corp, better known as K-Water, signed contracts with Yingluck's administration for a large portion of the projects and therefore money (Ju-hyun 2013). As soon as confirmation circulated that K-Water would be overseeing the projects, the company faced criticism and questions of efficacy. The South Korean-owned company was accused of mishandling and poorly estimating the costs of a project in Korea in the past; this led people to doubt their abilities for managing such a large-scale project outside of their own nation (Chomchuen 2013). The contracts for the projects also included the unusual stipulation that K-Water and the other companies completing the flood management projects would be responsible for compensation for land, relocation costs, indemnity, and any other expenses related to the displacement of communities to conduct the development projects (Ju-hyun 2013). Across both Thailand and South Korea, this arrangement caused apprehension and public backlash; how could an international company have any sensibility of how much it might cost to compensate people in such an unfamiliar context, much less compensate people who would be staunchly opposed to displacement all together (Chomchuen 2013, Ju-hyun 2013)? By the end of 2013, legal action had been taken against the contracts, but planning for the management projects continued unabated. The caveat put in place was that the public hearings would be required before any rearrangement of the waterscape was permissible (Chomchuen 2013).

Amidst this process of disaster neoliberalism, of reinscribing existing hydrosocialities and mollifying victims, the state water management plan, however, remained ominously present not only as a flood prevention strategy downstream, but as a threat to existence for communities upstream.

Victims-in-Waiting

Nok and I had been talking for over an hour. He was teaching me to hear the accent that is typical of residents of Saiap, a slight variation in pronunciation that sometimes left me awkwardly misunderstanding people. After he had laughed at my pronunciation and mistranslation for a while, I asked the question that had been on my mind for a few days in Saiap.

"Nok, kha, do you think the dams will be built on the Yom?" He looked at me with surprise. "No! Never." He laughed as though my question was ridiculous. Then, he became more serious. "*Thii jing*, honestly, I don't know. We must wait. But we will not leave. *Raw mai opayop."*

Waiting was a mode of existence I heard reiterated in conversation after conversation with people across the villages. Waiting for information (*khomul)*, waiting for court decisions, waiting for the right time to conduct protest actions so they have effects on political decisions or public opinion, waiting to see results from environmental impact assessments, waiting only to wait more. For Saiap, waiting was not a new mode. Since the initial proposal for the Kaeng Seua Ten dam in the early 1990s, the villagers had been in a perpetual state of uncertainty. Even when the dam was not being actively considered, the villagers were waiting, knowing that someone or some agency would eventually propose a dam on the Yom River again and the struggle would commence afresh.

This waiting is a temporal and political construction that has material effects on the lives of upstream constituencies. Specifically, the dam scheme embeds people in a position of constantly waiting for their futures to be shaped even as they worked to influence that shape. The potential construction of the dam means that the communities whose homes, lives, livelihoods, and sociomaterial relationships would be permanently flooded by the dams are possible future victims of these large-scale infrastructures. The communities are what I call "victims-in-waiting."

Describing these communities as victims-in-waiting provides a different angle from which to view both the communities and the state water management pan. In his ethnography of biocapital, Kaushik Sunder Rajan (2006: 144) discusses the formation of "patients-in-waiting" as individual subjectivities conjured by "foretelling future possible illness" through the collection of genetic information. He explains that once people know they have a genetic predisposition toward particular illnesses, they become part of calculations of preventative-medicine and an epistemology that justifies further drug development. The process here is to make these patients-in-waiting visible to justify pharmaceutical research. I use victims-in-waiting not to draw attention to market practices, but to draw attention to the biopolitical actions of the state; these actions create conditions of precarity for communities in northern Thailand and organize the temporalities of peoples across Thailand differently.

The state water management plan is, at its base level, a project designed to fulfill the biopolitical imperative to protect human life. Specifically, the state agencies are acting to protect the lives of a category of people labeled as victims of the 2011 floods. Henrik Ronsbo and Steffen Jensen (2014: 8) explain that "victim-subjects are made through constellations of power, knowledge, and discourse." The state dam scheme is complicit in this project of defining victim-subjects of the flood. As disaster scholars note, often the rush to protect biological life has negative impacts on social lives and reifies social inequalities. In his ethnographic analysis of disaster recovery after a flood in Brazil, Victor Marchezini (2015: 364) identified two main themes from his qualitative data: "claims on the part of state agents that their disaster response practices saved biological lives and the effects of these practices, which resulted in the devaluation of social life." Marchezini (2015) elaborates on the recovery practices of state agents and other outsiders who rebuilt the flooded community physically, but in the process diminished the capacities, relationships, and symbols that gave the community social continuity. In my research, this kind biopolitical motivation for protection became apparent in the post-flood plans for future prevention championed by Prime Minister Yingluck. However, this kind of disaster prevention strategy creates categories of people: the first as people who suffered during the flood that must be protected from recurrence and the second as people who will be displaced to enable the plan. The biopolitical imperative to protect human life becomes part of the neoliberalized matrix of valuation, what Barrios (2017: 160) calls "a biopolitical cost-benefit analysis" that adjudicates meaning and importance while erasing other kinds of attachments (Povinelli 2006). Specifically, this cost-benefit analysis weighs the biopolitical protection of downstream communities against the social and cosmological attachments to place of upstream communities and judges the needs of downstream victims as more critical in that moment. Put more simply, these are categories of "victim" and "not" and reflect the differentials in political influence and channels for recognition as subjects that matter. Ronsbo and Jensen (2014: 5) note that "on the one hand, victim status gives people priority over other sufferers, while on the other hand, it potentially devalues their agency too." Victims-in-waiting draws attention to the possibility of victimhood provoked not only by future floods, but by an array of other conditions including and especially the state development agenda.

In addition to a category that creates opportunity for political claim, victim-in-waiting is also a temporal condition of suspension, waiting. The state management plan is an effort to foreclose the floods and give them a specific time-place relationship: in the locations of downstream victims (primarily the central plains), and in the past. For communities upstream, however, the water management scheme has the opposite effect. Spurred by the floods, the scheme keeps the floods persistently in the present and future as an ongoing and ominously threatening catalyst for unconditional change. The everyday experience of the floods as an ongoing threat disrupt the chronotopicity of the floods. Mikhail Bakhtin (1981: 84) discussed chronotopes as "the intrinsic connectedness of temporal and spatial relationships that are artistically expressed in literature." For Bakhtin, the chronotope fuses time and space in the unfolding of a kind of story as an organizing center through which meaning is made. To the Thai state, the chronotope of the flood organizes how people make meaning of their experience with excess water and victimhood. However, for communities upstream, the chronotopicity of the floods cannot be contained to the past, on the plains; the threat of the dams brings the floods into their everyday lives as an ongoing process and perpetual threat. The flood becomes the chronotope of the anti-dam movement representing the fusion of the future with a potential reformulation of their home space, submerged.

Together, the vulnerability and temporality of upstream communities makes them victims-in-waiting of the flood and its attendant dam management plan. This future victimhood is an assemblage, "a way of understanding how a variety of heterogeneous entities, objects, actors, and relationships coalesce to form wholes of relative stability" (Ronsbo & Jensen 2014: 8). In this case, the assemblage of victimhood involves a nonrecognition or devaluation of upstream communities, the material and ontological complexity of water, discourses of biopolitical imperatives, state agencies, documents detailing dam construction, contracts with international companies, meteorological data, expertise, and situated communities. Yet even with these discursive and material elements conspiring to produce the assemblage of future victimhood, victims-in-waiting are not hapless or unwitting. Instead, they share a particular and undesirable future trajectory that motivates collective action to stave off this vision of the future, to create something different. Together, these victims-in-waiting form “enunciatory communities,” a redefining of community and collectivity that “is not a matter of shared values, interest, or even culture, but a response to a temporally specific paradox” (Fortun 2001: 11). Kim Fortun (2001: 13), in her analysis of advocacy in context of the Bhopal disaster in India, explains that “enunciatory communities emerge in response, as a social register of profound change.” In this case, the change is a movement toward an increasingly precarious existence; a shared threat of displacement and temporality of waiting has drawn together communities from seven different areas of Northern Thailand along with activists, academics, international and local NGOs, across difference to campaign together against the dams to prevent them from ever fully becoming victims of the state water scheme.

Conclusion

The 2011 flood disaster in Thailand provoked political upheaval and social uncertainty. The widespread effects fragmented and disrupted social and hydrosocial norms and provoked opportunities for change. Susanna Hoffman (1999) explains that in the field of disaster studies, the question of how and if there is cultural change through disasters is a critical one; since disasters make visible norms of sociality that might otherwise be invisible, it seems appropriate to query the effects of this visibility to effect real change. Change might be visible in the landscape in the form of large-scale infrastructures, but I am more interested in considering the changes (or lack of substantive changes) in socialities and hydrosocialities that emerge with the 2011 floods.

This chapter demonstrates how the floods in Thailand were socially provocative. As Gregory Button (2010: 16) demonstrates in his book on the uncertainty produced by disasters, “disasters highlight the asymmetrical distribution of power and foreground the struggle of the state, corporations, and human agency for the redistribution of power.” In the ongoing negotiation of Thailand’s floods, Thailand’s social inequalities are, in many ways, reproduced through the affirmation of preexisting hydrosocialities and socialities. Despite an array of causal explanations for the floods, most of the efforts to understand the 2011 disaster and the massive integrated flood management agenda it evoked work to instantiate existing norms and power structures. Anthony Oliver-Smith (2010: 36) explains that one major challenge in disaster practice is to “reconstruct and recover economically without re-installing the same system that generated the extreme vulnerability in the first place.” The initial strategies for preventing future floods, however, ultimately just shift vulnerabilities away from the flood victims and toward upstream communities as victims-in-waiting.

Yet disasters do not simply end because administrative policy changes or vulnerabilities are rearranged. Instead, the unexpected water flows have left trails, a residue of epistemological uncertainty through which the capacities of water-beings were made visible. Water-beings inserted themselves into political consideration and disrupted existing modes of social normativity. Even as the state works to stifle the earthly upheavals, water-beings have reconfigured not just the material landscape, but the contours of the social one as well. In state policy, this is evident in the need to create further strategies for rationalizing rivers and even more evident in the lived realities and practices of upstream communities, in their efforts to collaboratively protest the dam agenda and draw water-beings into those contestations.

Chapter 5

Raw Mai Opayop, We Will Not Leave

In the hot dry season sunshine, we gather in San-Lek. Over 100 people from across Thailand have joined together for a march as a protest action for the International Day of Action for Rivers (and Against Dams) including academics, students, community members from several of the Northern Rivers Network communities, NGO workers from Chiang Mai and Bangkok, a few journalists from different outlets including a recording crew from Thai PBS, and a handful of foreigners like me. The International Day of Action for Rivers is a product of the first International Meeting of People Affected by Dams held in Curitiba, Brazil in 1997. For communities, activists, and educational institutions around the world, it is a day of advocacy aiming to stop further construction of dams, and the environmental degradation and cultural impoverishment that attends them on specific rivers and for rivers globally (Brown & McCully 1997). In recent years, several different actions have taken place across Thailand including international collaborations on the Salween and Mekong Rivers along Thailand’s borders, each facing the threat of multiple dams on their mainstems. In 2014, the action coordinated by the Northern Rivers Network is a three-day hike along the Khan River, hosting this motley assortment of hikers with varied knowledge about the International Day of Action, the anti-dam movement of the Northern Rivers Network, or the Khan River and its connected communities.

For four days, we will be guided along the Khan River by members of the San-Lek community, from school children to elders, hiking approximately thirty kilometers along the winding river from the site of the village to the headquarters of Op Khan National Park, the park that contains the village. We all gather in San-Lek to start the excursion and a selection of people from different communities in the Northern River Networks speak to rally people behind the cause of the International Day of Action for Rivers. The Living River Siam employees distribute shiny green cloth flags in triangles and black markers. We take turns writing statements of protest on the roughly cut, fraying material: “No Dams!” “Protect the forests, protect the rivers, protect people!” “People First!” “Rivers for life!” Tied to backpacks and walking sticks, worn as headbands and armbands, these satiny, triangular flags collect and enfold us into the protest movement, at least for the duration of the hike. Before we hoist our packs to our backs, one of the young women from the school stands in front of the group with the megaphone and asks us to recite an oath by repeating after her. While her voice is distorted by the megaphone, I listen as people verbally respond, committing to protect and honor the forest and all its components—trees, water, animals, and land—as we walk through and the forest would therefore protect us in return.

At our first crossing of the Khan River, the party gathers again. Members of the Northern Rivers Network stand in the ankle-deep waters and unfurl a sign written to commemorate the hike as part of the global day of action. A representative of the Network reads a statement that captures some of the central principles of the collective such as rehabilitating forests and rivers, developing local systems for the preservation of the environment that are superior to state agendas, and enforcing community laws for improvement of ecologies and the community. The speech also emphasizes that this hike is a demonstration of opposition to the dam that threatens this place (the Khan River and surrounding communities) and dams all over the world that compromise the principles of environmental care to which these communities are committed. Recorded by the Thai PBS crew, the statement is expected to be shown as part of the national news coverage that aggregates the protest actions across the country and region.

Throughout the three days of hiking, the messaging became both clearer and simultaneously more complex. The premise of the backpacking trip is two-fold: one purpose is to participate in the International Day of Action for Rivers (and against dams), a globally recognized day of protest that buoys international alliance through dispersed, local, grassroots demonstrations against damming rivers; the other purpose is to cultivate commitment to a particular, local river through a momentary consolidation of a dispersed set of people who might leave transformed by their experiences of witnessing the river's beauty, its value, its capacities, and the constellations of relationships in which it is embedded. At the core, the members of San-Lek are working to interpellate people into a fight against the impounding of the Khan River and by extension the state's larger water management agenda. Yet the practices of protesting are multiple, appealing to people by demonstrating the breadth of meaning attached to this river, this place. The hike is a multifaceted protest strategy, interweaving local knowledges and global discourses, relational practices with water and national publicity, bold conservation agendas and exposure to a place. The march, as an action for an internationally recognized day of action, illustrates how the anti-dam protests in northern Thailand are layered, epistemologically and ontologically.

This chapter offers an analysis of anti-dam advocacy campaigns by the villages of northern Thailand, examining precisely these kinds of layered epistemologies and ontologies and how the water-beings come to register in political claims. Environmental movements against development projects in Thailand are often framed as local struggles by disenfranchised, poor communities to defend their access to resources for livelihood purposes (Hirsch 1997a, Hirsch 1997b, Hirsch and Warren 1998, Missingham 2003, Roth 2004). Further, Philip Hirsch (1997a) argues that Thai environmental protests are fleeting assemblages of diverse actors that devolve and are reconfigured in each subsequent iteration.

Scholars have discussed how environmental and social movements draw diverse constituencies into collaborations, emphasizing both the mutability and shifting of these assemblages over time and the unlikely social pairings conjoined (Fortun 2001, Li 2015, Tsing 2005). The anti-dam campaigns in some ways reaffirm these paradigms, producing allies across ethnic, religious, and political divides, appealing to academics, environmentalists, rural and urban communities alike yet also led by intrepid local community members who have the most to lose should dams be built. However, this iteration of protests also demonstrates efforts to make these claims legible and meaningful not just as protecting local livelihoods but as aligning with national and international objectives as well. The three-day hike for the International Day of Action for Rivers (and Against Dams) is one particular demonstration of the process of transforming people from different geographies and sectors into allies that both transform and strengthen the anti-dam movement for tributaries to the Chao Phraya. I examine the contemporary era of water conflicts as sites of antagonism and collaboration to elucidate how local protest actions against the dams come to matter in different ways, providing opportunities for political and cosmopolitical claims.

To appreciate the complexities of contemporary anti-dam campaigns in Thailand, the first section of the chapter contextualizes the current contestations in relation to previous eras of protests, emphasizing the ways these preexisting protest movements influence the formulations of subsequent eras of mobilizations. Water has a history of being invoked in political protests since the 1990s as development strategies intensified around dam building for irrigation and hydroelectricity. The current iteration, however, must combat not the discourses of developmentalism but the discourse of biopolitical protectionism. Since the inception of the THB 350 billion (now THB 900 billion) water management scheme, water has become a site of contestation across Thailand, pitting victims of the 2011 floods against upland communities. Like many of Thailand's protests over water, this era of anti-dam campaigning centers on the costs and benefits of implementing dams; this time, the dams are intended for flood protection and prevention. The water management scheme, as explored in the previous chapter, depends on the modern pretense of a rationalized river and promises safety and security; framing the water management plan as a biopolitical imperative to protect human life from future floods has the discursive effect of singularizing and simplifying both the problems and outcomes. Yet the cost-benefit analysis is anything but a straightforward calculation. For several communities across northern Thailand, the cost is permanent displacement and the benefit of flood prevention downstream is not guaranteed. Water management and the anti-dam conflicts in Thailand are bound up in competing knowledge claims, ecosocial relationships, and the politics of uneven power relations.

Yet environmental conflicts like the anti-dam protests are often about more than the production of knowledge and differences in visibility; they are also about ontology. Different realities or worlds are at stake in environmental conflicts (Blaser 2009, de la Cadena 2010, 2015, Escobar 2008). More than just making counterknowledges politically legible, the anti-dam protest movement is about the worlds produced through ecosocial assemblages, worlds threatened by the state water management plan. In her ethnography of new mining practices in Peru, Fabiana Li (2015: 110) explain that environmental conflicts are more than disagreements over resources; they are "struggles over the enactment, stabilization, and protection of multiple socionatural worlds." The anti-dam campaigns demonstrate that the multiple, overlapping socionatural worlds of northern Thailand are exactly what is at stake in contemporary dam protests. Water-beings thus become central in shaping the political and cosmopolitical contours of the anti-dam movement and the ways communities of the Northern Rivers Network demonstrate their claims.

In the next sections of the chapter, I focus on three central anti-dam campaign strategies through which these communities make claims about themselves, place, and the capacities of water beings: Thai spirit devotions, ordination of trees and rivers, and Thai Baan Research. Each of these strategies demonstrate what is at stake for the communities of the NRN, how these communities work to make their claims circulate and become politically relevant, and how water is evoked and produced as multiple through them. By focusing on the practices of the anti-dam protests, I demonstrate how water emerges in different formulations of protest strategies. In this movement, water is more than a resource or a river; it is also a sentient being, a creative agent, and a material presence that holds biological and social life within it. It is also endangered, vibrant, and becoming. I argue that the anti-dam campaigns in northern Thailand reveal not just different ways of seeing water, but evoke water as radically different and multiple entities that participate in the constitution of overlapping, sometimes contradictory, realities that are the conditions of possibility for the future.

Dam Opposition Legacies

"We learn from the old dams in Thailand - from the Sirikit Dam and the Bhumibol Dam." Kasem sits across a low table from me in the sala outside his office. The roar of the busy Chiang Mai superhighway is audible just down the road, on the other side of a thicket of greenery. Kasem grew up in Saiap and has rights to property there, but lives in Chiang Mai working with an environmental advocacy and education organization. As we talk, he has an energy that almost lifts him from his seat with each exuberant word. I can barely keep up with his rapid speech and from time to time he switches to English to make it easier for me to follow.

> “In the beginning when we know about the dam project [on the Yom River] we had information from one NGO in Bangkok. We have to read the information and we have to know, but we don’t believe it. In the world, and on TV, people say dams are good, right? But just this one NGO in Bangkok, they say that dams are not good… one day they say that the villagers need to go to see the dams because they have never seen dams before. So the villagers go to the Bhumibol Dam, the Sirikit Dam. And they see the dams are very beautiful, very big, and nothing happens. They are just thinking it is very beautiful, very big.
>
> “After that, we have to talk with the local people from the Sirikit Dam area and learn about before dam and after dam…. Some people came through our villages and they said we should stop the dam because the government lies about everything. They have to give money to you, and the dam will make more money; they say it will be easy to make money…but after the dam is finished, it is not like that.
>
> “Somebody has a lot of land, have money, have land, after the dam they are very poor. And the Yom River villagers believe the NGO documents and information that dams are not good. So they have a very big community meeting to talk about the information and after the presentation we ask ‘should we make dam or not’ and nobody said yes. Everyone says ‘NO! NO dam!’ Because they don’t have to move. In the beginning they don’t like to move anywhere. They care about farm, forest, river, and family.”

Kasem is explaining the start of the anti-dam movement in Saiap, the story that has become something of a legend.

This story was repeated many times by a variety of people I interviewed in Saiap and beyond, from P’Lung and Kasem who were only children when Saiap began protesting the proposed Kaeng Seua Ten Dam to P’Kang who was one of the leaders of the movement in the 1990s, to P’Narong, the perpetual activist. P’Narong’s version of the story made it unclear whether or not he had lived through the displacement of peoples in Uttradit Province when the Sirikit Dam was constructed on the Nan River, but he nonetheless knew the pains of displacement and knew the story that had inspired people to act against the dams in Saiap. The story of displaced peoples struggling to survive became a trope. Sometimes the stories discussed people from Uttradit Province wandering hungry and homeless through Saiap years after the Sirikit Dam was built; in this version of the story the communities at Saiap provided food and shelter for the displaced people, interpreting this as a warning, a foreshadowing of their future should the Kaeng Seua Ten Dam be built. The concern is well-founded: the World Commission on Dams (2000: 103) acknowledges that typically, “resettlement programmes have predominantly focused on the process of physical relocation rather than the economic and social development of the displaced and other negatively affected people. The result has been the impoverishment of a majority of resettlers from most dam projects throughout the world.”

Part of Saiap’s rich history of anti-dam advocacy, this story demonstrates how people understand the imposition of a dam as a threat. This story marks the critical point at which the dominant narrative of dams as modernizing development strategies is disrupted by counterknowledges, the lived reality of people affected by previous dam projects as portending what is to come. For Saiap, this disjuncture of belief came nearly thirty years ago and instigated a village-wide commitment to resisting this possible future. For some communities, this provocation came earlier; for others, later.

Protest Histories

Anti-dam protests are not new to the Thai context. Early dam construction met little opposition as communities had little avenue for recourse under different political regimes and little context for understanding the consequences of the dams. As Kasem explains, the dominant discourse painted dams as productive and beneficial development interventions; impounding rivers was portrayed as a way to alleviate poverty and give people modern conveniences. By the 1990s, people were more aware of the detrimental outcomes of dams and also aware of the unfulfilled promises that came with them. During this era, environmental and social justice protests became pervasive and commonplace occurrences in particular pockets of rural Thailand and in the national capital. The Rasi Salai and Pak Mun dams, both on the Mun River in northeastern Thailand, were among the first anti-dam protests in Thailand to create political waves nationally and even internationally (Foran & Manorom 2009, Ishida 2007, Yamsiri 2014). Built for irrigation and hydroelectricity respectively, the Rasi Salai and Pak Mun dams stirred contention when they were commissioned in the early 1990s on the Mun, the largest tributary to the Mekong, as part of the Khong Chi Mun (KCM) Project. People feared these dams would have adverse effects on the kinds of hydrosocial worlds possible in these places and simultaneously curtail human rights and livelihoods.

For both dams, concerns about diminishing or erasing socionatural realities became articulated in simplified, political forms as concerns about displacing people, flooding farmland and villages, and disrupting wetlands and aquatic ecosystems. The Mun River, a tributary to the Mekong, is known for its rich biodiversity of aquatic beings that contribute to subsistence and trade for people along its length (Foran & Manorom 2009). The uncertainty of how these dams might impact human and aquatic socialities and worlds manifested in extensive protests in Bangkok and later as an occupation of the Pak Mun Dam, already constructed. Ultimately the protests did not halt the dams but they have persisted even long after the massive infrastructures were fully commissioned.

For the Rasi Salai, the ongoing protests have primarily focused on compensation to the more than 3000 people displaced and 15,000 people who lost farmland as well as rallying to have the dam fully decommissioned (Living River Siam Association "Rasi Salai Dam," Yamsiri 2014). Intended to irrigate 5,500 hectares of land consistently in the dry northeast, the dam reservoir is situated on top of a salt dome; the water in the catchment area is therefore useless for irrigation because of its salinity (ibid).

The Pak Mun dam is designed for hydroelectricty generation as a run-of-river dam (Foran & Manorom 2009). This kind of dam does not have a catchment pond and is intended to offer less disruption to the flow of the river. However, a tenacious set of women recognized the ways the dam would compromise the lives, livelihoods, and ecosocial relationships that sustain their families and rallied people with their foresight of a compromised future (ibid). The protests grew throughout the construction and implementation process as did the impacts; the dam is accused of negatively impacting the livelihoods of 20,000 people through reductions in fish populations and compromised agricultural landscapes (Living River Siam Association "Pak Mun Dam"). Eventually, the movement became known not only as an environmental movement, but more as a social movement called the Assembly of the Poor (AOP) calling for sustainable development broadly (Missingham 2003). AOP's protest strategies included occupying the dam and adjacent lands and rallies before government buildings in Bangkok and in Ubon Ratchatani province and resulted in inconsistently honored concessions from the state including compensation for lost agricultural and fishing income, the multi-stakeholder process for ascertaining appropriate dam usage processes and restitutions, and agreements to leave the dam gates open for certain periods each year to aid in fish spawning (Foran & Manorom 2009).

The Assembly of the Poor became a sustained environmental and social movement emerging from the particular moment of large-scale water development agendas. As Missingham (2003: 319) explains, "during the early 1990s, NGO activists and villagers' leaders saw the need for a broad umbrella organization to campaign for community rights." The varied successes of the AOP gave it enduring credibility among rural communities and NGOs seeking to create a greater attentiveness to the growing social and economic inequalities shaping Thailand's modernization process. However, as an umbrella organization, the membership is constantly in flux and the AOP has lost much of its political persuasiveness over the years.

Beyond rallying unprecedented numbers of people and unexpected allies, the protests around Pak Mun and Rasi Salai dams also provided three important lessons taken up in the current era of anti-dam campaigns. First, the AOP created international connections, creating alignments between local causes and global issues, from protesting funding strategies of the World Bank to environmental conservation. Suda Ishida (2007: 12) argues that the Pak Mun Dam protests were not only significant because of the volume of people involved but because of the ways they facilitated what she calls a "*glocal conjuncture*" whereby media outlets in Thailand created "local awareness about a global environmental issue." Her analysis of newspaper articles about Pak Mun Dam between 1989-2001 demonstrates that local coverage of the dam protests created critical links to areas of global concern.

Second, 1990s era dam protests affirmed that water must be appreciated as a site for political negotiation and as more than political. Karen Bakker (2012: 618) explains that water is "inherently political, not only because it is an object of conventional politics, but also because of its material imbrications in the socio-technical formations through which political processes unfold." As part of political processes, water becomes understandable not only through situated relationships but through larger negotiations of power. However, participating in politics means trying to translate the multiple water realities into forms legible to the state, bringing water-beings into conversations about conservation and environmental impact assessments.

Third, the distrust of government agents as primarily promoting industry and development rather than local human (and nonhuman) rights spurred communities to develop their own strategies of knowledge production that would be legible to the state. Thai Baan

Research, a form of research designed and executed by community members rather than state-sanctioned experts, offers a way to counter state discourses with legible evidence. This strategy has become a main component of Living River Siam's work and is critical to all anti-dam protests in northern Thailand.

These three key lessons are integrated and transformed in the contemporary practices of the anti-dam campaign strategies of the Northern Rivers Network. Like the previous eras of dam opposition and the AOP, what is at stake in the proposal of large-scale dams is place, the place-based existence and relationships between people and nonhuman worlds. As discussed in Chapter 2, each of these areas of anti-dam protesting is happening in particular places where the material and social worlds collude to make meaning together. While these previous eras of campaigns are often cited as foundations for environmental and social movements with longevity, I am less interested in the longevity of protest alliances and more in the ways these practices evoke water to create relationships across space and time. As the next sections demonstrate, the contemporary anti-dam protests draw from the legacies of these previous protests and craft strategies to make protests resonate locally and globally.

Local Protest Ecologies

From a raft, the Yom River is rapids and deep pools, rock outcroppings and muddy river banks with grasses. While paddling the river with P'Prem, he stops at a particular bend and motions to a large stone outcropping towering above us. We are still a couple river kilometers away from the villages here, in the heart of the Mae Yom National Park. At this spot, the water is three meters deep; the pool's surface is smooth, hiding the uneven rock below. We stop paddling and P'Prem cautions: "Don't swim here. Don't get out of the boat. This area is home to a very powerful spirit. If bad things happen to people or if they get sick after swimming here, we believe it is because of this spirit." He also explains that this area would become part of the catchment pond behind the dam, hiding the spirit. The spirit, called Pa Ing, is one of three in this village that have the capacity to create effects in human lives. P'Prem explains that while the large stone here is a symbolic location for the spirit, Pa Ing's jurisdiction is a broad area. This is the spirit that oversees all of the natural worlds in the region, particularly as they intersect with social worlds.

Pa Ing and other forms of local water beings and spirit knowledges are critical components of the anti-dam protest movement. In each of the three villages, local sets of relations with rivers evoke water as cosmologically and ontologically complex. Practices invoking alternative cosmologies and spirits have a long history in Thailand as in other parts of the world (de la Cadena 2015, Johnson 2011, 2012, Klima 2006, Li 2015, Morris 2000, Terwiel 1975, van Esterik 1982). As a site of early anthropological studies in Thailand, the shifting role of Thailand's spirit world was analyzed in relationship to Buddhism (Terweil 1975, van Esterik 1982), negotiating the influences of modernity and neoliberalism (Johnson 2011, 2012, Morris 2000), and state-sanctioned violence (Klima 2002). These studies have demonstrated both the everyday practices of evoking and engaging local spirits and have framed these otherworldly influences as both benevolent and maligning actors in human social worlds.

During my stay in Thailand, I witnessed people giving offerings to spirits to demonstrate their right practices and I heard people speak extensively about the role of otherworldly forces like Pa Ing as actors in the anti-dam movement. I did not witness the work of medium rites to engage with these spirits. In this section, I therefore offer less of an analysis of the proper channels for engaging these presences and instead explore how beings beyond the human are discursively evoked as protest strategies and their impacts on political mobilizations and recurring sentiments of hopefulness. I demonstrate here that as these spirit relations are discursively deployed in the anti-dam movement, they re-center local evocations of water and inspire a sense of local solidarity.

Otherworldly Provocations

In Saiap, Pho Yut is considered an expert on the spirits of the community. Now an older resident of the village, he grew up learning the practices to honor what Penny van Esterik (1982) calls "guardian spirits" alongside the teachings of Buddhism. On a hot September day, I join him not on the river or near the houses of the two spirits in town, but in his corn fields. Despite the distance from the houses of the spirits, Pho Yut speaks eloquently about their power and capacities, particularly as they relate to the anti-dam protests.

Pa Ing, he explains, is the spirit that protects the life of the river. He elaborates that people participate together in rituals to honor Pa Ing including saying a blessing and offering a small sacrifice of some kind before entering the national park area that Pa Ing oversees. People who do not fulfill these obligations of homage to Pa Ing will suffer from it just as people who swim in the deep pool that is a sacred site for Pa Ing become sick. People in the village, he explains, respect Pa Ing; the state water management plan does not show that respect and the community trusts Pa Ing to act, to respond to this disrespect accordingly should it ever be necessary.

Pa Ing comes to represent a set of behaviors to be followed to remain in the spirit's good graces. James Siegel (2006) explains that naming beings that influence human lives provides an avenue for recourse: in his analysis of East Java, death emerged in the form of a witch that could be named and identified, allowing people to take action against an otherwise unidentified sets of forces. Andrew Johnson (2012) suggests that a similar process shapes how marginalized populations in Thailand identify and name the forces that can shape their lives and deaths, enabling them to communicate and appeal to these named spirits to counter the negative forces. For Johnson's (2012) interlocutors, the force they are naming and working to counter is chaos. In the anti-dam protest movements, the nebulous uncertainty is named displacement. Like chaos and death, community members in Saiap suggest they have meager capacity to guide the outcomes of the dam debates in the capitol; Pa Ing becomes a representation of these uncertain forces in a form with which people can communicate through practices of homage and prohibition deemed to show respect.

In San-Lek a similar set of otherworldly influences regulate behaviors that are prohibited. As became the routine of my visits to San-Lek, I learned the practices of the village by accompanying a group of children and a few adults on a hike through the forest. During one of these hikes, Padii Sah guides us through the forest to a small stream. This time, we stopped so Padii Sah could explain that this stream marked the boundary of a section of forest that was prohibited. Only a medium was allowed to enter to engage with forces within the forest at appropriate times and in appropriate ways. He would not elaborate more except to affirm again that we should never walk into this few rai of forest without the proper permissions or we would be negatively affected by the forces within it that we would disturb.

Further along the small stream, we stopped to have lunch. Here we crossed the stream and Padii stopped to greet the stream. Then he explained our location again in terms of the spiritual forces. On one side was *paa phuuying*, the feminine forest, and on the other *paa phuuchaay*, the masculine forest. The behaviors allowable in each were different. For the fires we would build to cook our lunch, we needed to gather only wood from *paa phuuchaay* and offer thanks to the forest for these provisions; by contrast *paa phuuying* was a space that we could walk through but should gather nothing. As long as we followed these particular practices and prohibitions, the spirits of these forests would protect us now and into the future. Violating these practices and prohibitions would lead the spirits to be discontent and to wreak havoc on our spiritual and physical health.

These principles of practice and prohibition in San-Lek are not generated as anti-dam strategies initially, just as Pa Ing was a force preexisting the anti-dam campaigns. However, these practices nonetheless are given an additional layer of meaning in this context of precarity. The dams are projects that will violate the prohibitions and practices of respect necessary to assuage these otherworldly forces, drawing their impacts into this world. As Johnson (2012) explains, the important criteria in Thai spirit devotion practices is that they create a means of communicating with forces otherwise inaccessible. In San-Lek this is through abiding prohibited behaviors. In the context of Pa Ing, the process of communication is through paying homage when entering the forest around the river. These practices align the communities and the anti-dam protests with the spirit world. The expectation is that following these rules will render the communities safe from these forces of state development design. These spiritual forces can anticipate the disruption and act against the state actions, protecting the communities that have served them so respectfully and upending those that threaten them.

The effect of communicating with these otherworldly forces, then, is to turn the tables: the uncertainty becomes an asset. In his analysis of spirit cults and precariousness in Bangkok, Andrew Johnson (2012: 768) states that "in Thai cosmology, the wilderness (e.g. *pa theuan*) is a place that is fundamentally closed and dangerous to humans, but because of its very otherworldliness, it is a source of potential." For these communities, these otherworldly agents become a source of hope: even when the social and political structures make local protests seem insignificant in the eyes of the state, these otherworldly forces are taking action to create political and cosmopolitical effects. "But the dam won't be built here," Pho Yut explained in Saiap. He did not ask Pa Ing to act on behalf of the community; instead belief that community protests were in line with the will of the spirit reaffirmed the protests; people trust that the coupled cosmological and material forces of the river will ultimately prevent the dam project. Since the deity and physical location are known among all the community members, this geographical location is a site to rally people and cultivate solidarity. Pa Ing, like the forests of San-Lek, is an otherworldly provocation of hope that rallies political mobilization.

Local Guardianship

A similar sense of hope and political mobilization stems from discourses concerning local guardian spirits. Guardian spirits are a framing for spirits that can be plied for particular kinds of care for people, particularly through spirit mediums (Johnson 2012, van Esterik 1982). While many contemporary scholars do not call these spirits "guardians," but simply spirits that are part of the pantheon of Thai devotional practices, I use guardian in this context because of the particular connection of these spirits to protecting communities against dam construction and displacement (Johnson 2012). These other-than-human forces are interpreted as agentive, as having the capacity to influence the political sphere through cosmological channels if properly assuaged.

In Saiap, the two main guardian spirits are centered in two human-made spirit houses within the village. The first is the Spirit Pillar at the entrance to the village. Now located near the major state highway that runs through the village, the Spirit Pillar has existed for a long time as a way of creating belonging to the village and is a common type of otherworldly interface in many areas of Thailand. People place objects at the base of the pillar as a way of announcing themselves to the spirit and seeking permission to enter the village. This practice was a way of distinguishing between insiders and outsiders; people who lived in the community would know how to engage the Spirit Pillar on entering, offering sticks, rocks, and other objects to build up the strength of the spirit as well as food, drink, flowers, and incense. Pho Yut explained that during the early phases of the anti-dam protests in the 1990s, this Spirit Pillar was a place where people from the village would patrol to watch for outsiders trying to enter the village; these practices helped people track experts who might be entering the village to do feasibility studies or to persuade people to accept meager compensation for their land. The "*phii*," the spirit or force of the Spirit Pillar would help remove unwanted guests before Saiap could be compromised.

Finally, the Red Spirit House is for the *phii* that is called upon to act on behalf of the village. Called the "*hoo dang*," the spirit house is a small wooden house on stilts with a base that is about one square meter in size. Lifted about a meter off the ground, the house hovers just beyond reach and requires stairs to climb up to it. Inside are small offering trays with food, beverages, and intricately designed wreaths of flowers as gifts to the *phii*. This spirit was specifically reinvigorated as the community started the anti-dam protests and has been a staple of the project ever since. Residents of Saiap even made a larger house for the spirit when the community felt particularly threatened. In the past, the spirit was plied to ask for good harvests and was appreciated as a beneficent *phii*. In the midst of the anti-dam campaign, the *phii* is now called on to protect the community and take action against politicians supporting the Kaeng Seua Ten dam. In four instances, the community claims it successfully petitioned the deity to act against particular government officials, resulting in their deaths. The story of these events have become part of the legend of their successful protest movement as evidence of community efficacy and agency against powerful state actors and agendas. Kasem explained that the stories are a bit misleading because the timing of these petitions and the spirits actions are convenient: the community plies the spirit when a politician is already ailing and expected to die and there is no time limit in which the spirit's actions must be carried out. Yet these details are omitted in the community retellings and the narratives become stories of success and hope. As the story is repeated among the villagers, the shared narrative locates people as community members; the selective omissions index a commitment to the community and its cause by reaffirming the efficacy of the community.

Figure 5.1 Red Spirit House in Saiap
Image courtesy of the authory (2014).

These spirits are plied by humans to act in particular ways on their behalf. Through a spirit medium, these spirits are called on to act, but expected only to act according to human wishes if the supplicants are reckoned worthy. This principle underlies practices with local spirit houses in San-Lek and Saiap alike. Both communities have practices of engaging spirits, working to appease them, and asking for their protection. In San-Lek, Paadi Sah demonstrates worthy behaviors by greeting rivers and streams we cross while hiking. This conduct gives him credibility so that when he returns to the village spirit house, a roughhewn wood and bamboo structure, he can ask for quality rice harvests and rains to make that possible.

In both Saiap and San-Lek, practices with water beings are legible and inform the spirit world. Whether a water being that is perceived as a spirit itself or a water being that connects with the spirit world, the practices nonetheless point to the capacities of water as a medium of relational exchange. The practices are also considered part of each community's shared responsibility and camaraderie. Thus not only are guardian spirits plied to effect material, political changes but they are also a site for constituting local solidarity.

The Christian God

In Baan Mae Roo, the space of danger and potential that is tied to Thai spirit devotion has been replaced with a set of Christian beliefs and its attendant tripartite deity. Padii Blu, one of the oldest living elders of Baan Mae Roo explained to me how the Christian missionaries from the United States reformed religious belief in Baan Mae Roo. I met Padii Blu in his home, a stilted house in the heart of Baan Mae Roo. We sat on the floor of the upper level, peering out over the edge of the home to see the passersby who would wave and call greetings out to him from the roadside. His son worked below, feeding sugar cane into a press to pull out the sweet pulp. P'Ong escorted me to the house and acted as my translator;

he'd instructed me to wear one of the Karen skirts I had a local seamstress make for me from the fabric P'Ong's wife had woven. The chilly morning winds bustled around as we sat together and P'Ong translated between Padii Blu and me.

Padii Blu explained that historically, Baan Mae Roo was a community that considered the woods around them a place of danger, where great care needed to be taken to honor and not offend the myriad spirits that moved in and through the material spaces of the forest. Then, eighty years ago, American missionaries came to the village and slowly convinced people that the woods were not haunted by several spirits but the gift of a beneficent single creator God. The story is a complex process of conversion that resulted in the development of two churches in the community and the eradication of spirit houses over time. Thai spirit devotion has been replaced with Christian devotion.

Yet this Christian God still has the capacity to act in people's lives and use the material world as an intermediary. P'Ong explains later that while the landscape might not be filled with different spirits that need to be appeased, the one omnipotent, omnipresent God does watch all the ways people care for each other and the material worlds of rivers, land, plants, and animals. In an unrecorded conversation over breakfast the next day, P'Ong explained that many people still see the Christian God as having the same ability to act in human lives now as Thai spirits used to have. People read illness after planting corn as an indication from God that corn should not be planted, that it is not healthy for the ecosystem. Similarly, people interpret good harvests of plants or good fishing expeditions as indications of favor from God, as indications of good living. While Buddhism and Christianity are both religions that are about doing good in this life for rewards later, the local interpretations indicate that these practices are infused with patterns of Thai spirit devotion in which spirits can act in the current world to create effects.

For the anti-dam protest, P'Ong explains that people consider their practices as needing to align not only with state conservation ideals but also with the will of God, diversely interpreted. Practices like planting trees and ordaining the river include prayers and song as a way of tying them to good Christian form, seeking the blessing and good favor of God. However, in Baan Mae Roo, people did not discuss Christianity or their faith as a political strategy for effecting change. Instead, people suggested that it was part of their common experience within Baan Mae Roo, a strategy for reaffirming their relationships to this place and to each other. These practices become "an expression of their cultural resistance against the external agents… a spirit of unity and common identity" channeled through their shared religious devotion (Marchezini 2015: 365, Oliver-Smith 1999b).

Water as Vibrant, Water as Intermediary

Thai spirit devotion and Christian devotional practices both have the capacity to evoke water as an important component of shaping the future of Thailand's water systems materially and socially. Through these practices, water is produced as an intermediary: actions with watery beings impact cosmological outcomes. Engaging water socially and responsibly is a way of communicating with the spirit world. Similarly, water itself is evoked as a vibrant being, with its own agencies and capacities. Jane Bennett (2010: xv) draws attention to the tendency to "screen from view the vitality of matter and to reduce *political* agency to *human* agency." These spirit devotions counter this by demonstrating both an awareness of and appeal to the vibrant agencies of more-than-human forces, of water beings, to effect political change. As Marisol de la Cadena (2011: 336) expresses, "the appearance of earth-beings in social protests may evince a moment of rupture with modern politics" (de la Cadena 2011: 336). Water beings cause this rupture by demonstrating that humans are not the only source of agency; instead it is distributed, engaged through human practices, and produces real effects.

One of these effects is to galvanize local commitments to anti-dam campaigns. These projects that politically highlight the disparities between rural interests and state projects seem like impossible challenges. There is incredible uncertainty and instability in the everyday lives of the communities threatened by these dams. While their political actions may feel limited, appeals to otherworldly agencies conjures hope. Centering the local evocations of water as a vibrant entity itself or one that acts as an intermediary between humans and other-than-human forces, people discursively and materially connect human actions with broad and indirect effects; this gap in action and effect is in part bridged by the constitution of the more-than-human.

These practices of appeasing and appealing to spirits are in part successful anti-dam protest strategies because they bring water into cosmopolitical assemblages. These practices are part of what Isabelle Stengers (2010) calls an "ecology of practices" that disrupts hegemonic norms of science as the way to understand the relationship between politics and water. Rather than expertise that suggests integrated watershed management policies including large-scale dams, Thai spirit devotions are a slowing of human acceptance and a demonstration of alternative capacities and ways of operating. Here water beings become not an object that is more than a technical-scientific problem to manage but part of a complicated web of more-than-human constituencies who are active in shaping the world materially and socially.

Isabelle Stenger (2005) and Bruno Latour (2004) both explain that the *cosmos* in cosmopolitics is strategy for ensuring that politics are not the only platform for interaction of humans. Thai spirit practices offer precisely this kind of opening up of the avenues of human entanglements with each other and with other entities in ways that nonetheless have the capacity to create effects on lived realities and politics. These devotions are practices of creating other worlds that overlap with the world of political policy, dam building, and displacement. Further, these practices reshape the possibilities of the future. In his research on environmental assemblages and cosmopolitics, Michael Nordquist (2010) argues that neither human nor cosmos are preexisting, but instead are constituted and transformed through political and social activities of diverse participants. He argues that "the creation of shared worlds always involves transformations of conceptions of what it means to be human through the attachments humans have to things and ideas" (Nordquist 2010: 103). Through spirit practices, these communities are part of the constitution of a world in which humans are just one component with one kind of agency, all becoming together.

This emergent sense of the world overlaps and conflicts with the world of scientific management paradigms. The communities in the anti-dam campaign must also work to make their claims legible to state agents and the nation as well. In the next section I demonstrate how tree and river ordination practices offer an avenue for exactly this kind of legibility.

Ordaining Rivers and Trees

It was early December 2013 and the waters of the Yom River were cold and subsiding from their rainy season high levels. Floating on large, colorful rubber rafts, we move down the Yom River, splashing through the small rapids and paddling with the flow of the water. The rafting trip was part of an educational program in Saiap including a variety of students from across Southeast Asia, the NGO workers who brought the students, and several villagers guiding our trip downstream with their skills at the front and back of each raft. We boarded the rafts upstream from Saiap, making sure to assign at least a couple strong swimmers to each boat. With life jackets and helmets on, we climbed over the thick, inflated rubber sides and settled into rows on the edges with our paddles ready.

Much of the journey down the river is filled with laughter and singing, the passengers of the different rafts splashing each other with their paddles. Occasionally the Saiap villagers would gather our boats all together so we could watch others pull in a net that had been strung across the river to catch fish or tell a story about the recent problems with outsiders fishing in the most ecologically destructive ways using dynamite in the river. As we approached a section of river with a string of orange flags flying over our heads, the community members again brought our boats together for a talk, all of us holding the ropes and handles of the rafts nearby as our local guides worked to keep us stationary in a section of water moving with good pace beneath, between, and around our rafts.

P'Prem stood carefully amid the people in his raft so we could all see him. He explained that the flags strung from the riverbanks marked this area as ordained. This three-kilometer stretch of river had been designated through Buddhist rites as sacred like monks in Buddhist temples. In the Thai context, he explained, ordination is among the highest honors and ordained monks are treated with respect and reverence. Ordaining a stretch of river gives it the same kind of esteemed position in society; the river is to be respected and honored in the same ways that monks are. The area is marked with orange flags made from fabric of monk's robes hanging from bank to bank, high above the river. At irregular intervals, we float under another line of orange flags, some strands looking tattered and weathered. P'Prem explains that the flags are to announce to others who might travel the river that this is an area of sacred water to be respected. The monk's robes hanging overhead are a clear indication in a society that deeply respects the saffron robe and the body of monks. For the three miles of ordained river, people are prohibited from fishing; the area was selected because it was a productive spawning area. We float through the waters quietly, more subdued than previous parts of the journey, respecting the watery landscapes and the forms of hydrosociality in which it is enrolled, in which it participates.

The following day, we take a more terrestrial approach to learning from the villagers in Saiap, hiking the gravel road that runs through the Golden Teak forest that is part of Mae Yom National Park. Early in the hike, we encountered an area of the forest marked with flags, white string, and more saffron robes. The area is cordoned off with a string of small Thai flags and Buddhist flags hanging taut about five feet off the ground creating an imperfect circle of about ten meters in diameter. We wade into the tall underbrush, slipping beneath the flags. Many of the trees within the circle have saffron robes around them, particularly the largest trees. Strands of white string connect across the circle at random intervals, connecting to others in the middle to create a tied web structure. We stand among the strings, flags, robe-wrapped trees, and tall underbrush as P'Prem explains that these trees, like the section of river we paddled the day before, are ordained.

> "In this area we organized the first tree ordination ceremony. Then we ordained trees in another area for the 50th anniversary of the King's ascension. The reason we must organize the tree ordination ceremony is because we found that using the law to protect the forest doesn't work, it isn't effective. So we use a kind of spiritual ceremony to raise awareness for protecting the forest. We thought we, all people, had been taking advantage of the forest using the wood to build houses, taking food from the forest, and we never gave back. We use this kind of ceremony to give back to the forest, to let the forest recover."

P'Prem goes on to explain the tree ordination as a protest strategy, as a way of demonstrating commitment to this place and the forest that provides so much for the villagers.

Later on the hike, we come across another set of ordained trees wrapped in the characteristic saffron robes. This collection of ordained trees extends further into the woods; the trees are more spread out and only the largest trees have been ordained. P'Prem pauses to explain: “Do you see a cross?” He points to a large tree close to the road. On it, about 3 meters high, hangs a metal cross a couple feet tall. “That is from the villagers from the Karen community from Mae Chaem. They came here for a tree ordination ceremony and used their own religion. They brought some symbols from their religion and we joined our religions to protest to protect the forest and stop the dams. There is no boundary for our religions.” This practice of making trees visible as esteemed, revered components of the social landscape is translatable across religious and ethnic differences.

In fact, Mae Chaem had adopted this practice of ordaining nonhuman others in their community as well, specifically ordaining the river. As P’Somchai shows me around the village, he highlights not the spaces where the Chaem River caused harm during the high floods of 2011 but the 5km stretch that is ordained and demarcated as protected and special. On the Chaem River, this is also an area the community has witnessed as a breeding ground and the interest in protecting it also serves the interest of protecting fish populations and aquatic resources. Like on the Yom River, this stretch is never fished and there are special regulations governing behaviors even on the banks surrounding the waters. In Mae Chaem, however, the ordained river area is not marked by signs or flags, but instead is simply part of community knowledge, practice, and memory.

In subsequent visits to Saiap, I would have opportunities to participate in ordaining trees in the Mae Yom National Forest. The first opportunity arises during the Buddhist Lent. Saiap continues a practice of young boys being ordained as novice monks for a short period during the Buddhist Lent as a way to instill good values, good behavior, and ethics. During my fieldwork, a contingent of 10-12 boys around 10-years-old were practicing novices at the temple in Saiap. Phra Ajarn, the head monk of the temple, is deeply committed both to the community and to the ecological teachings of Buddhism. To move Buddhist teachings into practice, Phra Ajarn arranged to for the novices to be part of a tree ordination ceremony.

Figure 5.2 Ordained Tree in Mae Yom National Park
Image courtesy of the author (2014).

On a sunny afternoon, when the rains were at bay, we gathered materials (the saffron robes, water, other offerings for the monks, and the accoutrements for presentation), climbed into a couple of pickups and drove into the forest. Following the main road past the park headquarters, we wound deep into the forest before Phra Ajarn stopped our route and selected a large teak tree standing not far from the edge of the road. Phra Ajarn led the novices in a short talk about their actions. P'Ton prepared the saffron robe materials, this piece much longer than was typically provided to a monk, placed it on the offering tray and humbly and formally offered it to Phra Ajarn. With Phra Ajarn elevating the cloth, the novices circled the tree and chanted around it on their knees, heads bowed deeply, hands in *wai* formation at their foreheads. The few of us who were supporting the actions stood at the edge of the road also bowing our heads and *wai*-ing deeply. P'Ton explained to me that this was a process of blessing the fabric and making a commitment to the tree to protect it. After the chanting was complete, Phra Ajarn and a few of the monks helped the novices pull the cloth around the trunk of the tree and tie the corners together on the other side completing the ritual. The robe became a symbol to mark the tree's status just as the saffron robes distinguish monks.

At its simplest, ordaining nonhuman others is a conservation practice that might resonate with a globally circulating ethic of protection and preservation of wild places. Yet these practices of ordaining trees and rivers, of distinguishing nonhuman others as deserving the respect comparably given to monks, serve several purposes in these communities and in the anti-dam movement in particular. Here I focus on how these practices become politically relevant at national and international scales and how water is evoked as multiple, as both endangered and as honorable.

National Claims, International Ethics

Tree and river ordination practices in Thailand are a practice of engaged Buddhism, a form of Buddhism that focuses on using the religion's core principles to respond to the changes of modern society (Darlington 2012, King 2009). Scholars have studied and critiqued the ways that Buddhist principles are applied to contemporary environmental conditions, suggesting that Buddhism's reinforcing of the interconnectedness of the world might be a basis for reconfiguring how people engage with nature, how people constitute ecosocial relationships in more sustainable, reciprocal ways (Tucker & Williams 1997). Engaged Buddhism, however, moves beyond the study of the theology and teachings of Buddhism to the engagement of monks who, as Susan Darlington (2012: 8) explains, "challenges Thais at all levels of society to confront what it means to be modern or traditional, local or global, Thai, and even what it means to be Buddhist."

Tree and river ordination ceremonies emerged as this kind of challenge, as a practice of engaged Buddhism. Tree ordinations in particular have developed as a practice across most of Thailand. Susan Darlington (2012) traces the practice of tree ordination back to the socially and environmentally motivated teachings of Buddhadasa Bhikku and P. A. Payutto which inspired the tree ordination rituals in the late 1980s. After decades of deforestation in the form of legal logging sanctioned by the state, the 1980s brought an era of increased awareness that Thailand's once lush forests were compromised and diminishing (Hirsch 1990). Several state policies, plans, and laws came into effect in the 1980s to promote reforestation, repeal all logging concessions, and preserve remaining forest cover (Hirsch 1997b, Kanjan & Kaewchote 2004). As explained in Chapter 2, these protection acts involved gazetting more and more land into national parks and wildlife preserves that complicate the practices and claims of communities who live and use these forests. Tree ordination practices became part of engaged Buddhist practices that work to engage people and religion and environmental conservation actions.

Susan Darlington (1998, 2012) suggests that the story of origin for tree ordinations traces back to Phrakhru Manas of Phayao Province whose small-scale practices of engaged Buddhism began to draw attention as a model practice. Saiap claims to be the first place to have considered tree ordination as a strategy for both forest protection and anti-dam protests. The Golden Teak forest at the edge of the village had been the site of extensive logging concessions both by the English East Asiatic Company and later the Thai Chart Piboon Company (*Thai Baan Research in Kaeng Seua Ten* 2006). The devastation of these logging practices can be seen in the landscape and the community recognized a responsibility to this place and the trees in it. The ordination practices emerged alongside the anti-dam movement, as an extension of protesting the dam that would submerge this forest. As we walked through the woods, Kasem explained that before the dam would be built, the trees would be logged again. Those that had been left by the logging companies—primarily because they were too small at the time and thus not yet valuable enough to log—were just growing into their full size when the dam at Kaeng Seua Ten was first proposed. The community understood that some company would get the contract to clear cut the landscape and would make an incredible profit off the valuable golden teak trees before the dam would be erected. Ordaining the trees within that forest became a political statement of conservation, protecting the trees and simultaneously a demonstration against dams that would submerge the forest land once and for all. While the practice may have emerged in other locations as well, Saiap residents claim that they imagined this independently as a method of redefining forests and redefining ecosocial relations.

The practices of ordination, whether for trees or rivers, are to draw people into the practices of conservation. In her analysis of tree ordinations and the 'ecology monks' who perform these rituals, Darlington (1998, 2012) argues that sanctifying nonhumans like trees is intended to direct human behaviors toward them. Specifically, Darlington (1998) writes that monks have used the ordination of nonhumans to cultivate conservationist behaviors in local community members. Simultaneously, it is a demonstration of the community as guardians of forests and water systems as a counter to state discourses of upland peoples as destroying ecologies (Forsyth & Walker 2008). In the communities of the NRN, ordinations affirm the role of these communities in sustainable upland practices in alignment with national practices.

Tree ordinations have become a popular and honored practice across much of Thailand as a representation of both Buddhism and nationalism. As a Buddhist practice, tree ordinations gain credibility and respect across Thailand. In a nation where over 90% of the residents practice Buddhism, the religious "philosophy supports and legitimizes activism by grounding it within religious and historical traditions" (Darlington 2012: 13). Aligning with Buddhist practice confers on the practitioners a kind of legitimacy of their participation in the social mainstream. At the same time, Buddhist ordination invokes the religion's morality, reminding people to treat all life responsibly and kindly as a way of conferring merit.

As a national practice, tree ordinations have become a commonly recognized and respected statement of participation in the moral ideals of the nation, particularly those espoused by the revered and recently departed King Bhumibol. In 1996, to celebrate the 50th anniversary of King Bhumibol's accession to the throne, the Northern Farmer's Network initiated a project to ordain 50 million trees in community forests across Northern Thailand in the King's honor (Isager & Ivarsson 2002, Tannenbaum 2000). This call to action demonstrates the prevalence and familiarity of tree ordination practices. Saiap participated in this effort. The symbolism of ordaining trees for the King makes tree ordination and conservation of trees unimpeachable because it is sanctioned by the most respected leader in Thailand's recent history (Tannenbaum 2000).

While monks participating in engaged Buddhist practices have been criticized for stepping into political spaces, these practices also confer political integrity to the protests movements of the NRN. Communities like Saiap strategically choose to ordain trees that would be ruined by the proposed dam plans as a way of maligning state actions that threaten these now nationally recognized symbols of protection. By protesting against state plans, communities have historically risked being labeled dissidents. In response, the state has sanctioned communities by withholding aid, tried to ply them with incentives, or simply ignored dissenting perspectives all together. Resistance leaves these communities vulnerable of being marginalized (or further oppressed) as citizens and residents of the Thai state. Employing Buddhist ordination as a statement against dams helps to counter the perceptions of these communities as troublemakers. Ordinations on nonhuman others connect these communities to both the King and Buddhism, both strong indicators of Thai-ness. The practice therefore resonates across a national scale as a means for communities to claim and perform their Thai identity.

Ordaining rivers is a less common practice nationally; it is not tied to the King nor is it recognized as participating in nationalistic movements. However, this ordination of nonhumans practice stems from a similar environmental protectionism and demonstrates participation in global conservation ethics. In Saiap and Mae Chaem, the practices of ordaining trees by any religion is tied to the protection of watersheds. Forsyth and Walker (2008) demonstrate how environmental narratives in Thailand have tied the quality of watersheds to forest cover. As elaborated in Chapter 3, several watersheds classifications are stipulated based on conditions of the forested landscapes; for example, watershed classification 1A is characterized as protected headwater sources areas and the state recommendation is that these areas should remain in permanent forest cover. Ordaining the forest aligns with the national principles to stop deforestation and also to protect watersheds. Ordaining rivers makes more explicit the attention to protecting rivers and gives water beings parallel importance. On a global scale, water and forests are both esteemed as invaluable ecological assemblages where political questions of conservation are explored through varied practices (Forsyth & Walker 2008, Raffles 2002, West 2006). Ordination of nonhuman others, of water beings and forests, becomes a performance of acknowledging this value through local practices and sensibilities.

My third encounter with tree ordinations was a community action. During a visit from another group of students, the community drove us deep into the forest. A collection of 25 students and 10-15 villagers, we gathered around a large teak tree with Phra Ajarn. As with the novices, Phra Ajarn is presented with saffron robes. This time, instead of a single cloth, Phra Ajarn stands in front of two large piles of saffron robes. He and another monk chant over the robes while we all stand in crowd nearby, heads bowed, hands *wai*-ed. After the cloths were blessed, several of the community members began distributing them to all of us standing nearby. We each took a few cloths and proceeded into the forest in pairs, wrapping the trees with the robes, ordaining them. I held the end of one of this nationally recognized symbol of honor and respect as I worked with my partner to tie it and make a commitment to protecting the tree. Several of the community members took photos of the *farang* participating in this ordination. Even though I am unable to look after the tree personally, my participation was in part a way of demonstrating the globally recognizable practice of protecting environmental beings. Paige West (2006) explains that often expert forms of conservation practice do not align with local practices. By contrast, Buddhist ordination is a local practice that demonstrates a commitment to this common goal. What matters here is the realization of a conservation ethic, of creating conditions of protections and reciprocal responsibility between humans and the ordained beings of the forest—both the river and trees.

Water beings as Endangered and Honorable

In addition to the political relevancy that stems from ordination, there are implications to the ways water beings are evoked and produced through these practices as both endangered and honorable.

The undercurrent of conservation practices is an understanding of ecosystems, and human relations with them, as tenuous and in need of protection. One aspect of ordaining water and trees is producing these nonhuman others as endangered; to be able to protect these nonhumans requires producing them as socially dependent on humans, as in need of human protection. Tim Choy (2011: 26) remarks that "endangerment is a key trope in environmental politics. It structures images of simultaneous tenuousness, rarity, and value. To speak of an endangered species is to speak of a form of life that threatens to become extinct in the near future; it is to raise the stakes in a controversy so that certain actions carry the consequences of destroying the possibility of life's continued existence." He explains that endangerment has been applied to species, ecosystems, and increasingly to the politics of cultural survival.

Endangerment has a both scientific bases—the process of identifying what is threatened according to specific data—and affective bases through which the value of the threatened species, assemblage, or ecosystem is made meaningful and action taken. Forests across Thailand operates along both these lines and the Golden Teak trees are considered especially endangered: the trees are rare after a century of intense logging and are valuable in global market systems. Similarly, the river ecosystems are threatened by the dam proposals which will redefine fish breeding areas and aquatic ecosystems more broadly, including broader hydrosocialities and ecosystem services.

By ordaining trees and river, communities of the NRN are producing these nonhuman others as endangered and in need of human actions to protect them. In turn, endangerment mobilizes further human action. By demonstrating endangerment through ordination, the appropriate actions of protection are prescribed: ordaining a tree or river endows it with a socially-recognizable status comparable to that of monks. In this context, water (and trees) are evoked as honorable as they are ordained. Ordination is typically reserved only for humans, and then only for specific humans pursuing the noble course of monkhood. Because monks are revered, the ordained nonhuman others are also worthy of being honored in ways that parallel the honors bestowed on humans.

Darlington (1998, 2012) is careful to note that the ordination of nonhuman others is meant symbolically, not as a statement about the personhood of nonhuman others. However, Sallie B. King (2009: 119) explains that "in Buddhism things are *also* seen as having intrinsic value—that is, they have value in themselves, just as they are, with no reference to their usefulness for oneself." Thai cosmological and Buddhological orientations point toward the creative capacities of nonhuman others through the many rituals to river, land, forest, and animal deities remain prominent methods for shaping and securing relationships between humans and nonhumans. These rituals, including Buddhist ordinations, acknowledge nature's material capacities as being ontologically complex and as shaping potentially unpredictable futures. Ordination is historically reserved for the elevation of humans but by ordaining trees and rivers, these nonhuman others are likewise elevated, evoking respect for their material capacities as potentially exceeding human ways of knowing them.

Evoking the multiplicity of water through ordinations gives the protest movement a plethora of strategies that might resonate for different constituencies. As an anti-dam campaign, ordinations of nonhuman others—both water beings and forests—create political relevance for the protest movements and mobilizes political action. Through them, water becomes not just a resource to manage but also a being to be protected and respected.

However, as the next section explores, respect for local practices and knowledges is often subverted even through channels of "good governance."

The Politics of Knowledge and Counterknowledges

"*Tong mii khomul iik.* We need to have more information." P'Rut lifted his arms in exasperation. "The state doesn't tell us anything. Aj. Tan, he tells us. We trust him to know what is going to happen to our village. We need more information. And we need the state to listen to our knowledge. *Ratabaan tong fang.* The state must listen." Rut is animated, his wiry limbs moving in ways that make his entire being rock as he sits on the low bench. The rainy weather shortened our short hike to see the hand-made bamboo and rock weirs that create the canal system for the village. After slipping and sliding in the dense mud, we returned to the village and the protection of the stilted home at the edge of the village nearest the road. Most of the hiking crew returned to their homes or the homes in which they were staying for their overnight visit. Only a small collection of seven of us remained, all sitting on low stones or a tree trunk bench, gathered to dry out beneath the house. Tan has brought out the fruit from the bags of food we carried into the village and his assistant Lu is making tea and pouring water from water bottles for us all.

The conversation under the shelter of the elevated home began with the villagers from San-Lek peppering Tan with subtle questions about the dam plan sprinkled in among otherwise innocuous questions. The purpose, it seemed, was to try to wrest clarity from the dense fog surrounding the National Council for Peace and Order's reevaluation of the water management plans.

"How are things in Bangkok?"

"How is your family? You didn't bring your son with you this time."

"How do the rivers look downstream this season?"

"What are you working on these days?"

"Where have you been traveling recently?"

The conversation followed a circuitous path between questions but seemed to come back to a central interest in the water management plan with some questions more veiled than others. Since the military coup, information from the government about the water development agenda had been increasingly guarded and sparse. Tan's answers offered little reassurance, not because he did not want to help but because he had no relevant information to share, he explained. The NCPO had nullified the plans of the previous administration along with abrogating the entire constitution (followed by a complicated process of reinstating the constitutional protections that apply to the monarchy) (Prachatai 2014). In the ensuing months, however, there had been a dearth of sound information shared by the military junta about their intentions related either to democratic elections or water management, creating a space of both hope and uncertainty about the future. At this juncture, with the rain falling heavily while we stayed sheltered under the stilted home, the uncertainty was palpable, driving P'Rut to his animated expressions.

Even before the coup, the need for *khomul* or information was repeatedly evoked in conversations about state plans. While the secrecy of the military administration had exacerbated conditions, people across all the villages and NGOs explained that information from the state was incomplete, unclear, elusive, and unreliable. Despite these shortcomings, *khomul* remained the object most desired by communities. This paradox of wanting information yet perpetually distrusting any information provided by the state as inadequate points to a central tension in processes of water management. The requests from the villages concentrate on availability and transparency, on seeking *more* information, *khomul iik.*

However, I gradually began to understand that the volume of information was not as valuable as the quality of that information. In the anti-dam protest movement, information is a contested terrain as different kinds of information index disparate ways of knowing water, place, and what is at stake with the water development agenda.

In this section, I examine knowledge practices in the environmental politics of water management in Thailand. In the unsettled landscape of water management, different forms of knowledge are mobilized to serve political purposes. I query what constitutes viable, accurate, and valuable information in context of water management, both for the state and for vulnerable communities upstream and how particular forms of environmental knowledge become politically relevant. Tim Choy (2005: 11) explains this as the "mundane work of relevance making that calls to mind the concept of 'articulation.'" Articulation is a way of understanding the assemblages and linkages that gain traction as opposed to those that do not, what Choy refers to as "unarticulated" forms of knowledge (Choy 2011, Moore, Kosek & Pandian 2003). I draw on Choy's framing to analyze how particular forms of knowledge production in the anti-dam protest campaigns gain political relevance or, put differently, articulate across the uneven domains of power and accountability that shape the contours of the environmental politics. Specifically, I focus on two sets of knowledge practices: the Environmental Impact Assessment (EIA) and Thai Baan Research. The former, EIAs, are part of the state mandate for mitigating adverse effects of development projects through pre-analysis and design strategies. The latter, Thai Baan Research, is a form of community-based knowledge production offered as a form of counterknowledge to the detached modes of state data collection and assessment. I analyze how these different kinds of knowledge practices articulate and circulate in the complicated political webs of environmental expertise in Thailand, evoking distinct but overlapping water realities and mobilizing political actions.

EIAs and Accountability

Poring over maps on the porch of LRS, P'Lung explains the convoluted history of dam proposals and protests at Kaeng Seua Ten. Over the years, the Kaeng Seua Ten Dam has been proposed, postponed, redesigned, defeated, and reimagined repeatedly. Public officials have created justifications for implementing a hydroelectric dam, an irrigation dam, and a flood prevention dam at the site. The location has been shifted slightly upstream and slightly downstream, and the current design proposes two dams, creating a cascade effect. The main purpose of this reconfiguration was ostensibly to protect Saiap; the villages there now fall in between the proposed catchment ponds. P'Lung traces an awkward line on the map to mark the supposed border of the proposed reservoirs. "See this?" He points animatedly at the place on the map that is Saiap. "This is where our homes are. But this—" he points now to an area inside the reservoir— "is where our rice paddies are and this—" he moves upstream slightly— "is the golden teak forest. This is a problem because first, they cannot ensure the waters will perfectly follow the lines they believe; dams change topographies. It is also a problem because these areas that will be underwater are part of our village, part of who we are. Without them, we will not survive here." To P'Lung, the landscape surrounding his village is not just a set of resources, but forms the socionatural relationships that comprise his community.

He continues: "The new dam location is not to protect us. The plan means they don't have to consult us." P'Lung explained that the new arrangement of the dams places Saiap outside the scope of the state's required Environmental Impact Assessment (EIA). Ostensibly, the dual-dam plan would resolve the contestations of Saiap, their firm reiterations that they would not be displaced; this plan meant that the communities at Saiap would not need to be relocated. Yet the community remained skeptical. As P'Lung explained it, not being displaced is not necessarily equivalent to not being impacted, yet the two are made commensurable for the purposes of expediting the state's process of due diligence through the formalities of the EIA. Avoiding official state consultation with Saiap meant avoiding this site of predictable, prolonged social resistance. P'Lung explained this as a controversial precondition of the state water management plan, speculating about the intentions of the state before the official EIA plans had been initiated or even announced. Before any EIAs could be completed, people upstream understood this as a critical step in the process.

A formal practice of evaluating environmental impacts of development interventions before they are implemented, the EIA is an internationally recognized and codified process of "identifying, predicting, evaluating, and mitigating the biophysical, social, and other effects of development proposals" (IAIA 1999). As a conjuring of ecological knowledge that represents the environment in ways legible to the state, the EIA is now a globally practiced form of "good governance" supported by the United Nations through the Rio Declaration on Environment and Development (Donnelly, Dalal-Clayton & Hughes 1998). In Thailand, the practice of conducting EIAs was adopted in 1978 as part of the National Environmental Quality Act; the processes and objectives have been updated over the years to include different kinds of development projects, to compel financial restitution for compromising environmental conditions, and to make the process more expeditious (Tongcumpou & Harvey 1994). EIAs have progressively become a mandatory process for 35 different types and sizes of interventions on the landscape and socialscape, from building dams to power plants, industrial parks to industrial waste management centers (Supat, Sano, & King 2014). The documents produced as representations of environmental knowledge are intended to become part of state decision-making practices and simultaneously aim to make state processes transparent, efficient, and accountable (Anders 2008, Lamb 2014).

The National Economic and Social Development Plans over the past half century demonstrate a shift in objectives of Thailand's development practices related to natural "resources." While the material presences of water, forest, land, and minerals is not recognized, the capacities of local peoples to understand the conditions of a place gained credibility. Specifically, by the early 2000s, the NESDB (2001: 60) focused on creating a "management system that is based on shared responsibility, transparency and practicality. Knowledge and information shall be disseminated to people, community, and local administrative units so that they can actively participate in protecting natural wealth." The space for exchange allowed local perspectives to be voiced and also allowed agents of the state to engage people in the work of balancing development and resources. The EIA process aligns with these objectives: at the core it is a device to facilitate communication between the public and the corporate or state project managers to ensure that people and the environment are not put at undo risk, bearing the cost of capitalistic development for the benefit of others. However, the process of undertaking an EIA is often problematic, and the Thai context is no exception. The problems of EIAs in Thailand revolve around the distinction of whose knowledge matters and in what ways.

As policy processes, EIAs rely on the collection of information to determine the impacts of a given development proposal and to protect the productivity and capacities of ecosystem services broadly. In the Thai context, EIA reports include evaluations of the physical resources, biological resources, human use value, and quality of life in the proposed project region (Supat, Sano & King 2014). Specifically, data is aggregated on a range of ecological and material qualities such as geomorphology and topography, soil characteristics, water quality and usage patterns, air quality and risks, and flora and fauna species and habitats. In addition, EIAs are required to collect and assess information about human practices with the material world (electricity generation, irrigation, flood control, reforestation, and land use) and aggregate social indicators such as morbidity and population profiles. The objectives of these analyses are to understand existing dimensions so that project developers can anticipate the consequences of development and mitigate the negative impact these environmental capacities, land use patterns, and social indicators. To that end, EIAs also include long-term monitoring plans as well as plans for compensation for any "irreversible or irretrievable environmental damage" as well as "to replace resources which will be be destroyed" (Supat, Sano & King 2014: 23).

This comprehensive set of analytics suggests this practice is founded on principles of care for people and the environment. Yet in practice, EIAs are complicated by their own sets of flaws and epistemological biases. According to national policy, EIAs must be prepared by consultants registered with the state and the reports are then reviewed by the Office of Natural Resources and Environmental Policy and Planning (ONEP). ONEP is responsible for adjudicating that these performances of environmental and social protections are adequate to ensure the well-being of human and ecological systems. They base their decision on the work of experts who provide data and evidence in legible forms. However, an independent assessment of EIA procedures in Thailand in 2014 noted that these reports often have inconsistent and incomplete data, lack integration of the multiple facets examined to make the bigger picture visible, and often the assessments meet only the minimum legal requirements rather than working toward more ethical environmental standards (Supat, Sano, & King 2014). This formal process is imperfect, but remains the recognized method for preventative environmental accountability.

In part, these inconsistencies can be understood as inherent to the design of EIAs. These good governance practices involve distilling lived experiences and generational knowledges into the categories of expert scientific data to measure risk and forecast the future. In his work on the formal policy processes for impact assessments in Canada, Clinton Westman (2013: 113) explains that “rhetorically, the importance of impact assessment as a quasi-profession lies in its claims of expertise, particularly in preventing disastrous futures.” Experts become the designated speakers endowed with the authority to make claims about the potential futures of places based on science as the authoritative spokesperson (de la Cadena 2011). Yet the imaginings of the future are limited by the perspectives of the consultants themselves (Westman 2013). For example, EIA documentation has little room for the kinds of hydrosocial relations that shape upland waterscapes as ontologically murky and co-constitutive. Yet these documents become representations of the possible and even likely futures based on particular forms of knowledge produced by so-called experts that delimit the spectrum of future possibilities. Westman (2013: 111) argues that the documents produced “rhetorically work to preclude certain futures; they, thus, can be read as texts with power to inscribe rather than just describe the future.”

As an intentional counter to the tendency to rely primarily on expertise in defining environment impacts and risks, one component of these assessments is public listening sessions to “demonstrate the participation of public and community” (Supat, Sano & King 2014: 23). These include meetings like those hosted by the RID in August 2014 across Thailand’s major river basins (see Chapter 3). These RID listening sessions were actually preemptive, eliciting public feedback on proposed plans before official EIA proceedings had been started. These sessions allow people to voice their concerns over project development, but do not guarantee that those concerns will be integrated into the final reports. In her analysis of the EIA process for the Hatgyi Dam on the Salween River near the Thai-Burma border, Vanessa Lamb (2014) explains that while EIAs may purport to be avenues of public engagement and outreach, the final reports are generally produced by a series of experts, not local communities. As a result, she argues, "EIAs and not local residents became the 'voice' for assessing environmental impacts" (Lamb 2014: 388). Rather than integrating the full scope of public voices and concerns, these listening sessions often become instrumentalized, further augmenting the authority of experts who report on them for the EIAs. This form of analysis is where local knowledges are represented as perspectives "which don't fit into technical frame and which are, thus, devalued" (Ferguson & Lohmann 2006, Westman 2013: 118). The EIA becomes something of a black box; inputs of local knowledges, counterknowledges, and concerns are reconfigured into outputs of scientific expertise, losing some of the potency of these inputs in the process. Tim Choy (2011: 80-81) explains that "to be credible, expertise must bear universalizing and particularizing marks simultaneously." These public hearings provide the opportunities for expertise to find is particularizing mark while reaffirming expertise and smoothing friction for development agendas.

Further, in formal EIA documentation, the state or the corporate entities applying for permits for development projects that necessitate EIAs, delimit which human and nonhuman populations are eligible to offer feedback. Experts determine the range of social and ecological effects and then invite input from the public that falls within these confines. Vanessa Lamb (2014) demonstrates that the EIAs for the Hatgyi dam project are spatially constituted to strategically include some people and exclude others—specifically, for the Hatgyi dam, the EIA is geographically scaled to include primarily residents of Burma who are politically less likely and less able to resist a state-directed development plan and exclude the majority of people in Thailand. Much like the situation on the Yom River, the geographic delineation of impacted peoples is political, precluding the perspectives of many people whose hydrosocial relations will be irreparably disrupted and the borders of that disruption are disputed. In subsequent versions of the Hatgyi EIA, border communities have been labeled "illegal migrant workers," further marginalizing communities by diminishing their rights as citizens and therefore diminishing the value of their perspectives even at public hearings (Lamb 2014). While the parameters of the EIA for the proposed Khan River dam have not yet been released, residents of San-Lek recognize their precarity and marginalized position in relationship to state procedures like this. As a community that lacks official land tenure documentation, San-Lek may not be inscribed in the official documentation for the dam.

An early hearing about dams proposed for the Ping watershed further reinforced this sensibility. Held in Chiang Mai in October 2013, the communities from San-Lek and Baan Mae Roo tried to attend the hearings but only 2000 pre-selected people were allowed to be part of the official conversation. Community members reported that nearly 6000 more people gathered outside the meeting to protest the dams and the methods of the hearings. This protest action was met not with police response but with a counter-protest action of people in the politically-charged red shirts. The clashing protests were not the typical red-shirt/yellow-shirt opposition groups, but rather red-shirts protesting against other red-shirts in an environmental debate. Several community members believe that the counter protesters were paid by government officials to demonstrate at the public hearings and disrupt the environmental movement. The public hearing disbanded and community members said the outcome of it had never been shared. These preliminary hearings, however, were just that: preliminary. The EIA has not been officially started for dams on the Ping River tributaries. P'Rut explains casually one day that if the EIA is ever announced for the Khan River dam, it is the mark of defeat, of channels for recourse diminishing.

This sentiment was common across all the communities. The EIA rather than the actual construction of the dam was a key indicator of the future for upstream anti-dam advocates. Instead of producing formal channels and opportunities for people to object to water development strategies, the EIAs demonstrated that the protests were ineffective at rebuffing the state water management plan. The EIA is often perceived as a step in moving corporate and state projects forward rather than as a gatekeeper. The EIA is an inherently biased paradigm that favors development and assumes risks can be managed by corporate or state actors. As Fabiana Li (2015: 198) explains of EIAs for corporate mining in Peru,

> "the EIA is intended to guarantee a company's environmental accountability to local communities. However, by entrusting companies to create an inventory of the socionatural landscape, establish the 'baseline' characteristics of the site, and link each potential risk to a mitigation plan, the *form* of the EIA implicitly facilitates a project's eventual approval."

The EIA does not adjudicate which projects *should* move forward but *when.* The effect of this inherent bias in the EIA structure means that these formal policy processes haunt the the anti-dam protest movement in Thailand as indicators of irreversible advancement of the state agenda.

In the process of EIAs on water management development plans, water is evoked as a resource, a material of the planet fundamentally manipulable to serve the purposes of ecosystem services and human designs. Water as a resource, as I have discussed in previous chapters, strives to erase the other multiplicities of water realities. Westman (2013: 118) explains that "thinking of things as 'resources'—rather than considering a known, nurturing, landscape full of sentient beings—implies a rather different set of temporal experiences and narratives behind the resource imagination of consultants and proponents than those behind the environmental knowledge" of people in place. In water management planning, the EIA determines what kinds of hydrosocial relations are included and excluded and what kinds of futures are imaginable and unimaginable.

Currently, the EIA has not commenced at any of the sites on which I worked. Communities are instead left in spaces of uncertainty and hope that together mobilize action. However, until the EIA is officially underway, the anti-dam advocates in Northern Thailand have opportunities to produce water and their futures otherwise.

Thai Baan Research

The meeting of the NRN is outside of Chiang Mai a few kilometers, tucked into the western edge of the city that moves up the mountains on a series of circuitous back roads. After driving aimlessly for 20 minutes, already late to the meetings, P'Jay rode his motorbike to the canal road to meet me and lead me. The meeting is hosted at another local NGO in their open sala. Representatives from the NRN communities are gathered on the bamboo mats on the concrete floor, looking toward the information projected onto a small movable white board. The meeting accommodations today are strikingly different from the previous day of this two-day strategy summit; the previous day involved making a formal, recorded statement of opposition to the state's water management plan in a classy boardroom space at Chiang Mai University. The gathering on the second day is to focus on strategies for community-based research plans.

During several visits to river communities, I was part of meetings discussing research strategies, progress, and outcomes. The local communities had taken initiative, with the help of Living River Siam, to conduct research that was of their own designs. This set of practices, referred to as Thai Baan Research (TBR), stemmed from the protests at Pak Mun Dam. In 2000, when the state agreed to open the sluice gates for a year to examine how the dam affected social and environmental conditions (Sretthachau n.d.). While several academic institutions and state agencies were tasked with a seemingly comprehensive analysis of the impacts of dam operations, the communities along the Mun River argued that these reports were not fully representative of the lived realities of people within the communities; the data was fragmented into disciplinary categories, incomplete, and imperfect (ibid). However, insights of local knowledge practice had largely not been respected because it was not in a form recognizable as science. Abby Kinchy (2012), in her analysis of transgenic crops, acknowledged the move toward scientization of contemporary environmental concerns. She, and other scholars observe that the "discourse around scientific risk puts the focus on the calculation of environmental impacts and on the implementation of rational technocratic solutions, overshadowing questions around social and ethical concerns" (Kinchy 2012, Li 2015: 76). TBR became a way to counter this scientization of water development while using methods that would give legitimacy to local counterknowledges. Living River Siam is credited with facilitating work with Chiang Mai University faculty and local community members to develop the TBR model as "a counter-hegemonic approach" to environmental and social analysis through "research undertaken by villagers" (Sretthachau n.d.) The process is explained as a way to "reveal local knowledge about the environment and how villagers interact with it" and reveal "their practical understanding of the complexity and dynamics of natural resources, the way resources have been used, and the moral economy of those who depend on them for their livelihoods" (ibid).

This kind of local research initiative is creative and empowering. Unlike participatory research in which communities do the data collection and provide samples for analysis through authorized scientific methods, TBR emphasizes creating research protocols driven by community members rather than state or academic agents (Li 2015, Pomun n.d.). During my first visit to Living River Siam, P'Jay explained TBR processes to me. He pulled out a series of publications, small books published in Thai that are the product of TBR projects in different communities. As I leafed through the booklets, P'Jay explained that the central premise of these projects is to give communities the support they need to do their own research on topics like fish, history, ecosystems, plants and herbs, culture, and local practices. He further explained that a key component of the project is to record local knowledge to strengthen communities and give them greater recourse for rights. In a setting dominated by scientific expertise, Teerapong Pomun (n.d.) calls this research the production of "counter knowledge." TBR's intention is to offer local knowledge that articulates with larger paradigms of knowledge production, giving credibility to local ways of knowing places and simultaneously disrupting norms of knowledge production and the monopoly of expertise (Choy 2011). Choy (2011: 88) explains that "knowledge gains value (as expertise) through its circulation and must continue to move across domains if it is to retain its patina. But movement is not enough; expertise must not only circulate but land as well." TBR gives local knowledge a credibility that allows it to circulate and the opportunity to "land" in political circles to try to influence policy decisions.

This was the intention of the TBR projects undertaken in Saiap. The communities at Saiap completed a one-year process of TBR projects in 2004-2005. Over 140 different villagers were active in conducting research about seven key topics including the ecosystem broadly, mushrooms, herbs and forest products, aquatic fauna, the wood resources of the Mae Yom forest, especially the teak wood, and the local society and culture (*Thai Baan Research in Kaeng Seua Ten* 2006). When the community members discuss TBR, they do not identify which community members were researchers, but instead claim the project for the entire community, reiterating their claims to 100% solidarity. During the year of research, the community researchers identified 91 types of vegetables, 26 mushrooms, 7 bamboo varieties, and 190 herbs that villagers use; they also documented 83 fish species, 4 mollusks, 4 crabs, 2 shrimps, 2 large frogs and 3 small frog varieties, focusing exclusively on the species that are regularly caught and used rather than on rare, endangered, or migrant species (ibid). The Yom River TBR is a cataloging of biodiversity. Biodiversity and biodiversity protection has become a central component of global environmentalisms (Lowe 2006, Tsing 2005, West 2006). As Anna Tsing (2005: 158) explains, “the idea of biodiversity has proved charismatic because it combines the scientific legitimacy of biology with popular legacies of plant and animal identification.” Some studies for TBR align with this sensibility and demonstrate the complex entanglements of multispecies worlds.

In addition to biodiversity, TBR in Saiap also highlighted and reinvigorated a series of cultural practices. For example, the communities had a pattern of not hunting around the natural salt-licks in the forest because these areas attracted animals and were conceived as spaces protected by spirits that would harm hunters if they violated the spaces. The TBR report frames this not as an animistic belief, but as a practice that demonstrates sustainable hunting practices and a conservation ethos (*Thai Baan Research in Kaeng Seua Ten* 2006). Similarly, the community recognizes the water-beings of the Yom River as spirits that have the capacities to help or harm people. Specifically, *Pa Ing*, the water-being present at the deep pool in the river near the village discussed earlier in the chapter. While these practices of ecosociality always existed, the TBR projects distilled them into texts legible to the state and codified for the community.

TBR was an empowering practice for Saiap in the early 2000s. In Baan Mae Roo and San-Lek, it was a newly developing practice. The communities had just started the community-based research practices to be able to provide evidence of sustainable practices, reforestation, conservation, and ecosocialities. During my visits, the community was actively conducting research by identifying regular fish species, teaching children about herbs and fishing strategies, and making plans for the next steps of the process at community meetings. This research was offered at the RID meetings in Phitsanulok while it was in progress to demonstrate community capacities and counterknowledges that might disrupt the EIA forms of expertise before they were commissioned.

The promise of TBR is that it formalizes local counterknowledges. Through this practice, local counterknowledges are shared and documented in a way that becomes legible to state agents and beyond. At the same time, the knowledge practices and results differ from that of state-sanctioned experts because they reflect the multiplicity of ecosocial relations that co-constitute worlds. TBR from Saiap, for example, evokes water-beings in multiple ways: as a resource for community livelihoods that is implicated in everyday practices in ways invisible to the metrics of state analyses; as endangered and requiring human protections rather than exploitation; as a habitat; as a material of scientific inquiry and everyday practice; and as creative, ontologically complex beings that can act and react to human provocations. This multiplicity gives the anti-dam movement varied ways of appealing to different audiences; the more constituencies that recognize themselves in the cause of the anti-dam protests, the more challenging it becomes for the state to enact their plans.

Yet at the core of the movement is a central commitment stenciled or painted on the walls of yards all over the communities: *raw mai opayop.* We will not leave. We will not be relocated.

Conclusion

As I left Thailand in the final days of 2014, the dam projects were put temporarily on hold as the government reevaluated the plan. This was both the effect of the change in administration and of public pressure from the anti-dam protest movement and environmentalists across Thailand. The state review suggested a series of smaller water management strategies that could at least be tested as reasonable alternatives such as monkey cheeks (*kaem ling*). Originally, monkey cheeks were named as a water management strategy proposed by King Bhumibol as a local practice of water retention. Referencing the way monkeys hold bananas in their cheeks, the water management practice involved water shunted into holding ponds and during the rainy season, held, and then allowed to flow back into rivers via canals when water levels recede. In 2018, the state began the flood-to-field diversion project storing 1.5 billion cubic meters of water (Wongruang 2018).

Yet even as these alternative practices started, the communities of the NRN are still actively campaigning against dams. This continued emphasis on protest has several reasons. First, the communities articulate their anti-dam protests as part of a global set of protests. I asked P'Ong from Baan Mae Roo what the value of these practices might be if the dams were ultimately never commissioned. He responded, "We are not just fighting for ourselves. We are fighting for everyone everywhere; our work here might help others, give strategies for people in Laos and Brazil who are also fighting to stop dams. We fight together." In addition, the communities have created promotional materials that are in English. When I asked about this, P'Som offered a similar explanation: aligning the work with global advocacy. Second, as Saiap's experience has taught them all, dam proposal might resurface with new administrations and new problems so the protests never end. By rejecting the ongoing potential of the project, the members of the anti-dam protest communities also challenge the state's calculus of who is most in need of biopolitical protections and the state's insistence that development requires ultimately unattainable rationalized resources. Kim Fortun (2001: 16) defines advocacy as "a performance of ethics in anticipation of the future." For the communities of the NRN, the performance of anti-dam campaigning is ingrained in the everyday lives of people; the future is envisioned not only as staying in place but also as ongoing protests.

Through participation in the anti-dam movement, people in these communities are transformed and changed, emerging as advocates and allies. At the same time, the cause itself is transformed. The anti-dam protests are no longer a local cause to protect local livelihoods alone, but part of a global set of statements about the ills of dams, their mismanagement, and their controversial attribution as a form of renewable energy, about conservation and ecosystem services, about disrupting the norms of scientific expertise with local knowledge and cosmologies, about uniformed alterations to social, hydrosocial, and ecosocial systems broadly. While water-beings and people cohere around a central principle of dam opposition, the mobilizations are organized around multiple demands, hopes, understandings, and human-water relations. In this chapter, I have demonstrated that articulations of the anti-dam protests create effects that seem impossible given the unequal political field; unexpected protest actions can have political and even cosmopolitical impact. These constellations of human and nonhuman allies and the unexpected outcomes they produce also provoke continued hope for the communities whose lives, social and hydrosocial relationships are most at risk.

Chapter 6

Indigenous and Alien

"We have lived here for over 200 years," Padii Sah stated, looking beyond the group of people gathered before him to the wood homes on stilts, built into the hillsides among the lush trees, seeing the evidence of his village's long existence in this place. We sat in the small, semi-open room of the house at the entrance to the village. In each of my visits to the village, this porch was a gathering space for large groups and small alike. Three sides of the room were walled off, blocking the view to the mountains and homes in those directions, obscuring the dirt trail that doubled as a road to the homes and small school further up the hill. The third side was mostly open: roughhewn wood created a two-foot-high railing on that side with an opening for the walkway into the home. The walkway was a wooden bridge over a gully; this design made this house appear to be almost level with the ground, but in reality, the bridge just obscured the five-foot drop in the terrain at this edge.

The house was typically adorned with posters of protest when large groups of visitors came, both those formally printed in town and those painted by the community, mostly the school children, demonstrating their particular understandings of their fight and the uncertainty of their future. Today, despite the three pick-up truck loads of people, the signs were conspicuously missing. This was my first visit to the village since the nonviolent military coup in late May 2014. Now August, I'd waited for a couple of months for an opportunity to return to the village without drawing undo attention to them from the new, uncertain military regime. Cautioned by activists I met with in Chiang Mai, I had kept my distance until there was a clearer sense that the intersection of a curious international researcher like me and a set of communities positioned in opposition to the state were not going to trigger unwanted attention from the new military regime. Tensions from the coup had settled somewhat in the ensuing three months, evidenced by smaller numbers of military checkpoints both in cities and across the countryside, but not before compromising some of the protest actions the community had planned in the months and weeks preceding the coup. For example, Padii Sah was part of planning a group march from his home in Chiang Mai Province to Bangkok, over 700 km away, as a protest action for the landless poor. Padii Sah is part of this population; despite his claim that his community has a 200 year history in this place, they have no legal claim to the land under Thai law. Padii Sah's story of the village's origin, however, provides a substantive basis for their place-based claim.

> "We have lived here for over 200 years. We have relatives who have been in this place for 260 years and more than 4 generations. Now we have 23 families with a total of 105 people living in this village. Mostly people are farmers with rice fields and maybe water buffalo. In the past we lived comfortably in this vast forest. Many years ago, the government made this area part of a protected forest reserve, but they have still allowed us to live here. In 1993, we started preparing for them to add this area as part of the national park downstream but we lived here before the national park existed. The laws for a national park are more strict and we are worried that there will be more conflict and we may be forced to move."

Padii Sah went on to describe the various protests that his community has been part of at local, regional, and national levels including participating in the large-scale Assembly of the Poor protests in front of Government House in Bangkok in 1996 up to their current protest actions related to the post-2011 dam proposal. He located the community in relation to its history and the Thai state, using the frames of opposition and resistance to mark the community as having claims to this place not only through longevity, but through ongoing struggle.

Unlike creation stories which often boast powerful mythical qualities to affectively and almost magically attach a community to a place, Padii's story provides a radical functionality. He makes a place-based claim that engenders affective attachment among community members (who trace their lineage in part by identifying swidden plots as belonging to ancestors of current village members) but also offers evidence of occupancy legible to state apparatuses. Land tenure for this community has never been officially documented and this lack of official recognition has led to increased insecurities in the last 25 years since the land they call home was gazetted for national park development. Through his story, Padii Sah is constituting a world that functionally aligns with all the key criteria for legal claims under the auspices of the United Nations Declaration of Rights of Indigenous Peoples (UNDRIP) and simultaneously highlighting the ways they have labored and campaigned to be recognized as landholders alongside Thai and non-ethnically Thai communities from all over the nation. However, Padii Sah never claims to be indigenous, but historically rooted. After hearing the claims to territory several times during visits to the village in terms that resonate with articulations of indigeneity in other settings, the absence of any reference to indigenous in this context was notable. The omission points to a tension in the framing of indigeneity in Thailand, one that resonates with the political tensions of the anti-dam protests and water rights movement to which these communities were so deeply committed.

This chapter explores ideas of indigeneity and alienness in the Thai context to understand the ways these concepts are used to constitute multiple overlapping, sometimes conflicting worlds. These two terms—alien and indigenous—are of particular relevance in the communities I work with in Northern Thailand for contradictory reasons—alien for its presence in discourse and practice and indigenous for its absence. I use the term “alien” for three reasons. First because this is the language people in Thailand use in reference to dams, state policy, and human and nonhuman outsiders. I only ever heard the word in English—a-li-eeeehn—with an extended, stressed final syllable in typical Thai pronunciation; I never heard a Thai equivalent. People glossed the word in myriad ways when I asked: *manut dtang daw*—a person from the stars; *dtang bpratheet* —a foreigner. These literal translations, however, could not provide the encompassing way that the term "alien" was applied in everyday practice. P'Ton, for example, repeatedly called the proposed dams "alien" and they were neither foreigners nor from the stars. Instead, he used the term to highlight his dislike of the probablistic changes in the conditions of life and hydrosocial relations the dam would render in yet unknown ways. Integrating the foreign word "alien" into the Thai lexicon offered people a way to express a set of affective, ecological, and social conditions evoked by existing and proposed changes to ecosocialities and hydrosocialities. References to alien are also prominent in administrative spaces in Thailand; in English translations of government and NGO documents, the term surfaces in reference to upland people as resident aliens, in reference to water hyacinth as an invasive alien, and even in reference to maize as an alien species. The only time I heard the word uttered in the villages was specifically related to dams.

This leads to my second reason for using the word alien here: its affective purchase. Stefan Helmreich (2009: xi) explains the figure of the alien in his analysis of oceanic depths and extremophiles, as "a sign of uncertainty about what the sea can tell us about life on Earth and the place of humans in this realm." I apply the term "alien" because of the parallel uncertainty that is evoked in Thai uses of the concept of alien. Alien is part of the social imaginary of material and social landscape change in Thailand as a figure that foregrounds the uncertainties provoked by dramatic shifts in biogeophysical conditions and social norms. At the center of this uncertainty for upland peoples is concern for irreparable alterations to hydrosocial relations that these aliens may cause, alterations that may erase some of the multiple worlds of these upland spaces.

Third, I use the term alien in part to draw attention to the overlapping realities of indigenous and alien in Thai moral and material ecologies. The terms themselves are typically framed as dichotomous, yet in the Thai context, they produce and position upland people in common ways. Both are categories for differentiation that define a set of inclusions and exclusions; one is either indigenous or alien to a place. Pervading everything from global level policy to everyday discourse, these categories have the capacity to both draw beings—human and other than human—together and simultaneously to identify qualities of otherness and difference. In the Thai uplands, these terms collude to produce the sociomaterial worlds of upland peoples and to create shared effects on their political claims. The discursive applications of either indigenous or alien code and codify the tensions and uncertainties of upland life in Thailand.

I examine the term indigenous in relation to upland peoples in Thailand particularly because of its notable absence in discourse and practice. While the Thai state has ratified the globally favorable United Nations Declaration of Rights of Indigenous Peoples (UNDRIP), there is little application of this terminology in reference to non-ethnic Thai peoples across the nation. In addition, the communities I work with who fit the paradigm and could adopt this label refrain from using "indigenous" as a self-description. Claims to place and sets of socioecological relations are instead mediated through practices and discourses that produce different, but overlapping forms of reality, some that even challenge ideas of the state as authority and guarantor of rights over upland peoples. I analyze how the term indigenous might be disconnected at a local level from the "practices of belonging" that frame the concept globally and argue that avoiding "indigenous" as a descriptor does not negate local practices as indigenous but instead is simultaneously a radical act of political disobedience, a demonstration of well-placed wariness over state agendas, and an indicator of the socioecological relations of the uplands that are negotiated not politically, but cosmopolitically (Jackson 2012: 4-5).

Analyzing both the application of alien and the absence of indigenous in discourse, I am examining how practices align and complicate the ways these terms are employed and understood. I demonstrate how the parameters of inclusion and exclusion for the categories of both indigenous and alien are never fixed; as Bruno Latour (1993) has elaborated, categories are always hybrids and their purification is an incomplete, social process. So what happens when experience and understanding articulate or disarticulate with these terms? And how might the concepts of indigeneity or alien be reinvented by local projects, practices, and conditions of possibility? The effect is that these categories, while circulating as globally meaningful, are part of complicated, local conceptual fields and the sense of belonging these concepts enable is contingent on local experiences and processes.

In this chapter, I trace the ways that the concepts of indigenous and alien inform and are informed by sets of practices, identities, and the formation of overlapping worlds in Thailand. Through four examples—the Karen peoples of northern Thailand, maize, water hyacinth, and concrete dams—I problematize the social, political, and ecological landscape of these concepts. I first demonstrate the political and cosmopolitical possibilities of claiming indigenous identity as well as its limitations in the Thai context. To develop this argument, I explain various conceptualizations of indigenous both at an international scale and as they are translated locally; I highlight the ways that indigeneity is thus formed through cross-scalar assemblages, the interactions of human and nonhuman constituents both locally and globally. Here I draw on Shona Jackson's (2012: 4-5) framing of colonization and indigeneity as "*practices* of belonging" to argue that the concept of indigeneity is not a static identity but a set of relations that emerge through interaction and form sets of ecosocial and hydrosocial relations at local and global scales. Understanding indigeneity as constituted through practices with a broad spectrum of social and ecological entities, this chapter also demonstrates how water-beings are implicated in framings and practices of indigeneity. Understanding the capacities of "indigeneity" as a concept and as a political category, I delineate the limitations and the reasons that the term, while applicable, is not favored by communities I worked with in Thailand. Guided by Jackson's foregrounding of process and practice, I then explore varied applications of the term "alien" in the Thai context to consider the processes that coalesce to mark nonhuman others as alien. In each of the next sections, I tell the story of the particularities of one material being: story one focuses on maize as an invited alien species with ecological and hydrosocial effects; story two discusses water hyacinth as an unattended or unintended alien species that is coded as invasive; story three takes up dams as discursively constituted as alien despite not yet materially existing. Through these examples, I argue that indigenous and alien are concepts that are continuously and strategically negotiated in the formation of multiple worlds in which humans are only sometimes a part.

Indigenous Peoples in Thailand

"Ajarn Laurie, you will stay with the OBT while you are here." Ajarn Lamon explained as we drove up to a home on the west bank of the Chaem River. The sign in front of the home designated this as the residence of an elected official and the tables situated on the clean concrete front porch area marked this place as a gathering spot. The next morning, I would understand the front porch as a place where people congregated as they dropped their children off across the street at the school, where members of the village lingered as they sought information about state plans, gave updates on community protest actions, and made jokes in Karen while rolling and smoking morning cigarettes. That first night, however, the village was already dark and quiet when Ajarn Lamon and the men from the local forestry NGO stopped in front of this house, the only one with lights on in the village.

I spent the first night sitting on the floor of the OBT's house with his wife, Khun Ama, a woman only a few years my elder yet who had three grown children and 3 grandchildren. Using Thai, our common language but not the primary language for either of us, our conversation was challenging at times, but supportive and never slow. After at least an hour of exchanging stories about her children and my nieces and nephews and the differences in their lifestyles, she began teaching me Karen words. I had already visited San-Lek, another Karen village, but I had yet to learn any Karen. She demonstrated how people greet each other in Karen with an extended hand, the other holding your forearm and the words "*da ble*" which is greeting, farewell, and thank you. After learning a few words for things like house and kitchen that I knew I would struggle to remember the next day, I started asking her to name things that I thought I might have a better chance at recalling.

"What do you call yourselves?" I asked awkwardly, unsure both of the language and appropriateness of my question. "*Pgakeryaw*," she answered, and then in Thai, "In Thai, we are Karen but we say "*Pgakeryaw*." I repeated the world several times aloud, trying to mimic and adjust to her correctives on my pronunciation.

"Do you ever call yourselves indigenous, *chon peun meuang* in Thai?" I asked. She gave neither an affirmative nor dissenting reply: "I am *Pgakeryaw*," she answered simply. "So you are not *chon peun meuang*?" "I am *Pgakeryaw*." She repeated, this time smoothing her red-toned skirt with her hand, the color denoting her married status, and sitting up a bit straighter in her seated position on the floor of her living room.

Whether a moment of lost translation as we navigated across three languages or an intentional refusal of the word, the absence of "indigenous" or "*chon peun meuang*" in her otherwise extensive Thai lexicon is notable. By choice or unfamiliarity, "indigenous" is clearly not a term that Khun Ama uses for her own self-identification, for her own way of labeling the community to which she belongs. Whether Ama uses the word or not, indigenous has gained global purchase and has global potential that might, at first glance, seem to have value in this community that is currently at odds with state-sanctioned development plans. So why is this term expressed so infrequently? What does the term mean within the context of the Thai uplands and how might the everyday practices of communities in northern Thailand articulate or disarticulate with, and even complicate this globally circulating term? Even as its application in Thailand is fraught, this term invokes an encompassing global conceptual field that circulates with global purchase and the potential for global support and solidarity. I approach the concept of indigeneity here both as a set of practices that demonstrate belonging (Jackson 2012) and as an engaged universal (Tsing 2005). As a set of practices, I explore how the Karen communities I work with perform indigeneity while resisting it as a space of belonging. As an engaged universal, I draw on Anna Tsing's (2005: 6) argument that "engaged universals travel across difference and are charged and changed by their travels." Rather than making everything the same, as a universalizing idea moves, it changes local places and socialities and is reciprocally changed by them. So how does this global frame of indigeneity figure in Thailand politically and materially? And how is it changed through its engagement within the Thai context?

Recognizing Indigeneity Globally and Locally

In the process of nation-making, the Thai state identified non-Thais within the borders of Thailand as ethnic groups. Throughout the 20th century, this distinction came with a variety of political meanings, restrictions, and possibilities. The effects are that upland communities who are not of Thai (or Tai) ethnicity face ongoing challenges including social and political exclusion, displacement, prejudice, invisibility or erasure particularly in state water and resource management policies, denial of land tenure, lack of representation, lack of human rights, and lack of recourse against the state. The ethnic minority label has also come with a constantly shifting set of processes and practices outlined as the course toward remedying these challenges and finding a place of belonging within the Thai state (Sakboon, Leepreecha, & Boonyasaranai 2017). The Karen communities of Baan Mae Roo and San-Lek have had turbulent relationships with the state as they have sought land rights and citizenship; both remain entrenched in complicated and contested relationships with the state, living in perpetual conditions of uncertainty and precarity. These forms of "internal colonization," then, are tied directly to the production of the Thai state rather than a European-centric incursion (Hechter 1975). The effects, however, share much in common with other forms of colonization and offer a basis for claims to indigeneity. For many upland non-Thai communities like the Karen I worked with, the global indigenism movement seems to offer international solidarity and shared goals as a reparative countermeasure for subjugation by larger state actors through globally established and nationally ratified subject positionality and identity.

Micah Morton (2017: 685) argues that "new groups seeking membership in the global Indigenous community must convincingly perform their indigeneity as a prerequisite for admission." So how is indigeneity performed both intentionally for recognition as indigenous or unintentionally in alignment with this discourse? Further, how do water-beings contribute to and complicate performances of indigeneity? For Baan Mae Roo and San-Lek, the two Karen communities with whom I worked, assemblages of local practices and performances produce the possibility of alignment with global indigenism movements, but simultaneously produce other overlapping and conflicting realities as well, in part through their hydrosocial relations. I demonstrate how local practices of belonging emerge from the political and socioecological conditions of upland communities in Thailand and produce multiple worlds.

Performing indigeneity effectively is complicated by local, state, and even international audiences who must recognize these performances as such even without an authoritative definition (Graham and Penny 2014). The challenges for communities like those in Baan Mae Roo and San-Lek are both to recognize themselves in the category of indigeneity and to demonstrate both their difference from the Thai state as well as their marginalization by it in ways recognizable to audiences at different scales. As Ronald Niezen (2003: 4) explains, indigenous "is both a fragile legal concept and the indefinite, unachievable sum of the historical and personal experiences of those…who share, at the very least, the notion that they have all been oppressed in similar ways for similar motives by similar state and corporate entities." Demonstrating oppression is part of the daily performance of existence for the Karen of Baan Mae Roo and San-Lek who are fighting for land, for water, for citizenship, and the for the hydrosocial and ecosocial relations that configure their worlds. From restrictions on movement to displacement and dispossession of lands to erasure of socioecological relations to forced assimilation policies, upland ethnic groups or "hilltribes" have navigated their relationship with state authorities from an already disempowered position and through ongoing contestation. In the following pages, I will explore how two different performances of indigeneity—prior habitation and self-determination—are negotiated on Thai waterscapes.

Prior Habitation

Often indigenous is understood as synonymous with original and first. Peoples, flora, and fauna are all indigenous if they are original to a place. External forces that alter these habitats—for humans or ecologies—are therefore disturbing indigenous socialscapes and landscapes. In making claims to indigeneity, “conventional views assume the continuous occupation of the same territory from time immemorial as a key marker of authentic Indigeneity” (Morton 2017: 685). However, this framing has gained disfavor because it defines indigeneity a priori, suggesting social and ecological worlds that have been static until evidence of the aforementioned colonization or subjugation disrupts them (Bose 1996). This emphasis on indigenous-as-original ignores displacements and migrations that are related to experiences of colonization and, in Southeast Asia, shifting relationships between princedoms and kingdoms falling in and out of power (Clifford 2007, Jonsson 2014, Winichakul 1994). As an alternative, Bengt Karlsson (2003) proposes reorienting this temporal conditional from firstness to prior dwelling. In his analysis of indigeneity among the Adivasi of India, another complicated political and ecological terrain through which to effectively perform indigeneity, Karlsson draws on the statements of people from India claiming indigeneity to the UN Working Group on Indigenous Populations in Geneva. In these statements, he identifies that firstness—evidence of occupying territory throughout history—is not the most important criterion for the Adivasi and others in India to claim indigeneity yet remains often a distinguishing feature for international audiences to recognize their claims. Karlsson (2003: 417) suggests “*prior* dwelling” as a more accommodating framing that makes the establishment of current governments and state systems a temporal boundary for claims to indigeneity. In Thailand, this means that the Karen and other communities across Southeast Asia who have a history of movement and displacement, are only required to trace their history in a place to the colonial era and the development of Thailand as a nation-state.

Yet even this is a challenging feat. Renowned scholar of Thailand's northern ethnic communities Chayan Vaddhanuphuti (1996: 79) explains that the term indigenous has a sparse history of use in Thailand and only specific communities can lay claim to that distinction: "historically, the indigenous peoples in Thailand were the Lua, the Karen, the Mon and the Krom who have lived in this part of the country before the Thai people came to settle here." Prior habitation thus also has the potential to exclude communities, perhaps because they do not have longevity in the place or perhaps because they do not have sufficient evidence of their histories. Padii's articulation of his community's history above is strategic: he lays out a timeline of habitation that predates the state-building enterprises of the Kings of Siam. In effect, Padii is establishing presence in place in a way that aligns with claims for indigeneity. Yet his oral history is insufficient evidence to make this claim legible for juridical purposes. Instead, these communities must perform their prior habitation in other ways.

Indigeneity is often understood through practices of either occupancy—presence of a people in a place—or ownership. Following a Lockean explanation of what constitutes ownership, both ownership and occupancy could be demonstrated by evidence of work on and with the land to transform it; later these claims would be demonstrated through various forms of documentation (Hirsch 1990). Morton (2017: 685) argues that over the last decade, people in Thailand have started to lay "claim to indigeneity within Thailand on the basis of their presence in the region's mountainous borderlands prior to the Thai state's relatively recent expansion." In Thai, the word for indigenous peoples is *chon peun meuang*, which roughly translates to local, native, or domestic people. More specifically, the word uses root words *peun* which references surface or ground, and *meuang* which translates to city or town. The compound word itself references the underlying conditions of claiming this identity: a collective of people who have a connection to a place, and more specifically earth, not water. Padii Sah's story highlighted San-Lek's longevity in place, their rootedness and connection to the land of that place. However, their farming practices tell a story in which land ownership and land tenure are more difficult to recognize. Baan Mae Roo and San-Lek, like many upland minority communities, have historically practiced swidden farming, a set of customary practices that makes occupancy intermittent and ownership difficult for untrained eyes to read in the landscape. Often misunderstood and derisively referred to as slash-and-burn agriculture, this form of shifting cultivation involves rotating primary cultivation practices between several small plots, growing rice in one place for a season, then moving on to a different plot of land to grow rice and leaving the previous field fallow.

On one of my regular hikes with villagers through the hills surrounding San-Lek, I began to see the practices of swidden farming and see evidence of use in the landscape previously invisible to me. On an overcast afternoon early in the rainy season, while most of the village was in terraced paddies planting rice, PaDii Sah acted as tour guide and teacher to the village school children and me; more accurately, PaDii Sah and the school children acted as my teachers. As explained in Chapter 2, San-Lek established their own community primary school with a place-based curriculum. This includes practicing reading the landscapes and rehearsing species as well as the practical labor of caring for the ecosystems of the forests and rivers. On that dreary rainy season hike, PaDii Sah pointed out characteristics to identify the age of a forest, the length of time a swidden had been left to rejuvenate, and areas that are regarded as spirited places that are never farmed. As we exited the *baa phuuying*, the women's forest, which is never farmed and where gathering wood is prohibited, we entered an area without a canopy, but instead with tall grasses and young trees. PaDii explained that this was a five-year forest; the trees were not yet producing fruit, but other kinds of herbs, fungi, and edible plants grow because there is no canopy. The ten-year forest a little further on then became obvious in contrast: much larger trees bearing papayas, mangoes, longan, or other local fruits and less dense undergrowth. The school children pointed out edible and medicinal plants, sometimes being coached by PaDii to remember their uses. This intimate knowledge of place and occupancy is a practice of belonging recognizable within global indigenism paradigms; however, these practices do not help establish belonging within the state.

During fallow years, the plot is still understood as being used, occupied, and owned by the previous farmer as edible and medicinal products continue to be harvested and used while the landscape regenerates, before the farmer returns to put it back into the rotation of rice cultivation. Nancy Lee Peluso and Peter Vandergeest (2001: 792) refer to these historic norms of engaging with landscapes as "customary practices," or "a multitude of local practices by which people organized (or simply assumed) access to land." Within communities like San-Lek, people recognize indicators of fallow but still used swiddens and the durability of claims to resources in a place without the need for official paperwork. Yet outsiders are unable or unwilling to recognize the same markers and documentation has become a critical need; the multiple practices and relations between people and earth that locally connote land claims have become obscured by state processes to singularize ownership paradigms and make distant, ethnic communities legible to the state apparatus and governance. As the Kings of Siam integrated northern Thailand, they consolidated land and resources under the crown. Selectively NOT recognizing the swidden agriculture practices of upland peoples in Thailand allowed these lands to become state lands and their trees to become part of logging concessions to Britain that kept Thailand from being colonized by European powers (Forsyth & Walker 2008, Hirsch 1990). As the forests shrank, populations swelled, and management regimes shifted from resourcism to conservation, the subsistence capacities of rural communities, especially those that are ethnic minorities, have been compromised: with increased restrictions on their "customary practices," communities like San-Lek often cannot leave their fields fallow long enough to rejuvenate, but must instead more aggressively farm both to feed their families and to demonstrate their ongoing use of plots in a way visible and legible to the state.

Fundamentally, the shifts in farming practices are not just a response to the state but a process of selectively constituting their worlds differently. From farming to Padii Sah's origin story, communities in Thailand's uplands have increasingly exercised practices that make them legible both to the state and to an international audience as the arbiter of global indigenism. This involves carefully balanced performances. On the one hand, the Karen I worked with hold fast to practices that are distinct from those of the Thai majority, demonstrating their differences as enduring and important within the community. For example, most women in both Baan Mae Roo and San-Lek wear skirts of handwoven materials, the colors demarcating married or single status. Yet the differences extend beyond the obvious, visible symbols to include practices of greeting water, speaking Karen language, and others. On the other hand, the communities must create practices that make them recognizable to the state, that demonstrate their modernity as a counter to the backwardness and security risk image that stigmatize upland peoples. These practices include farming crops promoted by royal projects, learning central Thai language, abiding by state regulations on mobility and registration of ethnic minorities, and demonstrating respect for the monarchy (Morton 2017, Sakboon, Leepreecha, & Boonyasaranai 2017). Importantly in this context, hydrosocial relations and evocations of water-beings are markers of difference and traditionalism, but not necessarily of habitation given the fluidity and impermanence of these assemblages. For Baan Mae Roo and San-Lek, these sets of practices are seemingly at odds: the communities are participating in state agendas to demonstrate their prior dwelling and to survive yet resisting assimilation. Together, these sets of practices speak to the mistrust between the Karen and the state, but also leave open the question of what self-determination might mean for these communities.

Self-Determination

The military coup in May 2014 created a new normal, with increased military checkpoints, military presence, and regulations over political gatherings of more than five people. In this period of intense state regulation, the behaviors of Karen community members were even more cautious as they feared their uncertain status in relation to this new military administration. When I was invited back to Baan Mae Roo a few months after the coup, I attended the community organizing meeting. In the midst of a busy planting season, over 50 adult members of the village spent eight hours collaborating on strategies to demonstrate that the state water management plan was unnecessary and compromised both the social and ecological well-being of the uplands. One of the key tasks of the work was producing a list of activities that community members could document quantitatively or qualitatively that would give evidence of their ecological care of the rivers in the uplands in manners legible to the Thai state. More accurately, they discussed ways that their stewardship might actually make the communities themselves legible to the state. The papers at the front of the room were filled with ideas: plant trees, retain field cover to prevent erosion, show the diversity of multispecies plots, and on and on. At one level, the protest movement is actually about gaining recognition as equal citizens, upland citizens who want to politically matter in the eyes of the state as much as the downstream Thai citizens so adversely impacted by the 2011 flooding. The village was not talking about ways to ensure their sovereignty, how to gain freedom from the Thai state so they could administer their own relationships with water-beings and the material earth differently. Instead, they sought full citizenship as a strategy for achieving their greater goals of sustaining their socioecological relations with place. The community was using practices of belonging to perform their belonging to the state. So how do claims to indigeneity align with or disrupt these practices of belonging? How do these worlds overlap?

While prior dwelling and oppression by external incursion are key facets of indigeneity arbitrated at local, state, and even global levels, aspiring to self-determination is a quality that inheres within communities. Ronald Niezen (2003) explains that the goal of global indigenism is in part what sets the movement apart from other forms of resistance. Specifically, he argues that the main objective of the indigenism movement is to advance the goal of indigenous self-determination through networks at local and global levels (Niezen 2003). This objective involves building transnational and translocal networks of peoples with common experiences and common objectives.

For many indigenous peoples, this self-determination is synonymous with claims of sovereignty (Barker 2005). Particularly in settler colonial states, the possibility of liberation from oppressive state control over both people and place has appeal. In Thailand as across much of contemporary Southeast Asia, communities that are excluded from the dominant authority of a state are typically understood as ethnic minorities. This includes peoples like the Karen or *Pgakeryaw* I worked with in the Thai uplands near Chiang Mai (see Chapter 2). Joanne Barker (2005: 16-17) explains that

> "the *making ethnic* or *ethnicization* of indigenous peoples has been a political strategy of the nation-state to erase the sovereign from the indigenous. To the extent that the nation-state can maintain that indigenous peoples are nothing but welfare recipients under its trust, the very notion that indigenous peoples are members of sovereign political collectivities is made incomprehensible. This incomprehensibility works to collapse indigenous peoples into minority groups…as a means of erasing their unique political status and rights under the precedence of international law."

Barker (2005) argues that minoritization and ethnicization of non-dominant groups within the borders of nation states is a strategy for diminishing the capacities of these non-dominant collectives to make claims for land and self-determination, the kinds of claims that would disrupt forms of state authority. By framing the communities as part of the state, albeit as a subsection of the nation that is differentiated ethnically (and discriminated against in law and political practice), the state maintains at least a geographic unity if not a social one. In addition, this gives the state authority to make decisions which may more adversely impact its ethnicized populations in the name of the common good of the nation. This means that while individual groups may identify as indigenous peoples, their states of residence may interpret the legal framework differently and deny these claims, framing communities as ethnic minorities rather than indigenous peoples. In the Thai context, the state officially does not recognize any indigenous peoples within Thailand and as discussed earlier, and instead people are marginalized and often stigmatized as ethnic minorities.

This is the social landscape and set of lived realities through which indigeneity must be recognized, performed, and interpreted. As Amita Baviskar (2006: 46) explains, paraphrasing Marx in her analysis of indigeneity in India, people create their identities "not of their own free will; not under circumstances they have chosen, but under the given and inherited circumstances with which they are confronted." These forms of state erasure are part of the circumstances confronting people in the Thai uplands, circumstances that make it difficult to consider sovereignty as part of their world-making projects. As Morton (2017:

688) explains of the “rhetoric of sovereignty” (Tsing 2007: 53), this discourse “is too risky given [upland peoples’] longstanding stigmatization and subjection to state violence as presumed threats to national security.” Even as sovereignty has become a prominent form of self-determination for indigenous communities, it is just one form of self-determination, albeit one that may obscure other forms (Barker 2005, Povinelli 2002, Simpson 2014). As Bengt Karlsson (2003: 406) reminds us,

> “’Indigeneity’ is a travelling discourse that has emerged and developed in dialogue with various social movements and nonindigenous actors, and not something that reached us straight from the mudhut, bush, or wherever one is to locate the ‘authentic’ tribal spokesperson. The indigenous discourse, like any other discourse, enables certain articulations and, at the same time, excludes or suppresses others.”

In short, the multiplicity of alternative forms of self-determination, that do not produce sovereignty as the ideal form are less recognizable to transnational indigenism agendas. Transnational networks might read the performance of common experiences but external forces cannot cultivate a shared internal drive for common forms of self-determination.

Yet this is precisely the particularities of the rights inscribed in the UNDRIP: self-determination is related to the needs and interests of each indigenous group. In their analysis and critique of the UNDRIP, Irene Bellier and Martin Preaud (2012: 475) write that the UNDRIP protects collective rights of indigenous peoples “not as ethnic groups seeking the implementation of minority policies, but as subjects of law capable of articulating alternative modes of relationship to the rest of the world as well as alternative modes of development.” In this reading, the point of alignment is not a transnational, common form of self-determination, but an intra-community collective demonstrating forms of governing and developing counter to their state oppressors. Within the Karen communities where I worked, the form of self-determination they pursue is one of finding a way to be recognized within the state rather than sovereign; this difference is perhaps in part why upland communities like the Karen might struggle to see themselves in the category of indigenous.

At the same time, other communities, even other Karen communities participate in these practices of belonging as indigenous peoples, proving the flexibility of this engaged universal, its ability to make contact and change through the friction of non-uniform places (Tsing 2005). For example, Morton (2017) traces how various peoples from across Thailand perform indigeneity in collectives that have growing numbers and growing urgency in the midst of political and monarchical upheaval. In her ethnographic work with activists, NGO workers, academics, and members of upland communities, McKinnon (2011a) also demonstrates that all these groups have engaged with the idea of indigeneity and its implications and applications in the Thai context. Her work suggests that activists and academics are more willing to see the global indigenism movement as an asset to upland communities and thus to push for its adoption. Even Padii Sah's own recitation of his village's origins resonate as performing, claiming indigeneity. Drawing on Morton's (2017: 687) argument, the act of uttering this story, composed in this way, can be understood as performance of indigeneity and that through it, Padii Sah and his village are actually becoming indigenous. Yet Padii Sah refrains from explicitly making that claim. Both Morton and McKinnon highlight that the global, engaged universal has merit, yet also discuss how it is constituted differently in this local context. Morton (2017: 687) argues that "Indigenous Peoples in Thailand are first and foremost seeking to gain and protect their basic rights to citizenship and land. It is only on the basis of exercising these basic rights, they argue, that they may be able to make further claims on the right to belong as more full-fledged yet culturally distinct members of Thai society." McKinnon (2011a: 167) explains that for her interlocuters "regardless of whether the term used meant indigenous or not it was important to claim a name that they had chosen for themselves as a way of rejecting the labels given by others and the negative connotations that came with those labels." The objectives of the indigenous movement in Thailand are not goals for independence and sovereignty, but the right to be different, yet belong. This falls under the auspices of the UNDRIP's intentionally broad definition of self-determination. In effect, many upland peoples in Thailand, the Karen I work with included, could indeed subscribe to indigeneity as a form of self-identification and ally themselves through this with a global movement for the rights of marginalized peoples.

Intentionally vague, the UNDRIP aims for inclusion. Despite assumptions over the form of commonalities that could or should or might identify people as indigenous, or qualities that people could or should or might perform in order to be recognized as indigenous, indigeneity is not about checking all the appropriate boxes. Instead, it is a world-making project that is negotiated globally and locally through juridical, social, and ecological assemblages. Peforming indigeneity and becoming indigenous creates a particular kind of globally resonant world. What kind of worlds are made and made possible by resisting the label and global network of indigenism? Global definitional concerns aside, why is this an engaged universal that has not gained traction among the communities where I worked? What do other forms of self-identification and other worlds offer that this globalizing category cannot?

Indigenous as Alienating or How to Live as a Resident Alien

As indigeneity circulates through Thailand as an engaged universal, I am interested in the gaps, the places where indigeneity fails to gain traction, and in the alternative worlds produced in these gaps. Despite the radical functionality of Padii's origin story and its alignment with performing indigeneity and becoming indigenous, the people with whom I worked expressed a skepticism of or disinterest in the global indigenism movement. In the Thai uplands, lack of participation in the global movement produces a world that overlaps with, disrupts, and is disrupted by the global indigenism movement. The realities of this world are formed through the interaction of diverse social, ecological, and legal participants. In this section and the following, I will outline the two sets of relations central to the identities of upland peoples that do not find full expression under the umbrella identity of global indigenism: relations with other collections of peoples and relations with the material world, water-beings in particular. Further, I suggest that for some people in the Thai uplands, indigeneity could present a foreclosure of future potentialities and relations and therefore is less desirable than the uncertain, but open future represented by living as an alien within their own state. Put simply, currently not subscribing to indigeneity actually gives Karen peoples in Baan Mae Roo and San-Lek more opportunities to develop alliances within the state and beyond it.

Upland peoples' relations with the state, as explained above and in Chapter 2, have been contentious since the formation of the Thai nation-state. In the process of producing a nation-state, either the differences between Thai and non-ethnically Thai peoples were erased through assimilation and one-culture policies or the communities are made invisible, unseen and unacknowledged. This erasure was not without resistance, but the processes of establishing the Thai state as a geo-body were both strategic and always incomplete. Because of these state policies, the ethnic minorities in the uplands were mostly able to maintain their livelihoods without state interference until the 1950s, primarily because they were ignored (McKinnon 2011a). As articulated in Chapter 2, this is not to say that the communities were isolated or passive recipients of interventions from a developing Thai state; they were in fact power centers themselves with their own sets of inter-ethnic relations (Jonsson 2014, Walker

1999). However, the processes of defining the parameters of inclusion and exclusion of the new, overarching state would not be officially legislated and regulated until the 1950s. In the 1950s, the Thai state began for form policies and strategies to handle these populations in ways that sparked new negotiations, relations, and challenges (McKinnon 2011a). One element of this strategy was to make citizenship and participation as a full-fledged member of the Thai state seem plausible and appealing. This was done both through an ever-changing, complex web of ways to legally register land and citizenship within the state and through the public attentions of a beneficent, revered king.

As Morton (2017) points out, many uplanders participating in indigenous peoples actions in Thailand frame their claims through their alliance with the monarchy, based on former King Bhumibol's visits to ethnic villages from the 1960s-1980s and on the series of Royal Projects intended to improve income and quality of living in the uplands. For many people who do not claim indigeneity, like those in San-Lek and Baan Mae Roo, reverence for and connection to the King is common as well. Even in Karen homes, many people had images of HRH King Bhumibol in regalia or dressed down, taking pictures in rural areas. As a testament to his unimpeachable position and in part as a way of constituting and reinforcing it, all movies in Thailand begin by having the audience stand not to hear the national anthem, but to hear the King's Anthem, coupled with pictures of HRH King Bhumibol with villagers, traveling around the countryside, taking photographs. The interventions of the Royal Forestry Department and Royal Irrigation Department and later government ministries had mixed effects in rural communities and were received with mixed reviews from local communities, but the presence of the King and the practice of participating in a Royal Project created a sense of belonging within the Thai state through one of its pillars: the monarchy. The monarchy made villages visible, but in very controlled ways. While the King's visits certainly drew attention to upland villages, it also produced the villages' reliance on the monarchy and with it the Thai state. Ethnically non-Tai peoples were constituted as wards of the state that HRH King Bhumibol seemed to take a personal interest in helping.

However, even as this allegiance to the monarchy developed, the state simultaneously enacted laws that made citizenship and its attendant rights and responsibilities challenging to attain. Using Foucault's (1991) concept of governmentality, Sakboon, Leepreecha, and Boonyasaranai (2017: 58) argue that citizenship and a regime of identification have been used "to regulate [Thailand's] ethnic minority alien residents." Further, they suggest that state technologies to control how people interact with the state and move (such as color-coded identification cards that restrict how far people can travel and for what reasons) reinscribe hierarchical relations between these minority groups and the state. In 1999, all upland people who had not secured citizenship papers were officially declared aliens (McKinnon 2011a). The backlash from activists and academics has facilitated some movement on this stance: upland peoples who can present the right series of documentation can possibly be admitted to the state as citizens (McKinnon 2011a, Sakboon, Leepreecha, & Boonyasaranai 2017). However, the process of obtaining the appropriate documentation has also been mediated by the state over the past several decades, thus perpetuating the inability of upland peoples for self-determination (McKinnon 2011a). The inaccessibility of citizenship and Thai nationality because of the absence of state-sanctioned documentation leaves upland people in the position of resident aliens. Further, through these unequal power relations, these communities became part of the three-fold "hill tribe problem" framed as national security threats, opium producers, and environmental destroyers (McKinnon 2011b).

Not only can they not attain citizenship, but for many years these communities were vilified by the state and seen as rogue by many Thai citizens.

Given this set of relations with the state, a global indigenous movement might seem like a viable and desirable alternative—and it is. Yet this movement comes with its own set of complicating relations as well. As mentioned above, the Thai state currently does not recognize any of its own residents as indigenous. Adopting this identity is a politics of representation, a way of being seen by the state. However, this is an identity that will gain them little within the Thai state; it is an identity that lacks any officially sanctioned routes for legal and political recourse within the state. As an unrecognized status within Thailand, there is uncertainty about what kinds of outcomes participating in the global indigenism might yield on a local level. On a global level, however, indigeneity is somewhat prescriptive: there is a declaration of rights that prescribes a set of legal claims from the rights of self-determination to the right to a nationality, the right to their own educational systems to the rights for distinctive spiritualities to the right of territory and compensation (UN General Assembly 2007). The UNDRIP intends these rights with the greatest sense of inclusivity and justice; the 46 articles, some with multiple parts for clarification, are expected to be applied with the most generous reading and interpretation. Baan Mae Roo and San-Lek are interested in pursuing only some of this litany of rights. For example, Baan Mae Roo values the education system of the state and the provision of civil servants to teach in the local school. After spending time in the classrooms and with students and teachers, I talked to a high school student, Nong Nok. She explained that she wanted to go to university in Chiang Mai so she could become a teacher and return to Baan Mae Roo to teach. She thought the education in her village was great, but that they needed teachers committed to the village, teachers who wanted to stay. Others in the village also expressed interest in having a state-run medical clinic in the village and other kinds of services provided by the state. What would happen to all these state-provided services if the communities were no longer ethnic minorities, but instead indigenous? The Karen in San-Lek are Buddhist; they have similar religious beliefs and practices to the dominant Tai population. How would this complicate their space of indigeneity within the Thai state? The benefits of performing an indigenous identity within Thailand are not certain; this is in part because the UNDRIP is not legally binding, in part because peoples within Thailand are not seen as indigenous by the state, and in part because even if these two circumstances change, there is no guarantee that the local interpretation and application of the UNDRIP will not add complications to communities' relationships with the state, disrupting the movements, protests, and relations that have been negotiated until now.

Admittedly, the current conditions are not ideal. Most residents in Baan Mae Roo and San-Lek are resident aliens with uncertain relations with the state as well. However, over the past 60 years, relationships between upland communities and the Thai government have been in a constant state of flux, negotiated not with the state as a monolithic entity, but through individuals and agencies with whom the experiences have been mixed. With each set of relationships with a government agent—like the teachers who are technically civil servants—there is hope that relationships between the community and the state might be improving, that there might be ways to make headway on other sets of concerns in the village. The policies on upland peoples have also shifted inconsistently over time. With different iterations of the constitution, different administrative regimes, and changes in development agendas, upland communities have gained greater attention from the state with both promising and challenging results (Forsyth & Walker 2008, McKinnon 2011a, 2011b, Sakboon, Leepreecha, & Boonyasaranai 2017). These relationships, then, offer possibilities and flexibility. The status of being a resident alien keeps open the future potentials for inclusion in the state that seem more appealing and more likely than the possibilities of claiming indigeneity.

In *Land's End: Capitalist Relations on an Indigenous Frontier*, Tania Murray Li (2014) demonstrates the insidious effects of capitalism in small communities in Sulawesi, Indonesia as eroding the possibilities and choices. I want to suggest that participating in the globalizing practices of indigenism has a similar effect of foreclosing the possibilities of other forms of self-representation and identity for communities in Thailand. Alien, as Stefan Helmreich (2009) reminds us, is a conceptual space of uncertainty. The term has taken root in Thailand to carry this uncertainty, in this case as a way of providing a space for a set of relations with the state that might yield outcomes desirable to the marginalized upland communities without subscribing to the political representation of global indigenism. This choice and set of practices illustrates a skepticism about indigeneity as emancipatory. In his analysis of the development of the global indigenism movement, Ronald Niezen reminds us that "the very creation of this category involves a common origin, is predicated upon global sameness of experience, and is expressed through the mechanisms of law and bureaucracy, the culprits most commonly associated with the steady gains of cultural uniformity" (Niezen 2003: 2). Improving social and material conditions through indigenism ultimately requires working through states; the UNDRIP is ultimately a tool to shape state engagement with indigenous communities. Indigenism is a response that stands in opposition to state authority, but one necessarily negotiated through the state itself. Isabelle Schulte-Tenckioff and Adil Hasan Khan (2011: 674) argue that he era of the development of the UNDRIP "initiated a somewhat paradoxical process whereby 'Indigenous *issues*' have been mainstreamed while the rights of Indigenous *peoples* are being diluted and eroded." Andrea Muehlebach (2001) asserts that the language used to make claims to indigeneity has, at least in international forums like the United Nations, become prescriptive; claims are crafted in particular ways to resonate with this globally circulating discourse. This is a way that the engaged universal of indigenism changes discourses in local places and by extension, the ways people represent themselves. In Baan Mae Roo and San-Lek, resistance to the claim of indigeneity does not preclude using some of these same recognizable tropes, but it also allows them to use other discourses that might appeal to other audiences, including other non-indigenous communities, other nations, and even agents of their own state.

The malleability of identity creates an expansive set of potential allies that can all be enlisted through careful presentation of community identity and struggles. I witnessed this constitution of identity with both international and domestic sets of allies. As part of P'Jay's work for LRS, he organized gatherings with international activists as a form of knowledge exchange and collaborative empowerment. A group of Vietnamese activists and civil service workers came to Thailand to exchange perspectives on ecological change and infrastructure development under their disparate political conditions. As we sat in the front room of the LRS offices in rows of chairs that extended out onto the balcony to accommodate the group, P'Jay spoke in English, sometimes translating the perspectives of others from Thai to English; the guide from Vietnam then translated from English to Vietnamese and back again. The conversation, across three languages, continued this way throughout the day, English as the common ground for linguistic exchange even among these activists from Southeast Asian nations. During the exchange, P'Jay described San-Lek to the group of international activists as having four delimited areas of community concern: the state dam proposal, community land rights, the community school and locally-based curriculum, and the ongoing development of the national park. These concerns orbit around and are even compatible with being or becoming indigenous, yet they are framed as local concerns, self-defined. Even to an audience of people who might be versed in ideas of global indigenism, P'Jay refrains from discussing indigeneity, suggesting that the global indigenism movement did not align with the needs of communities in Thailand. Later he would explain to me that after years of river advocacy, international partnerships are useful and sometimes the framing of indigeneity is actually limiting. The activists from Vietnam were not indigenous and he thought that appealing to them on the common grounds of struggle against state development agendas would be more effective than making claims to indigeneity.

Similarly, anti-dam protests in Thailand focused on the challenges common to the seven different groups participating in the Northern Rivers Network. While some communities are Karen and others Thai, all the communities experienced the state dam plan as oppressive and each had contentious relationships with the state around other issues as well. Rather than focus on qualities that might divide the movement, the communities use language that demonstrates their commonalities: their common threat (displacement by dams) and their common goals (to stop the water management plan from moving forward to the implementation stage). The political movement is founded on principles of equality and inclusion; the differential political and social positions of each community are leveraged for the good of all. For the anti-dam protests, the most important shared quality is a set of socioecological relations specific to place that the state threatens to disrupt.

Demonstrated here, a variety of kinds of relationships are made possible by resisting the term indigeneity. While these forms of relationships are not necessarily precluded by performing indigeneity and subscribing to that particular politics of representation, I have suggested here that the two forms of identity—indigenous or resident alien—both come with complications. Ultimately, at this point, the legal category is incommensurate with the experiences and aspirations of the Karen with whom I work. More than that, through these different identities, people constitute different worlds. As these worlds overlap, they collide and disrupt each other, making politics of representation more complex. While Baan Mae Roo and San-Lek currently resist identifying as indigenous, this form of representation may gain increased favorability as they are able to shape this engaged universal and be shaped by it over time. At this particular moment, however, the promise of human rights through claims to indigeneity are fraught, in part because of a history of shifting metrics to establish belonging within the Thai state and in part because rights for *humans* does not ensure the rights of nonhumans they consider inextricably intertwined. It is to the worlds of water-beings we now turn.

Water-Beings and Indigeneity

As explained above, indigeneity and the rights of indigenous peoples are human rights negotiated through relations with nation states. But how are socioecological relations configured in frames for global indigenism? How does the discourse of global indigenism account for the multiple worlds indigenous peoples create in assemblages with nonhumans like water-beings?

As described above, indigenous has evolved as a collaborative transnational movement as well as a systems of legal rights and political positionalities. The latter qualities are the ones mediated through the UNDRIP, a tool of governance to shape state interactions with their internal indigenous populations. While the range of motions allowed by the UNDRIP is expansive, its relationships with states as the guarantor of rights limits the ways that nonhumans factor into framings of indigeneity. Specifically, the UNDRIP repeatedly discusses “cultural institutions,” “lands, territories, or resources,” “cultural customs and tradition,” and “cultural sites” (UN General Assembly 2007). These references minimize the diffuse material capacities of nonhumans like water-beings, reducing them to objects manipulated by humans, part of practices performed by humans, or objects that can be politically regulated and legislated. In a standard political apparatus, PaDii Sah's practice of greeting the river or the ritual of protecting segments of river in Baan Mae Roo make the communities recognizable as indigenous, enabling a politics of representation and recognition and participation in the transnational movement. These practices create human belonging in sets of human-defined categories. Claiming, performing, and becoming indigenous is a strategy of resistance used for leveraging political rights and recourse.

Yet some of the same practices that establish a foundation for claims of indigeneity also make visible human entanglements with water-beings as creative assemblages of humans and nonhumans. Padii Sah greeting rivers and Baan Mae Roo establishing prohibitions on stretches of valued waters demonstrate that human communities become legible as indigenous through their sets of relations with other-than-human entities. Through this convergence of social, political, and ecological conditions, "the multiplicity and entanglement of worlds is made visible" specifically through water-beings and their role in identifying indigeneity in Thailand (Stensrud 2016: 80). In the context of international human rights law, these sets of human-nonhuman interactions that are pivotal to identifying indigeneity are of no concern beyond certifying and legitimating a people as indigenous. Appealing to a legal framework, the UNDRIP has an ontologically singularizing effect that denies the creative roles of nonhuman others participating in the constitution of worlds, like the multiple, overlapping worlds of the Karen communities in Baan Mae Roo and San-Lek.

These multiple worlds are constituted through relational ontologies that form particular worlds between humans and water-beings that animate and co-constitute the world, with whom humans have relationships of sociality and sustenance. Enacting the overlapping, interfering, collaborating worlds makes both indigeneity and water-beings visible but only partially connected to the Western paradigm in which contemporary global indigenism is rooted. Because modern political regimes and modern formations of global indigenism do not accommodate this ontological multiplicity, incorporating water-beings presents the potential not of political unity but instead of a cosmopolitical multiplicity.

Cosmpolitical multiplicity is perhaps another reason that the globalizing, engaged universal of indigeneity integrates awkwardly into Baan Mae Roo and San-Lek. In these settings, water-beings co-constitute the worlds of the communities. The multiply-enacted realities of waters bring water into the political and into spaces that lack the political language for them. Astrid Stensrud (2016: 77-78) argues

> "that ethnography can contribute to disrupt the boundaries of the ecological and the political by focusing on how nature and water are practised in different but overlapping ways. Water can be both countable units of litres per second and a living substance offered by a mountain being. Moreover, different practices - including knowledge practices and material practices - give rise to diverse and entangled worlds."

Observing the ways that people interacted with water in these villages, I became a witness to these overlapping worlds.

On a hike with P'Rut along the Khan River, he periodically stopped to observe the river. The lull in his pace was almost unnoticeable; in fact, the first few times I did not notice it at all. Caught up in conversation with other villagers or watching my footing carefully on steep slopes and slippery rocks during river crossings, I was unaware of his pauses, of where he cast his attentions. Then I began to recognize this practice and listen to the things he would point out: the river's edge had shifted here, the water was deeper there than a couple weeks ago, the water buffalo had been here because the grasses were matted, and the like. He was making a mental record of all the changes in the river, all the ways that water formed the landscape.

As a group, we stopped in the middle of the Khan River during a crossing. The river was wider and pooled at this point as it moved toward a natural waterfall. From our vantage, I could see the hillsides sloping away from us, the water disappearing over the edge of the precipice only a dozen meters in front of us. As we paused at this scenic vista, P'Rut pulled out his digital video recorder and captured the landscape in a slow panoramic sweep. The landscape was remarkable: lush green forest, burbling waters, hilly terrain in the distance with clouds of mist lifting off of them, the sounds of birds calling, tucked in the trees, and the chatter of voices from the group of hikers. Then P'Rut turned to me, standing precariously on a rock slick with the drizzling rain.

"What do you think of the river?" he asked, the camera trained on me. I floundered with my words, unsure of how to convey my sentiments in Thai. Eventually, trying to convey that the place felt vibrant, I said in my somewhat limited Thai something like "It is more than beautiful. It is so alive."

He grinned and gave his characteristic huge "OOoooeeEEY!" Then he added "Yes. These waters give us everything. That's why we try to protect them, because they give so much to us."

His attentiveness is a form of care for the river, a way of monitoring his own relationships with water-beings. These kinds of "earth-practices," a concept coined by Penelope Harvey (2007), "enact the respect and affect necessary to maintain the relational condition between humans and other-than-human beings that makes life" (de la Cadena 2011: 341). P'Rut is enacting earth-practices indicative of an ethic of care. While they can be read as practices of belonging to a movement of transnational indigenous solidarity, they are also practices of belonging to a larger cosmos of being, one that supersedes states and national boundaries.

On the other side of the Khan we stop to rest, and I follow a group of hikers into the dense foliage tracking a narrow rivulet of water to a spring in the side of a hill. I wait in line and hand my water bottle off to one of the Karen guides who has been enlisted as our official bottle-filler. While the trickle of spring-water fills my bottle, I ask him why we are filling our water here rather than from the mainstream of the Khan. “*Naam sokkaprok*” he answers pithily - that water is dirty. He pauses and pulls my bottle from the spring water, his suddenly wide, concerned eyes moving between me, the bottle, and the spring water: “Maybe you shouldn’t drink this” he says, now laughing slightly as a way of saving face from an action that might be a mistake or embarrassing. “I think this water is not clean enough for you either.” He looks up the hill toward the forest above us and the areas of fields beyond that. I take the direction of his look as a knowing glance toward the source of whatever is contaminating the water—likely the farming practices that require more and more chemical inputs into the soils for quality yields, chemical inputs that make their way to the ground and surface water supplies over time. I laugh too and say “*May ben array*,” nevermind, no problem. I know I haven’t brought enough water to last the entire trip so no matter the uncertain water quality, I know I am going to drink it. He resumes filling the bottle.

These counter engagements with water exist simultaneously, not as incompatible views of water but instead as multiple water realities. In Baan Mae Roo I see a colliding of worlds through water practices. In this village, it emerged through the different practices with a stretch of protected waters. I spent an afternoon with P’Somchai on the Chaem River learning various fishing techniques and learning about the kinds of fish that were present in this shallow, upstream area. As we stand in the overgrown, muddy edges of the river, P’Somchai explains that this is the best place to ensure that we catch fish and that he sought special permission to show me his fishing techniques here. From a little distance upstream from the village to a bit beyond the village, the stream is protected, meaning there are prohibitions on the kinds of behaviors that are allowed, including fishing. Yet P'Somchai explains that he wants to show me several fishing techniques and, because this is a protected area, we have the best chance of actually catching fish; the area is protected in part because the fish use it for breeding. However, we will not keep any of the fish because that would harm this protected place. When I ask who granted permission for us to fish in the river here, he says he asked village elders, people who know the waters. This, too, is an earth-practice that enacts a quality relationship between humans and other-than-humans like fish and water.

As we fish, P'Somchai then proceeds tell me about the *faai* or irrigation weir that is just upstream from us, still within the protected stretch of river.

Figure 6.1 Cement weir on Mae Chaem in Baan Mae Roo
Image courtesy of the author (2014).

In the background of the recording, the water roars as it cascades over the cement wall of the weir a hundred meters upstream from us. In 2529 (1986), P'Somchai's father worked with the local missionaries to raise funds so the weir could be transitioned from its wood structure to a concrete one. The community-built wooden weir had been compromised twice in the years preceding the implementation of the concrete update, each time causing inundation downstream and complicating irrigation for paddy fields served by the canals that guide water away from the catchment pond behind the weir. This kind of technological and infrastructural intervention is not prohibited in this protected stretch of river. Again, these two sets of practices are not just constituting the river or the community differently; they are world-making practices that create different but overlapping realities.

These practices are an evocation of water-beings that forge their own worlds and are themselves becoming, and as Donna Haraway (2008) says, "becoming with" other human and nonhuman participants in their world. Rather than humans defining the river as an object to rationalize and modernize, behaviors in these communities suggest that the process of becoming is facilitated through the particular patterns and practices of interactions between water-beings and people. Surveying changes in the river to participate in a set of cosmological relations with a river that provides for people is a world that collides with my experience of that same water as of questionable quality for human consumption. The effect is not merely a question of the amount consumed nor the possibility of gastrointestinal distress while hiking; instead, these incompatible experiences makes visible the formation and participation in differing kinds of world-making practices and the overlapping and intersecting of multiple realities of water. Protecting a segment of waterway and manipulating it with development interventions for human projects offer a similar disconnect and makes visible this multiplicity. These realities exist and are negotiated simultaneously and some of these realities disrupt western sensibilities of nature and culture, subject and object, sentient and not (Cruikshanks 2003, Povinelli 1995).

The multiplicity of worlds is not part of the political project of indigeneity. While the negotiation of overlapping worlds might be part of the lives of many indigenous peoples, the global indigenism movement is limited to the realm of political rights and gains. Given the multiple realities that exist simultaneously in the Thai uplands, the multiple realities in which people participate simultaneously, the political project of claiming rights through indigenism is, perhaps, limiting. In their existence as resident aliens, respect for the water-beings and other earth-beings that are part of their reality are entrenched in their practices and in their struggles against state management plans. Rather than adhering to the singularizing world of politics, relationships with water in Baan Mae Roo and San-Lek point to this multiplicity of entangled worlds; they point toward a cosmopolitics of indigeneity that might accommodate and gain force from these collaborations with water-beings. Indigenism is possibly not about political originary claims to place, but instead emerges out of the relational ontologies that form particular worlds between humans and water-beings; the emergent indigeneity here is cosmopolitical and makes possible cosmopolitical claims. These claims require a pluriversal politics that allows differing worlds to engage directly. In this Karen community, identifying as indigenous then is not as simple as pursuing political recognition; it is a knotty proposition that engages particular worlds in a struggle for mutual recognition.

The multiple worlds of the Thai uplands may not be represented in the politics of representation as indigenous, but the practices that demonstrate respect for these worlds, that in part constitute these worlds, make the upland peoples in Thailand legible as indigenous to a transnational network and to states. While the Karen communities I work with are performing practices of belonging within the cosmos, they are simultaneously performing practices of belonging in the world of state politics. Indigeneity provides an equivocation, a language and framing that allows alliances between the Karen and the global movement of indigenism, but simultaneously occludes the particularities of relations between people and water-beings that could threaten the epistemological modes of existing politics.

Indigenous is itself an alien term in Thailand. Linguistically it carries the weight of a global movement, but one that is defined by outsiders, other groups who may experience marginalization that resonates with that of the upland communities in Thailand, but not a word or a global framing that emerges out of their own experience. Its integration into the Thai context is therefore fraught; while it is gaining traction in some communities and among allies, it has not yet permeated all spaces nor made all practices everywhere the same. As this alien term travels in Thailand, it is changed by the local contexts and the multiple worlds it must navigate to forge a transnational alliance. This process of selective integration is not uncommon among a variety of other alien beings that have also entered the Thai social and ecological landscapes, the other beings that are part of forging a multiplicity of worlds.

Story One: Maize

It is early on a December morning in Baan Mae Roo. The skies are beginning to brighten, but school has not yet started and the sun is an hour from poking out above the mountains around us. I sit on the porch of P'Ong and P'Nit's house, watching as the mist lifts off the mountains in the early morning and as my cup of Nescafe creates droplets of condensation around the rim in the cold season air. Over the next 15 minutes, the front porch of P'Nit and P'Ong's house comes alive as a space of female camaraderie. At the intersection of several roads and offering a small general store from which people buy bottles of electrolyte beverages, this home provides a central gathering place and easy staging area to begin the day's work. In December, this work is harvesting the corn crop. Women from all over the village arrive dressed in long-sleeved button shirts or jackets, long pants tucked into their tall rubber boots (the essential footwear of fieldwork), some with traditional skirts in vibrant reds and purples (the colors denoting a married status) over their pants, and baskets filled with bags to put harvested corn into hanging from their shoulders or heads. Speaking quickly and warmly in Karen, the women greet each other and also greet me in Thai with a warm wai. Men wait beyond the porch, sitting on motorbikes or gathering by a fire in the yard next door, sometimes provoking laughter with friendly teasing of the women on this porch across the road. When a pickup arrives, many of the women climb lithely into the back with their baskets and set off up the hills to their fields for a day of harvesting. Some of the men follow on motorbikes while the others disperse to get their children to school or to the mechanic shop P'Ong runs next door to the house. After a long day of work removing dried ears of corn from the stalks and pulling the kernels from the cobs through the well-practiced, rhythmic motions of their hands, the people laboring in the fields all return, the truck now laden with bags of corn kernels and the women more precariously perched atop it or walking behind, still carrying their baskets. Several evenings, P'Nit, the mother of the family I stayed with, would spend additional hours removing kernels from any cobs she brought back from the field that day and start dekerneling again first thing in the morning.

These practices around corn in Baan Mae Roo are new as of the last ten years. Maize or *khaopot* has been part of Thai agriculture since it was introduced into the region in the 16th century, primarily consumed by farmers or sold in small amounts fresh in local markets (Setboonsarng 1990). This crop from South America gained widespread value as an edible good across much of Asia and became creatively used in meals and desserts. In Chiang Mai markets, one can almost always find a vendor selling a sweet corn dessert comprised of corn, sugar, grated coconut, and a bit of salt. Since the 1950s, maize for animal feed has become an increasingly valuable commodity. Initially planted for the consumption of household animals only, the production grew in ebbs and flows across the uplands. Beginning in the post-World War II era, maize became an export product in Thailand (Setboonsarng 1990). In 2004, an in-depth study of maize production in Thailand (made possible by the United Nations International Fund for Agricultural Development and the International Maize and Wheat Improvement Center) found that maize occupies 33% of upland farmlands (Ekasingh et al 2004). Corn has emerged as a prominent national cash crop through an assemblage of global agribusiness interests, fertilizers and other agrochemicals, ecological conditions conducive to corn, ingenuity in cultivation practices where large machinery is impracticable, improvement of transportation infrastructure, increase in livestock production across Thailand, and the input of human physical labor (Ekasingh et al 2004). From my vantage point the porch, I see the hillsides that extend above the village lined with uneven rows of maize plants at precariously steep angles that no form of machinery could plant. Instead, this maize is all planted by hand, a pattern of practice that mimics rice cultivation. While Thailand remains one of the top exporters or rice in the world, this agricultural turn toward maize has transformed the landscape, socialscape, and waterscape. Maize has slowly spread as either an alternative to rice farming or as an opportunity to expand farming practices and with it, income.

While maize increasingly takes root across Thailand, literally and figuratively, it is undeniably an ecological and social actor. Yet this transition is not uncontested or uncomplicated socially and ecologically. Cultivation of any kind has social and ecological impacts; the practices of farming maize reconfigure socioecological relations at local, national, and even global scales as it is practiced differently in relation to different technologies, institutions, and socialities. As a new crop that requires water and chemicals to grow, the production of maize has broad ecosystem effects and central among them are the effects on water. Not only are hillsides increasingly put into more rapid crop rotation with corn, a crop particularly pernicious on soil quality, but the chemical additives become part of the ecosystems as well, moving into water systems. Maize requires a re-imagining of hydrosocial relations such that people can hold two disparate realities at once: water-beings as valued and simultaneously permissible to pollute. In the upland areas where I worked, maize is both esteemed and denounced, a source of boastful pride and a hidden secret, a moneymaker and a financial flop, an opportunity and a health risk, a sign of modernity and a sign of compromise.

In this section, I focus attention on how practices with maize form varied kinds of worlds, specifically the overlapping worlds that demonstrate the permeability of the boundaries between alien and indigenous in upland material and moral ecologies. Specifically, I am interested in returning again to what Isabelle Stengers (2005) calls an "ecology of practice," which she explains as a way of taking into account that practices are related not only to the material world, but reciprocally impact those who practice them, and in turn other sets of practices. She applies this ecology of practices to scientific practice to argue that science is not objective, but produces reciprocal effects. I consider the ecology of practices around maize in Northern Thailand, analyzing how different sets of socioecological practices intersect, interact, and create entangled worlds. I am interested in how the ecology of practices of corn farmers and rice farmers (often an overlapping set of people) produce myriad realities that move between the worlds of indigenous and alien and trouble them. Maize cultivation, the introduction of an alien crop that displaces indigenous land cover regimes and reconfigures hydrosocialities, becomes part of negotiating entangled socioecological worlds with moralistic, nationalistic, and cosmopolitan repercussions. Despite the spread of corn production in Thailand, rural communities in the north demonstrate through their behaviors that corn occupies an ambiguous position, perceived and presenting as a nonnative crop, yet one whose alien-ness is diminished in material and discursive practices. At the core, I argue that alien worlds and indigenous worlds are made through practices, that they overlap in messy ways, and that these negotiations create conditions of belonging.

Multispecies to Monocrop

Outside of urban settings in Northern Thailand, corn has become increasingly, undeniably present. The drive from Chiang Mai to Baan Mae Roo is speckled with corn fields. The landscape transitions from a cityscape, to a national park with sharply pitched turns on narrow mountain roads, into the Chaem River valley on the west side of the mountains. Once through the district center city on the west, the roads through the mountains pass through hillsides covered in corn. During the harvest season, I pass by pickup truck after pickup truck loaded feet above the truck bed sides, feet above even the metal rails that extend beyond the truck bed, with bags, many marked with the symbol for Charoen Pokphand (CP), a prominent Thai agribusiness and a foreign affiliate of multinational conglomerate Monsanto. Intermittently, there are shelling machines stationed in the wider, flatter sections near the road where trucks gather with their bags to have the maize shelled and then taken further down into city centers for sale at markets or to CP agents responsible for managing transport to larger markets in Thailand and abroad. Later in the season, the drive would be marked by smoke as farmers burned the fields to turn the stalks to a layer of ash into which the next crop would be planted, a practice common in preparing rice paddies for cultivation as well.

The further into the mountains I go, the more deceptive the scenery becomes. The visible mountains sides are almost exclusively corn suggesting that corn is possibly becoming a replacement for rice and the kinds of multi-crop, multispecies, multi-world spaces typical of swidden agriculture. Historically, swidden farming was a common practice across much of Southeast Asia; despite the signs to the contrary, swidden farming remains a prominent form of agriculture in this area and for the Karen farmers who live here. An agricultural practice that promotes and thrives on biodiversity, swidden agriculture allows for the intermingling of a variety of plants for sustenance. From rice to papaya to eggplants to melons to peppers to garlic to herbs, the swidden is not necessarily a monocrop space, but a place of symbiotic relations among many species. In the past, many of the upland swiddens, particularly those of Hmong peoples, also would have included poppy cultivation, a practice that was formally outlawed in 1955, and increasingly stringently enforced beginning in the 1970s (Forsyth and Walker 2008: 78). In this farming practice called *rai luan loy* or *rai mun wian* in Thai, fields are used in rotation, lying fallow for a few years in between reuse to allow the trees to grow to maturity, to maintain fertility, and to minimize weediness.

In *Friction: An Ethnography of Global Connection,* Anna Tsing (2005) demonstrates how forests in Indonesia are always already social, pointing out how people read the evidence of human labor on the landscape of swiddens even when they lie fallow for years. In Thailand the multispecies spaces of swidden plots were similarly recognizable and respected. While plots are most obviously identifiable when they are cleared for rice cultivation, the life cycles of fruit trees and other crops mean that the plots offer an ongoing yield of foods and other important resources for farmers. As discussed above, among the Karen in San-Lek, community members identify plots as being under the control of particular families while they are in various ages and stages of rotation.

Saiap has a more formalized and documented process for recognizing ownership of plot. As explained in Chapter 2, Saiap in Phrae Province is comprised of ethnically Thai residents who were granted binding community land rights by the Thai state as the Mae Yom National Park developed with them inside its borders. Because the rights are allocated to the community as a whole, residents make requests of the villages to claim parcels of land within this community share; once a plot has been apportioned, however, it remains in the care of individual families unless they choose to return it. Within the community, existing plots are therefore recognized as tied to particular people whether they are under continuous cultivation of rice or maize, orchard, or permanently designated for forest cover. In Phrae, the golden teak forest is an ongoing symbol of conservation and anti-dam protest and this ethos mobilized individual plot-holders to designate portions of their plots for forest cover. For example, P'Lung, one of the NGO workers for LRS who lived in Chiang Mai came from one of the villages in Phrae Province. He had been part of the anti-dam protests for his entire life. As we drove through the expanse of village territory surrounding the central area filled with houses, he pointed out 2 separate plots covered in trees. "These plots belong to my children," he said. "We live far away from here, but these are their forests. They belong to the next generation. This is what we give them: trees. This is their *moradok* (inheritance)."

This practice of planting trees and re-foresting Thailand aligned with the national forest conservation campaign that gained credibility throughout the 1980s and 1990s. During the 1980s, as Thailand began to recognize and take action against the nation's mass deforestation; the campaign included the 1989 logging ban and promotional material that tied healthy rivers and water systems to abundant forests (Forsyth & Walker 2008). As part of the campaign, swidden processes and the specifically non-Thai upland peoples who practice them, were vilified for causing environmental degradation (see Chapter 2). As Dietrich

Schmidt-Vogt (1998: 136) explains it, swidden farming is "looked upon as a destructive form of land use, and secondary vegetation generated by swidden farming is regarded as degraded vegetation, which creates conditions conducive to further disturbances in the ecology of Northern Thailand, such as accelerated soil erosion in the uplands and water shortage in the lowlands." Schmidt-Vogt argues that this is an overly simplistic understanding of ecological relations and of swidden farming, yet one that gained credibility and shaped a particular environmental and social narrative in Thailand. Specifically, the narrative suggests that the shifting cultivation practice of swiddens is not rotational, but involves regular and repeated clear-cutting for new, "virgin" fields. As Timothy Forsyth and Andrew Walker (2008: 17) articulate, "environmental narratives are simplified explanations of environmental cause and effect that emerge in contexts where environmental knowledge and social order are mutually dependent." In this case, the existing social order is one that understands upland, non-Thai people as ungovernable, unpredictable, and potentially disloyal security risks to the state. The narrative that rotational cultivation practices are unstable and cause environmental degradation reinforces this existing set of social norms and structures in Thailand and in doing so, legitimizes the structures that enable and institutionalize social inequalities between ethnic Thai in the lowlands and upland non-Thai like the Karen. Ultimately, the core misunderstandings of *rai luan looy* or rotating agricultural practices reproduce mistrust in both directions between lowland and upland communities.

Thai forests have been decimated over the past century and the denuded upland hills are certainly prone to erosion, but the causes of these conditions are multiple and interdependent. Studying the ecological, geoecological, and economic functions of forests that are used for swidden practices, Schmidt-Vogt's (1998: 148) analysis of three swidden-farming villages in Northern Thailand "challenged existing orthodoxies about the impacts of swidden, and suggested that well-maintained swiddens may result in greater species diversity than most reforestation projects, and sometimes a greater incidence of useful plants than pre-existing forest." While he applied this analysis to some swiddens, he also highlighted that limited access to swiddens due to state regulation and increased market incentives are compromising the ideal forms of these practices which would allow swiddens to lie fallow for ten years for quality secondary forest regrowth. In San Lek, corn had not become a staple cash crop yet for the villagers, but people noted that they were returning to fallow swiddens much earlier than in decades past. Padii Sah explained that his fields now lie fallow only for two or three years before they are once again planted with rice and wet-rice paddies are in production yearly. This change in practice relates to their increasingly precarious status inside the national park and the process of land titling that further disenfranchises them (see chapter 2).

Figure 6.2 Swidden farming in San-Lek.
Here the paddies are not yet planted with rice. Image courtesy of the author (2014).

As forests are increasingly put under the jurisdiction of the Royal Foresty Department or the National Park, Wildlife, and Plant Conservation Department (DNP), the pressures on local communities living in or used to having access to these lands for personal agricultural and subsistence purposes intensify. Not being able to rotate fields effectively is only one of those pressures. Others come in the form of diminished subsistence capacities, decreased income, and increasing expenses. From school uniforms for children to buying the necessary staples when crops are lean to technologies like smartphones that are both useful campaign tools and markers of modern connection and worldliness, cash has become imperative and cash crops offer farmers the promise to fulfill these wants and needs. The ecology of upland practices is changing as the ecology of practices around state authority and control shift. The relationships between state practices of managing land, people, and resources and the practices of people who exist on the periphery are drawing out new forms of agriculture and new forms of hydrosociality as the people I work with tried to find ways to belong in their own communities, in the Thai state, and even in larger globalized networks.

For some, maize is viewed as a viable alternative crop that might deliver both an influx of cash and with it a sense of belonging at different scales. In Saiap and Baan Mae Roo, state restrictions on land use and market pressures are key parts of the incentive to plant maize. Maize is not the only relatively new crop to Thailand's uplands. Since the 1960s, a host of new vegetables and flowers emerged across the uplands including cabbages, carrots, and gerbera daisies to name a few that remain prominent. Some of this agricultural transition was sponsored by state projects suggesting alternatives to swidden farming and aiming to fill the agricultural gap left by the illegalization of opium farming common to many upland farmers; other crops emerged as self-selected methods to fill a related decline in household income. I focus on *khaopot* here because it remains the most prominent and abundant alien crop as well as the most controversial and strategically practiced in the communities where I worked.

Indigenizing Alien Practices

So what do local practices around maize look like? And how do the ecologies of practice around maize encode belonging? Does maize become seamlessly part of upland hydrosocialities and socioecologies or might it be a perturbation that points towards other senses of belonging and other worlds? In Northern Thailand, maize occupies a contradictory role, one that is leveraged to demonstrate a sense of neoliberal participation and one that is obscured to produce an alternative version of reality rooted in a contradictory global ethic of conservation.

In Saiap and Baan Mae Roo, maize is primarily grown as a cash crop. Community members explained that they were not growing the crop for themselves but because there were systems in place to make corn profitable through CP agents and demand. As of the early 2000s, demand for maize was expected to exceed the yields that could be expected in existing corn planted fields (Ekasingh et al 2004). Yet the patterns of exchange around maize yield little actual profit for farmers; small-scale farms like those in the northern uplands have a record of having almost no profit margin and on occasion these farms even lose money on their yearly maize crop (Ekasingh et al 2004). Only large-scale farms in the plains have a history of strong profits, bolstered by their proximity to markets and the ability to use large farm machinery like tractors to aid in the production process (Ekasingh et al 2004). Given the minimal return on their investment of labor, maize must offer more than financial appeal to upland farmers.

Figure 6.3 Maize growing near waterway in Northern Thailand
Image courtesy of the author (2014).

For these hopeful upland farmers, maize is the product that circulates most broadly and draws communities into desirable practices of global exchange. From the seed purchased from conglomerates like CP to the harvest which often cycles through the local processors before it is back into the hands of CP agents for circulation to livestock farms, to the fertilizers necessary to grow quality crops, the production of corn is facilitated through forms of neoliberal market exchange typical of cash crops and agribusiness more generally. In her book *Land's End: Capitalist Relations on an Indigenous Frontier,* Tania Murray Li (2014) examines how cash cropping practices in Sulawesi, Indonesia transformed both social and ecological sets of relations in villages. She argues that "capitalist relations emerged by stealth" in this region and through the active choice of Indonesian highlanders who wanted "to join the march of progress promised in modernization narratives" (Li 2014: 9, 2). She frames rural communities as resource frontiers and emphasizes how people in these communities experience the pressures and allure of development projects as an opportunity for both economic gain and a more sophisticated identity. While the cash crops are different in Thailand, the principles of selecting to engage in these forms of capitalist relations resonate in Thailand, too. Participating in the circulation of maize as a modern, international, cosmopolitan commodity is seen as transferring at least a modicum of these qualities to the producers as well. When I asked people in the village why they grow corn, most would highlight the financial incentive of cash cropping; at the same time they also explain that given the costs in labor, seed, and plant treatment, the profit was minimal, but still worth it because it was an internationally desired crop. This internationalism gives maize a prestige that made it desirable to integrate into local ecological and social systems.

The practices of laboring with maize are embodied by the local Thai farmers. As the story at the opening of this section suggests, farmers have developed patterns of bodily engagement with corn, from planting processes that mimic hillside rice cropping to the rhythmic hand movement to remove kernels from the cob to lighting the fields on fire to burn the stocks in the aftermath. The labor of corn requires embodied actions, movements and processes are integrated into muscle memory, enacted through the body, and bring the human and nonhuman into socio-material assemblages that are mutually interdependent. This labor also renders communities who practice it part of “the productive labor of economic development,” making the communities visible as national contributors and economic assets to the larger national structures of growth (Jackson 2012: 10). On a national scale, corn has come to represent economic growth, diversification, and avenue for expansion into ever more international markets. Maize has been put to sociopolitical work in Thailand like many species are across the globe (for example, see Braun 2002, West 2006). Already a critical international player in rice exports and labor in the factories of multinational clothing and electronics conglomerates (Mills 1999), maize is a commodity that demonstrates both the modernity of Thailand and its suitability for diverse agricultural development. Maize farming is a "scalable" process, paralleling the development of global sugar cane plantations during the colonial era; scalability is a key component of progress and development (Tsing 2012b). Anna Tsing (2012b) argues, however, that scalability like this is an illusion that obscures non-scalable components and diversity—in this case, both the social and biogeophysical diversity of swiddens.

Yet practices with maize also demonstrate its alien-ness to the region and the ways that it affects social and ecological changes, changes that are uneven and contested. Li (2014) argues that one major byproduct of these capitalist relations involved in cash-cropping, at least in Sulawesi, is the production of uneven effects as well as tense and fragmented relationships between people. In the three villages where I worked, economic inequalities were apparent, but their causes are more complex than participation in corn cash cropping alone. Still, maize production amplifies these differences in sometimes unexpected ways. While seen as a cash crop, those who farmed maize noted that the return was minimal. The money expended on agrochemicals and seed meant that without a hefty crop, there was little profit. The fluctuating market prices for maize also impact how much families are able to earn. One farmer noted this fluctuation, but said that he continues to grow maize with the expectation that the money will be increasingly financially worthwhile in the years to come. The income inequalities in most of the villages are therefore less tied to whether or not farmers grow corn and more tied to their ability to earn money through jobs (such as holding a position in public office or running the local repair shop or local seamstress shop or convenience store etc.), through the variety of different crops they farmed to offset the financial uncertainties of any one, or through expenditures on vices (like alcohol and gambling) rather than expenditures on family goods that perform class status or aspiration (like school uniforms, cars, and other luxury items). A good or a bad year with maize might further entrench the inequalities within a community or amplify their effect.

Nonetheless, economic struggle and financial promise make maize desirable while the social and political pressures present maize as the best and often only option for remedying these struggles. Khru Daw, one of the school teachers in Baan Mae Roo explained that in her village "there are no other jobs, no other career options. So people must grow maize." Regardless of the minimal return, maize production repeatedly offers the possibility of improvement and income that is otherwise seemingly unattainable. This consistently renewed hope in maize farming is what Hirokazu Miyazaki (2004: 11) would call a "prospective perspective" that inverts the typical analytical frameworks for appreciating human knowledge-making practices. Miyazaki is referring to the processes of mobilizing alternative self-knowledge as part of the methods that give recurrent hope to disenfranchised Suvavou people in Fiji. He argues that this prospective perspective allows for disappointment and indeterminacy but also the "possibility of fulfillment;" in this case, the possibility that a petition might be met with alternative apperceptions of Suvavou claims that are produced through different knowledge-making processes (Miyazaki 2004: 70). Maize production in the Thai uplands similarly relies on this prospective perspective that each crop might yield a more profitable income. This knowledge-making process is one that is based on the tension-ridden relationships between the water-beings and human practices, a tension amplified by the strain placed on water systems through maize. As Miyazaki (2004: 130) explains it, "the method of hope therefore revolves around radical temporal reorientation of knowledge and its resulting replication of past hope in the present." In Thailand, this past hope is one based in relationships with the material planet that have yielded sustenance and fulfillment; the hope is that in the midst of different social and political circumstances, these earthly relations will fulfill the modern, updated needs of the community members. These alien needs are being met with an alien crop that offers opportunity and hope. Both the need for financial solvency and the belief in the earth's capacities cause maize to seem a desirable, viable crop in the Thai uplands. This potentiality is driving force for the ecology of world-making practice that place maize at the center.

Socio-Ecological Alien-ness

Yet because maize farming requires alien ecologies of practice, the social and material impacts are also predictably alien and contested. Maize introduces new actors into the material realities of the Thai uplands and with them, new worlds. Corn has emerged in both Saiap and Baan Mae Roo as a contentious nonhuman other, materially and socially. Ecologically, corn requires inputs into Thai soils to bolster yields. The most common forms of inputs are fertilizers such as ammonium phosphate, urea, and complete fertilizer 15-15-15 (a combination of nitrogen, phosphorous, and potassium) (Ekasingh et al 2004). These additives are widely recognized as tied almost exclusively to maize production and have gained disfavor for the negative ecological and health impacts. Maize is an example of a modernized crop, one that demonstrates how "we replace fungally supplied nutrients with fertilizers obtained from the mining and chemical industries, with their trails of pollution and exploitation. We breed our crops by isolating them in chemical sites, crippling them, like caged and beakless chickens. We maim and simplify crop plants until they no longer know how to participate in multispecies worlds" (Tsing 2010: 192). Many farmers seem to bracket these parts of the socioecological relations that emerge through maize production, while others cite these compromised ecological relations as central to their realities.

In Saiap, these realities with maize overlapped in mundane, everyday interactions with water-beings, particularly ideas of consumable water and polluted water. I visited Pho Yut's corn fields one afternoon in the hills surrounding the village. Despite the heat, he was dressed in long sleeves and long pants, rubber boots, a scarf covering his nose and mouth, gloves, and a side-brimmed hat. Aside from a strip around his eyes, I could see little skin and even that skin was hidden behind his glasses. As he joined me in the sala, the small covered platform on the edge of the fields, he unwrapped the scarf, removed his gloves, and even took off the long-sleeved shirt. While often these layers of clothing are worn to protect from the sun, in corn fields, Pho Yut tells me, the protection is two-fold: sun and fertilizers. He pulled out a bottle of water, warm now from being out with him all day and poured some for each of us in a plastic glass, assuring me that the water was filtered water from the machines in town, not from the local water sources like the *huai* I had crossed on a narrow bridge on my way to meet him. We spent the next couple of hours talking not about his maize farms or their connection to water systems, but about the spirit houses that protect the village in various ways and how water-beings are leveraged to protect people and local waters (see Chapter 5). Pho Yut's stories allow these two realities—drinking water as carefully monitored for quality and undrinkable waters as protected by local spirits—exist side-by-side without discord and without need for explanation. Pho Yut constitutes these two worlds as separate, despite the overlaps in his daily water usage.

Later that afternoon, I returned to Yaay's shop to sit in the shade and talk with her while school children passed by on their way home, stopping for snacks and to reload their phones with baht for calls, texts, and data. This afternoon, after being surrounded by chemically treated maize in the hills, I asked Yaay where water for the village was sourced. She walked out into the middle of the street, beckoned me to her and began explaining:

"The water for the village comes from a stream in the mountains far that way. The water that way," she said motioning in the direction of the corn-covered hillsides I had seen earlier that day, the direction of Pho Yut's maize fields, "that water is *sokkaprok,* dirty. We don't get water from that stream nowadays because there is too much pollution and the water isn't clean. There are too many chemicals in it because people farm *khaopot* upstream."

"Does any of the municipal water come from the Yom River?" I asked, motioning in another direction.

"No. That water is used only for irrigation and things. It is not household water. People farm maize up that way too. It used to be clean, but now they use chemicals upstream and it is not safe - *may blotpaay*."

For Yaay, the material effects of maize farming have compromised hydrosocial relations, creating a reality where disparate water sources are valued differently based on their quality and relative pollution levels and thus engaged differently. Yaay, who runs a general store out of the front of her family home, does not need to create a separate reality to accommodate maize production since that is not part of her practice. Instead, she attributes these varied water qualities directly to maize production and produces a reality that explains water conditions based on her own personal hydrosocial relations. This reality is not based in the modern water measurements of clean water but is based in experiences of impacts to human health and safety (Linton 2010). Maize is the alien crop that reconfigures hydrosocialities and relations between Saiap community members and the water-beings that co-constitute the world.

P'Somchai highlighted another reality that demonstrates the socioecological relations that shaped his own experience with maize in Baan Mae Roo. After P'Somchai took me fishing on the Chaem River, we hiked through the forested banks of the river get to the main road and I commented on the maize harvest in his village. I had been watching people harvest the maize all week; the next day, I would leave the village by riding in the back of a truck beside and on top of bags of harvested corn en route to Mae Chaem, the nearest city with public transportation to get me back to my home base of Chiang Mai. As soon as I mentioned the volume of maize I had seen in the hills around Baan Mae Roo, P'Somchai abruptly stopped on our hike to look at me and the hillsides of maize rising behind me. He then articulated a reality with maize that diverges from the profit production reality of many of his fellow community members. He explained that he planted maize for only one season. He followed all the protocols for fertilizers to produce a quality yield, but after he treated his field, he became sick: he had a rash and he had trouble breathing. A devout Christian, P'Somchai understood this illness as a sign from God that he should not be farming maize or using fertilizers because of they destroyed God's creation—both the human and nonhuman components of it. For him, maize is definitively an alien crop as demonstrated through the physical ailments that beset him and the religious tradition through which he makes meaning of these effects. This reality of maize as a source of pollution to humans and nonhumans both materially and spiritually, however, is entangled with the overlapping reality of maize as a source of possibility, of hope for income, and therefore demonstrates the conflicting ways that corn is perceived as alien to or integrated into local hydrosocial relations.

The Un-Representation of Maize

Another clear indicator of the alien-ness of maize is the selective un-representation of the hydrosocial relations that involve maize in anti-dam projects and practices. In Saiap, members of the community responsible for building and promoting Saiap's anti-dam activism demonstrate a keen awareness of the complex interpretations of maize production. In this village, maize and rice are both frequently planted. Hillsides off the main road are covered in maize and small plots of maize stand beside rice paddies filled with jasmine rice and sticky rice. After the harvest, the open lower levels of people's homes have stacks of white bags holding each kind of rice (though tending toward sticky rice) as provisions for the year until the next harvest. In alignment with their local conservation laws, the community does not practice a second season of rice cultivation because it would cause strain on both the irrigation systems and the fields. Instead, they cultivate maize in the hillsides which offers a greater cash incentive, yet compromises hydrosocial relations in different ways.

On a humid afternoon in Saiap, as the sun coaxed out the lingering moisture from the morning rains and before clouds reformed to bring the refreshing dousing for the evening, I climbed into P'Som's truck along with Phra Ajarn, the head monk at the local temple, and two other men from the village, to take a tour of the villages and surroundings that would be impacted by the dams proposed on the Yom, Keuan Yom Bon and Keuan Yom Laang, Upper Yom Dam and Lower Yom Dam. As we drove, P'Som stopped periodically to take photographs of the Yom and its tributaries, human-made and cement weirs, the landscape and scenery surrounding the village. As he pulled over in front of a wide expanse of rice paddies brilliantly green against the dark mountain range that arose behind them, he casually commented that he was taking these pictures to show people how beautiful it is in northern Thailand, to remind people of the "simple" way things used to be and evince the idea that the these villages in the north embody the values of living *bannok,* the simple, rural life. Images of lush rice paddies, the indigenous crop in the region, displayed on social media are intended to evoke a sentimentality in viewers and compel them to want to act to preserve the way of life, and by proxy, the particular place that reminds them of it.

Later we drove on a field access road between two maize fields, the drying cornstalks within reach from the window of the pick-up's extended cab. Without making any statement about the farmers who choose to plant maize, P'Som mentioned that we did not need to take pictures here. When I asked why not, he seemed surprised, but explained that "no one in Bangkok would want to see photos of this; it doesn't show the region, our village at its best." P'Som is illustrating the complexities of maize production in Thai moral ecologies. As a product intended to fuel Thailand's GDP and feed the nation's growing livestock sector, maize is beneficial; yet acknowledging its production dispels the idyllic imaginary of the north. Maize symbolizes rapid transition, its alien-ness compelling Thai audiences to confront the nation's inability for law and social structures to keep up with development as one of Southeast Asia's "tiger cub" nations (Case 2002: 2). By contrast, images of verdant rice fields are affectively linked to nostalgia for an idealized prior era. Used as part of anti-dam protest messages on social media, the rice paddy images transfer the affective response from the rice paddies in general to the particularized place with a clear message: for Thailand to maintain the set of hydrosocial and ecosocial relations presented in these images and the earnest, pleasing emotions tied to them, people must not allow the current dam-centric water development plan to move forward. Maize has neither the history in Thailand nor the affective purchase that rice does; maize is therefore selectively and strategically not represented in anti-dam campaign imagery. Instead, the hundreds of pictures posted to the main Facebook page for the Saiap anti-dam protests feature rice, every variety of native forest plant and edible, tree ordinations, playful river activities, and the people in the community participating in rice farming and conservation activities. Based on this page alone, maize is erased from the representational, virtual landscape even as it makes effects on the ecological and hydrosocial landscape of the region. The ecologies of practice around representing maize affirm that the sheen of alien-ness persists with it even as maize is increasingly integrated into socioecologies across Thailand.

The Realities of Alien + Indigenous Discourses

As demonstrated above, the ecologies of practice around maize participate in developing complex sets of overlapping realities that complicate the positions of upland peoples in relation to the state. From these practices, discourses emerge that constitute and codify the Thai uplands and their relation to the Thai state in two seemingly contradictory ways. On the one hand, indigeneity marks communities as old-fashioned, backward, potentially disloyal subjects of the state who misuse natural resources and flagrantly flout the law. The discourse stems from a rich history of the Thai state striving to assimilate and regulate the population and resources on the periphery (Bowie 1997, Forsyth & Walker 2008, Scott 1998). On the other hand, maize farming discourses produce upland farmers as modern, cosmopolitan actors whose capitalistic priorities compromise the nation's environmental resources. While contributing to the economic development of the state by planting maize, communities are also engaging in controversial environmental practices. As Thai ecosystems are increasingly manipulated into aggressive agricultural production with agrochemical enhancements, the degraded landscape is increasingly contested and upland communities are easy to blame as they occupy an already marginalized and contentious relationship to the state; an environmental narrative has developed that pins environmental degradation to these so-called "hilltribes," the indigenous communities that are otherwise perceived as representing a timeless history (McKinnon 2011a, 2011b). These two discourses—one of backwardness and one of modernness—in part comprise the overlapping realities of the upland farmers. While the discourses seem to tout wildly disparate conceptions of the uplands people with whom I worked, the effects of both discourses have common results: to disenfranchise and even malign these communities.

Yet the discourse that vilifies indigenous peoples in the uplands for their corn production ignores two key factors: first, this discourse intentionally obfuscates that the provinces of the central plains plant more hectares in maize than upland farmers and may even plant maize during multiple seasons, requiring more intensive chemical treatments and fertilization for quality yields and creating more enduring effects on hydrosocialities (Ekasingh et al 2004); second this discourse gains credibility in part because it reinforces the existing discourses about upland peoples. The discourse effectively links an already disenfranchised set of peoples within Thailand to practices that further produce negative attitudes toward them. Michel Foucault (1978) discusses the relationship between discourse and power as dynamically involved in the reproduction of existing social systems. The discursive linking of these two narratives is part of the ecology of practices that relegate these upland communities to the periphery, both geographically and socially. These realities becomes reciprocally entrenched in discourses, state institutions and policies, and in the power relations that shape the Thai socialscape.

For upland communities then, the messy, contentious sets of practices with maize are part of navigating the production of an alien crop while occupying a socially unstable position. In the uplands, the stigma of opium production coupled with assumptions of clear cutting and excessive chemical inputs for maize, leaves communities like the Karen with whom I worked in a precarious, antagonistic position in Thailand, balancing the need for a stable future (financially and legally) with the need to present themselves effectively to the state who seemingly has the authority to make such futures possible or impossible. As Anna Tsing (2015: 27) points out, “one value of keeping precarity in mind is that it makes us remember that changing with circumstances is the stuff of survival.” The practices necessary to farm maize and the practices selected to represent communities downstream shape an ecology of practice through which upland communities aim to positively affect their political claims and material conditions as they produce new, alien realities. As this alien crop is increasingly prevalent in Thailand's economy and material landscape, practices with maize have similarly prominent impacts in the social sphere; however, these realities are apperceived through the the lens of existing social and material norms even as they work to make changes. The multiplicity of worlds cannot necessarily determine how those worlds might create effects politically, socially, or materially. Similarly, the alien technologies and inputs that enable maize production create new forms of socioecological relations and the evocation of water-beings that emerge from and engage with maize are still in the process of becoming. The impacts of these realities, materially and socially, are not settled but as of yet still becoming and becoming-with.

Story Two: Water Hyacinth

Through Chiang Mai, the Ping River is a fairly quiet river. A murky brown, the river flows through the eastern side of the city, east of the sharply square city walls and moat. Scattered along the banks, a handful of fisherfolk cast their lines. Occasionally a fisherman will guide his boat across the river, gathering a net strung across the river and hauling in a few handfuls of fish at most. The majority of boats on the river float slowly carrying tourists. Dinner cruises last several hours as large boats putter up and down the waterway, moving beneath the flags and lights adorning the bridges through the main stretch of Chiang Mai.

On a sunny afternoon, when the river was just beginning to rise with the early mango rains of the rainy season, I decided to take a tour on the Ping River on a scorpion tail boat, touted as one of the traditional boat styles for the region with ends that rise high off the water like a scorpion elevating its poison-toting tail. As we floated on the river, my partner and I the only tourists on board the boat designed for 20, I asked the guide about the vegetation gliding on the current of the river beside us. The smooth-edged leaves bobbed in clusters on the water's surface, shifting in the wake of our boat. In the midst of his recitation of glamorous stories about the royal family and their lives in the north, the guide was only momentarily distracted by my question responding "oh, I don't know. Common water plant." He then redirected us to the history lessons he had been sharing, punctuated with weathered prints of old carriages and members of the extended royal family. Despite his excited storytelling tone, I remained distracted by the plant in the water and quickly lost my tether to the conversation at hand, leaving my partner to be the attentive listener while I scribbled furiously in my journal and tried to photograph the plant by leaning over the side of scorpion tail boat. The result was a series of images blurred not only by the movement of the boat, but by the drops of water splashed onto my camera lens.

Along the borders of the Ping River, dense foliage drapes down the banks running into the edges of the river's waters. Many trees and plants are identifiable from the center of the river and some are even indigenous species: banana, rose apple, papaya, and longan fruit trees, temple trees (or plumeria), oak, chestnut, and even the occasional skinny teak tree reach their branches high along the banks. The vegetation on the crest and slope of the banks varies from wildflowers and shrubs to manicured Malaysian grass or pruned shrubbery, depending on what type of riverfront property sits behind it -seemingly uninhabited to upscale hotels and restaurants. Intermingled with these species is the vegetation that can inhabit both the slope of the river banks and the surface of the river itself including lilies and this mystery plant. Occasionally, patches of the so-called "common water plant" were free-floating on the water, down the center of the river channel. The boat docked on the edge of the river and we climbed out to tour the jungle garden filled with local specialties: orchids in varied colors, papaya, banana, rose apple, mango, coconut, longan, and other edible treats that ripen across Thailand's seasons. In this managed space, I notice that the vegetation that caught my attention on the river was conspicuously absent here. Oat, our guide, pointed out each species that decorates that vast garden, I presume in response to my particular interest in the flora of the river itself. While I was indeed intrigued by the palm trees and plumeria trees, the orchids and the honey bees flitting around the garden, this did not dispel my curiosity about the water plant floating in the river.

A few weeks later, I sat in a coffee shop in a Bangkok shopping center across from an American traveler and author, Scott, who has written several books on Thailand's scenic waterways has spent the majority of his life in Thailand. Like our tour guide on the scorpion tail boat, Scott has his own set of stories to share: his focus on previous episodes paddling the entire length of the Chao Phraya, the trips he has taken to paddle other rivers in the region, including the Mekong and its tributaries across Laos and Thailand.

Sipping my miniature latte in the wall-less coffeeshop in the center of the mall's several-story atrium, I heard the hum of human commotion and American pop music echoing noisily around us. My recorder caught the chaos, our voices occasionally lost as the music soars to volumes I would deem more appropriate for a concert hall than a shopping mall. With its fancy marble floors, extravagant pillars and trendy patrons carrying Coach bags, the weedy little plants floating on the water 700 kilometers away were far from my mind during the conversation. That is, until Scott mentioned water hyacinth growing in the gravel roads in the north. He mentioned that roads in rural areas are often maintained by using the gavel and silt collections dredged from rivers and irrigation canals. While the Thai state is not known for its maintenance of dams and catchment ponds, the meager dredging work they do pulls gravel collecting behind dams or in river channels and redistributes it to roads. The result, Scott explains, is that some of the invasive plants that are taking over the waterways have been given latitude to take roots in less aqueous environments like gravel roads. Scott here is mentioning water hyacinth casually in the midst of a story about how the upper tributaries of the Chao Phraya changed between his first paddling voyage down Thailand's River of Kings (the Chao Phraya) in the late 1980s and his second 20 years later. Yet when I hear the plant named and described, I recognized it as the floating plant that had piqued my curiosity on the river weeks before.

Water hyacinth (lat. *Eichhornia crassipes*): the insidious plant that has found Thailand's waterways a hospitable home. And not just Thailand's water systems, but waterways all over the world. This plant native to South America is an international traveler, identified in water systems in Africa, North America, Europe, and Asia extensively. Despite its extensive traveling, water hyacinth is recognizable, carrying trademark characteristics that persist despite new environs. In his analysis of species that have the capacity for proliferation in new settings, Arne Jernolov (2017: 117) characterizes water hyacinth as follows: "The plant itself is a free-floating aquatic macrophyte with broad and thick leaves, ovate in shape and glossy. They sit on bulbous, spongy stalks and float above the water surface or stick up in the air. The free-hanging roots are dark purple, sometimes almost black in color, and form a dense, fibrous, feathery system." Jernolov also highlights that the flower of the plant is aesthetically pleasing to human norms of floral beauty.

How does this lovely, free-floating aquatic macrophyte, this alien plant become pervasive and invasive? And what does it mean that water hyacinth's expansive presence is often attributed to the plant itself rather than human intervention? Unlike maize which relies on human labor for cultivation and compounds the negative stereotypes of upland peoples, water hyacinth is rarely linked to human actors even though it has been cited as source of concern for Thailand's riverways since at least the 1970s (Chomchalow & Pongpangan 1976). In this section, I argue that water hyacinth's reputation as an invasive alien plant is in part because of the relationships it develops with water-beings in the Thai context. Water hyacinth moves eagerly and easily in Thailand's water systems and elicits minimal human consideration until it reaches a critical mass that disturbs human projects and practices; at that point, the plant becomes infamous and attended to as an unwanted alien pest. Because of its seemingly surreptitious and unanticipated proliferation, water hyacinth offers an opportunity to think with an alien plant and the water-beings with which it moves, as producing their own realities and a robust variety of ecological assemblages that shape Thai waterways, landscapes, and by extension, socialscapes (Kohn 2013, Tsing 2012a, 2014). Water hyacinth, even as it goes unperceived, is part of the multispecies world-making processes of northern Thailand and in part because of its rascality contributes to worldings in which humans are only one kind of participant. As such, water hyacinth becomes a way to think with the capacities of nonhumans and reconsider anthropo-*centrism,* human exceptionalism, and new worlding possibilities.

Water Hyacinth the World Traveler

Once I could identify water hyacinth, I began to notice it everywhere; free-floating in the Ping River was just the start. Water hyacinth made its way into the moat that circled Chiang Mai's ancient city. It floated through the city canals, large and small, where storm water drained and where irrigation water was transferred throughout the northern region. It grew larger and more prominent in reservoirs behind small and large dams alike. It adorned the edges of roadways where water moved in the rainy season. In the rural villages where I worked, water hyacinth made only rare appearances, typically in the catchment ponds maintained by state agencies.

Yet when I could ask about the plant by its Thai colloquial name—*pak dtop chawaa* (ผักตบชวา)—everyone I talked to knew the plant and knew its reputation as an alien wreaking havoc in Thai waterways. Arne Jernolov (2017: v) explains that "alien, in the context of invasive species, mean that the species, subspecies, or group with some specific genetic traits, has (recently) been introduced by humans to a region, usually a continent or island, to which it didn't spontaneously spread. Mostly, alien is seen as a prerequisite for invasive." This definition provokes the question: since water hyacinth is an alien, how does it travel?

On a global scale, the expansive movement of water hyacinth has become something of a legendary tale; the veracity of the story matters less than some of the implications that lie within it. One story traces the movement of water hyacinth to the curiosity of botanist explorers on the expedition led by Alexander von Humboldt in South America from 1799-1804 (Jernelov 2017:119). Sent back to the European continent, the narrative suggests that water hyacinth was often planted in botanical gardens and on church grounds. Here the spread of the plant is tied to the movement of monks and priests establishing churches throughout the world. Another legend traces the movement of water hyacinth through colonial channels, starting with the Cotton States Exposition in New Orleans in 1884 (Jernelov 2017). The story suggests that for the first time, live plants were brought from their native habitat in the Amazon region to show to the public. Here, the flowers attracted attention and people sought to relocate the plants from the expo to other United States areas as well as Europe. The plants then dispersed even further afield along the main colonial vectors of trade and habitation (Jernelov 2017). Within a few decades, the plant had wound through waterways across the globe and started altering local ecosystems and hydrosocialities. This pattern of movement is in part captured by the reference to water hyacinth as a "colonial weed." Both explanations, while perhaps not scientifically provable and perhaps parallel contributors to the spread of water hyacinth, nonetheless point to human behavior as initiating the spread of water hyacinth.

The origins of water hyacinth in Thailand are mythologized in the plant's ignominy. In Thai, the name is for water hyacinth is *pak dtop chawaa* (ผักตบชวา). The final syllables, *cha-waa*, are nominally a nod to the legendary origins of the plant in Thailand: the Indonesian island of Java. With this name, there are three storied explanations for the plant's arrival in Thailand, each inspiring different meanings. One version of the story suggests that the plant was transported from Indonesia as an accidental passenger on boats carrying trade goods between the island archipelago and the Southeast Asian mainland as a seemingly innocuous stowaway. In this telling, humans are unintentionally part of the transfer of an alien species. Humans become less and less relevant to the worlds that water hyacinth is able to create for itself, forging assemblages with other-than-human ecologies; by contrast, water-beings becoming increasingly central.

The second version of the story suggests that water hyacinth was an intentional transplant designed to stabilize eroding riverbanks. In this version, the movement of the plant is intentional and facilitated by human intervention. Further, the plant is relocated because it is supposed to improve the ecosystem; its transplantation is part of human projects and practices to effectively manage water systems. While water hyacinth is expected to proliferate on its own, shoring up riverbanks that have been compromised by forms of human progress, the plant is nonetheless conceptualized as an instrument of human designing.

The final story is perhaps the most legendary in part because it aligns with the consolidation of power in Bangkok under the Kings of Siam. The story suggests that water hyacinth was brought from Java to Bangkok in 1901. Introduced to King Chulalongkorn by one of his consorts, the King had it grown in the ponds of the royal gardens (Van Beek

1995:168, Molle & Keawkulaya 1998). From here, the plant spread throughout the Chao Phraya delta, its tributaries, and along the Mekong (Jernelov 2017). Here, the plant was desired not because of its ecological benefits, but for aesthetic ones. Accordingly, the story suggests that water hyacinth spread not only through its own wild prowess, but also through the intentional planting of the King and his subjects who followed his lead and planted the alien species as an homage to his good taste. Water hyacinth became popularized by its connection to royalty, even though the effects were unpredicted.

Regardless of which story people share, water hyacinth has nonetheless gained the distinction of being a “colonial weed” here too (Mertens 2007). This interpretation offers a double meaning: water hyacinth has become part of the non-colonized colonial story in Thailand and is a purveyor of colonial patterns, taking root and taking over everywhere it finds habitable. At best, the plant is cited as a byproduct of ships and boat traffic traveling up rivers, Thailand’s main routes of transportation during the colonial period in Southeast Asia; at worst water hyacinth was part of the regime of manipulating and controlling Thailand’s natural resources and populations, intentionally or unintentionally. Falling somewhere in the middle is the idea that planting water hyacinth was embedded in practices of resisting colonization by honoring King Chulalongkorn and thus solidifying authority in Bangkok under the Kings of Siam. Water hyacinth is thus framed as part of the environmental legacy wrought by international relations over the past century.

Either an innocuous stowaway on traders’ ships that found allies in water-beings across Southeast Asia or a species intentionally transplanted to act as a countermeasure for eroding riverbanks, the plant is consistently identified as an alien interloper in Thai waterways. Yet the malleability of its origins, the multiplicity of stories that contradict each other, suggest that these stories are contemporary mechanisms to make meaning of a living being whose early material expansion was perhaps little noticed, much less noteworthy. Water hyacinth is only retrospectively called a "colonial weed," referencing the era of its origins, its source, or even drawing metaphorical parallels to its unbridled proliferation. Whether water hyacinth was intentionally introduced into the ecologies of Thailand or not, its current condition demonstrates an unexpected modality of the plant and its capacities for worldmaking with water-beings.

River as Unruly Seam

Since its introduction into Thai water systems, water hyacinth has demonstrated capacities for proliferation that far exceeded human expectations. As early as 1913, water hyacinth has been cited as a menace threatening Thai waterways and various methods of remediation have been proposed, funded, and largely foiled by the aqueous plant (ACIAR 1994, Chomchalow & Pongpangan 1976, Jernelov 2017, Kongrut 2016). How did water hyacinth transition from being a desirable plant for aesthetic and ecological reasons to being invasive? And what kind of reality does water hyacinth produce? How does it become the protagonist of its own story irrespective of human attentions or inattention (McLean 2011, Tsing 2015)? And how do the realities of water hyacinth connect to those of water-beings? I argue this transition from desirable ornamental plant to water plague listed among the top 100 invasive species in the world is in part because water hyacinth produced its own weedy world of socioecological assemblages on a trajectory that infrequently involved humans, but often involved water-beings (Lowe et al 2000). Water hyacinth flourishes because it produces a reality on the margins of humanity. I draw on what Anna Tsing (2012a: 151) frames as "the seams of empire," the unruly edges of progressive, capitalist, state-making projects where diversity, species interaction, and contamination abound. These spaces challenge capitalist constructs, but what matters more for my purposes is that they open up sites where these multispecies minglings are world-making. Tsing (2012a) highlights that noticing the seams of empire necessarily tells us much about the human condition, highlighting causes for concern and worlds of hopefulness that arise from the unexpected interactions of species. Often these entanglements arise as species are dislodged from their expected geographies. This is the case for water hyacinth: as it roams the globe and specifically Thailand's waterways, it engages in practices that produce alien ecologies.

To consider water hyacinth as capable of producing its own realities requires a reconfiguration of our ideas of what exists in the world and how worlds are made. This question is at the core of anthropological and theoretical interventions of the new materialist and multispecies analyses (see for example Coole & Frost 2010b, Kirksey 2015, Tsing 2005). For example, in his provocative ethnography *How Forests Think: Toward an Anthropology Beyond the Human*, Eduardo Kohn (2013) makes a compelling argument that all living beings can be considered selves. Following Terrence Deacon's interpretation of Charles Peirce's work with semiotics, Kohn (2013: 159) argues that representation is not an exclusively human capacity and that "semiosis exists beyond human minds." Kohn (2013) argues that semiosis is of the living world and representation is shared by all life as a quality through which selves are created and relationships formed with other selves. This understanding allows for the capacities of other living beings to create their own representations, for panthers to represent the world around them in ways that are different from human representations, for example (Kohn 2013). For water hyacinth, this selfhood manifests in expansive growth and developing ecological assemblages that need not involve humans.

Unlike maize, a crop that requires extensive human and chemical inputs to elicit yields in exchange for the hope of an income, water hyacinth moves best on the periphery of human attentions and actions. Given sunlight and nutrient rich waters—a fairly modest set of parameters—water hyacinth thrives. The plant can create floating islands measured in square kilometers. As reported in a Bangkok Post article in 2016, Dr. Duangporn Suwanagul, a biologist involved in the study of biotechnology at Rangsit University, states that water hyacinth is "a genius plant. If you cut water hyacinth, you actually help it spread its seeds and it'll grow faster. This plant is a survivor, it can adapt. If there is water, it will live but if the land turns dry, the water hyacinth will adjust and stay on land and become part of mud and soil. The weed can wither and die but its seeds can live up to 25-30 years" (Kongrut 2016). By calling the plant a genius, Suwanagul is acknowledging—however subtly—the capacities of this alien plant to become entangled in the formation of new, alien ecological assemblages.

These alien ecologies are disruptive to human projects and practices, but perhaps more importantly to human ideas of the world. Water hyacinth is producing its own representations of the world, its own realities that overlap with human worlds. Yet this is not an overlap of one world complacently layered on another; these world-making processes cause collisions that I suggest ultimately change the constitution of the humans and water hyacinth, ecological assemblages, and worlds. As explained by Rene ten Bos (2009), Peter Sloterdijk explicates a theory of amphibious anthropology in his philosophy of elements, a way of thinking human beings as moving between elements, switching from one to the next. Sloterdijk is suggesting that humans are ontologically amphibious. This argument builds on the idea of *umwelt* elaborated by Estonian biologist Jacob von Uexkull (2010 [1934]). Von Uexkull proposed that each species lives in its own specific world, its *umwelt.* The worlds specific to each species are bounded, limited to the particular meanings they inscribe. This framing dismantled the idea of a single unified world experienced by all beings and instead highlighted the ways that individual species experience their own worlds. As ten Bos (2009) explains, Sloterdijk's argument is that HUMANS have the capacity to move between elements, between worlds, as ontologically amphibious. Eben Kirksey (2015), in his ethnography *Emergent Ecologies,* suggests this amphibious quality is not limited to humans, but instead is shared by other living beings, other selves, like chytrids. Kirksey (2015: 78) explains that "chytrids transform themselves with intra-active entanglements, they become ontological amphibians. While Sloterdijk imagines that all nonhumans are trapped in bubbles, bounded worlds of perception and action, it is clear that chytrids routinely break through to ontological cagelessness" that parallels those qualities assumed exclusive to humans. For Kirksey (2015: 78), "ontological cagelessness" is apparent as chytrids change through their own intra-action in a laboratory setting. Similarly, for water hyacinth, in its proliferation each setting offers new conditions that inspire changes in the plant. As Dr. Suwanagul suggests, water hyacinth in Thailand moves beyond the water, to dry land, crossing borders ecologically and ontologically (Kongrut 2016).

Particularly important in this context is that humans, while perhaps introducing the plant to new regions, are extraneous to the process. In fact, water hyacinth moves not with human capacities, but with the movement of water-beings. I want to suggest here that these water-beings, as material and ecological assemblages, are equally a self endowed with capacities for ontological amphibiousness and production of realities through relations with other selves like water hyacinth. Together with the rivers' flows, water hyacinth produces its own representations of the materials and elements with which it interacts, creating a world of flux, transformation, of continuously "entering and leaving assemblages" (Bennett 2010: 18). The movement and progression of water hyacinth is made possible through the vitality of water-beings and the assemblages that consolidate and disperse because of their interactions together. This alien macrophyte comes into contact and unexpected assemblages with other biological elements and material presences through the generative and creative fluxes of the world of materials. This is an example of what Isabelle Stengers (2010) calls relations of reciprocal capture. She elaborates: "we can speak of reciprocal capture whenever a *dual* process of identity construction is produced: regardless of the manner, and usually in ways that are completely different, identities that coinvent one another each integrate a reference to the other for their own benefit" (Stengers 2010: 26). In this case, the relationship of reciprocal capture produces "entangled modes of coexistence" and an entangled multiplicity of worlds formed by the effervescence of agency among actants such as water hyacinth and rivers. As Jane Bennett (2010: 23-24) explains it, "the effects generated by an assemblage are, rather, emergent properties, emergent in that their ability to make something happen…is distinct from the sum of the vital force of each materiality considered alone." Bennett (2010: 32) calls this a "theory of distributive agency:" rather than outcomes mobilized and intended by single agents, distributed agency sees outcomes as "always a swarm of vitalities at play…[which thus] loosens the connections between efficacy and the moral subject, bringing efficacy closer to the idea of the power to make a difference that calls for response." Water hyacinth and water-beings, themselves multiplicitous assemblages, demonstrate these capacities in relationships of reciprocal capture and produce an ecology of water hyacinth's proliferation and expansion together.

The ecological assemblages that emerge among plant and material presence here are perhaps most striking because they are nearly void of human participants and human moralities to judge whether these worlds are beneficial or not. Water hyacinth thrives in part because it occupies the margins of human attentions and in part because the rivers that participate in its proliferation remain unruly and irrepressible despite human efforts. To the communities of Northern Thailand with whom I worked, water hyacinth remained a non-factor as long as waters still flowed into their canals, as long as their weirs still provided their paddies with irrigation, as long as there was enough water to sustain their farming and subsistence needs. Water hyacinth remained peripheral because their water supply persisted unhindered. Yet to communities in other areas of Thailand and the world, water hyacinth is irrevocably present, threatening, and seemingly intractable. In the unruly seams of empire that human projects cannot assimilate, multispecies and multimaterial minglings thrive and produce worlds that are at once a source of possible concern and also, potentially, a source of possibility.

Alien Invasive or Interspecies Becoming-with?

While water hyacinth and water-beings collude to produce a reality of proliferation that does not require human participation, the expansion of the plant grows so pervasive that its material impacts eventually have social, political, economic, and possibly cosmological effects that do involve humans. Water hyacinth's rapid spread in Southeast Asia certainly creates ecological changes: the large floating masses of leaves and flowers block sunlight required by other aquatic plants. In addition, the plant monopolizes water nutrients such as phosphorous and nitrogen further hurting other aquatic species. The absence of other water plants changes the habitat and food supply for fish populations and thus alters the ecosystem in increasingly substantial ways as it increases its presence. However, these ecosystem alterations are neither good nor bad; they are changes. Ecosystems are complex relational assemblages in flux, changing constantly. What distinguishes "normal" or acceptable changes in ecosystems from those ascribed to "invasive" species invasions is largely a human valuation. As humans become part of the amphibious assemblages, the moral valences of human projects determine how water hyacinth is valued, as friend or foe, a species forming new multispecies ecologies or an alien invasive. Eben Kirksey (2015: 1) explains that in multispecies (and, as I argue above, multimaterial) assemblages, "emergent dynamics can destroy the existing order… [and] emergences can also figure into collective hopes." In the Thai context, both of these possibilities for interaction and discourse emerge.

Let me first discuss how water hyacinth emerges as an alien invasive species in discourse and practice in Thailand. "Invasive" as it relates to biological species, is complicated discursively, ecologically, and socially. In their analysis of troubling framings of invasive species in Madacasgar, Kull, Tassin, and Carriere (2014: 62) explain that "there are three main axes in definitions of invasive species that get emphasized, suppressed, or elided": the effects of a species as assessed by people, the origin of a species, and the behavior including capacities for rapidly overtaking areas. Invasive, as Jernolov (2017) explains it, centers on the human: a species becomes invasive not only by transgressing the ecologically arbitrary lines of geopolitical borders (e.g. a house finch native to California crossing the border into Canada; water hyacinth native to South America traveling the rivers of Southeast Asia) but also by disrupting human projects and practices. Specifically, Jernolov (2017: v) offers this definition of an invasive as the most widely accepted: "a plant or animal that is not native to a specific location; and has a tendency to spread, which is believed to cause damage to the environment, human economy, and/or human health." This definition depends less on the speed of a spreading species or the kinds of ecosystem assemblages that are produced, but on the assemblages that are part of human modes of meaning making and world making that are lost. Alien, then, is the more innocuous term for species movement to new places that relies on human actions for relocation; invasive is the term used for species whose proliferation exceeds human engagement and expectation and threatens human projects. Both terms place an emphasis on human valuations. Because humans are at the core of assessing the invasiveness of a species, the judgment may vary based on the interests, agendas, and experiences of people.

Globally, the disruption to human projects and practices has led to water hyacinth's classification as an invasive species in many spaces and for many people. From the Nile River to Lake Inle in Burma, case studies demonstrate how water hyacinth interferes with water livelihood practices by diminishing fish populations, compromising water quality, and interfering with transportation avenues (Jernelov 2017). Water hyacinth is therefore classified as one of the top 100 worst invasive species in the world by the Invasive Species Specialist Group, a division of the World Conservation Union (Lowe et al 2000). The plant has gained notoriety not only because of its rapid pervasiveness but also because of the difficulty of eradicating it.

In Thailand, the discourse of water hyacinth as an invasive species circulates and has transformed human practices. Water hyacinth has been cited as reducing fish populations, increasing rat populations, causing water loss by transpiration, obstructing transportation and irrigation, impeding electricity generation at hydroelectric dams, damaging houseboats, and even worsening floods (Chomchalow & Pongpangan 1976, Kongrut 2016). In 1913, the early years following its introduction into the region, King Rama VI passed the Water Hyacinth Disposal Act, penalizing people who did not eradicate water hyacinth (Kongrut 2016). The impetus here was on human labor to remove the invasive species, politically entangling humans in the material ecosystems. In 2009, nearly a century later, the law was revoked, perhaps in practical recognition that human capacities were no match for the material worlds of proliferation produced by the water hyacinth.

The discourse of water hyacinth as an invasive species has persisted and continues to shape human practices and interventions. Various strategies have been explored and deployed to try to eradicate water hyacinth from Thai waterways including mechanical, chemical, and biological controls. By the 1970s, the mechanical methods included log booms dragging the rivers to bring plants ashore, grapples or elevators that convey the plant out of the water, and cutter or crusher boats that moved through the waterways to macerate and destroy the plants in situ (Chomchalow & Pongpangan 1976). Technological innovation colluded with human interest in resource control to create a market for large-scale machinery designed or re-purposed for this kind of water hyacinth removal, yet none were particularly effective; clearing areas simply meant that the remaining water hyacinth had space to once again grow and move. In addition, plants removed by these means were often processed into compost and moved to fields where they manifested afresh. Using herbicides proved a bit more effective, but this strategy had problematic impacts on local ecologies (Chomchalow & Pongpangan 1976). In the 1990s, based on evidence of water hyacinth control in the southern United States, the Australian Centre for International Agricultural Research in collaboration with the National Biological Control Research Center of Thailand developed a pilot project to introduce a particular species of beetles into the Thai water ecosystems (ACIAR 1994). The beetles, native to South America like water hyacinth itself, are alien species set in place to counter another alien invasive. These beetles thus have the potential to participate in their own multispecies assemblages and multispecies worldings. These worlds will overlap with human worlds in ways that may be complementary (as in successfully mitigating water hyacinth growth) or may be problematic (as in producing new untenable alien species proliferations through new ecological assemblages).

Yet these various methods intended to stem the spread of water hyacinth have proved unsuccessful. In August 2016, fearful that another season of flooding might be on the way, Prime Minister Prayuth Chan-o-cha ordered local administrations and the army to collaborate in mechanically removing the profusion of water hyacinth from the rivers, catchment ponds, and canals of the central plains (Kongrut 2016). After a collection of 50,000 tonnes of the plant on from Ayutthaya Province's waterways on August 10th, 2016, the Prime Minister ordered a second initiative to remove another 120,000 tonnes only ten days later since the "incorrigible enemies" had re-established giant floating islands carpeting the waterways just to the north of Bangkok (Kongrut 2016). These conditions demonstrate two key and contradictory points about water hyacinth in Thailand: first, it's presence is so widespread and disliked that it is of concern at the highest levels of government and armed forces; second, that existing discursive and material approaches toward water hyacinth are ineffective. Water hyacinth, like many species termed "invasive aliens," are "embedded in ways that exceed our technical capacities" (Neale 2016).

The alien invasive framework is insufficient for multiple reasons. The physical and material persistence of the plant is evidence of this ineffectiveness of strategies to deter its growth, but it also points to larger flaws in assumptions about what nature is and how ecologies work. In her analysis of the effects of climate change on ideas of place-based indigenous rooibos plants in South Africa, Sarah Ives (2014) suggests that as rooted beings like rooibos tea plants move, they reconfigure ideas of the ontological relationships between people and place. While her argument is about the destabilization of an idea of indigenous plants, I want to suggest that this same principle is central to understanding the multiplicity of worlds constituted through multispecies and multimaterial assemblages in which one component is the alien "invasive" water hyacinth. Conceptualizing water hyacinth as an invasive species that must be eradicated prioritizes a singular version of socioecological norms and place-based relations. In these models, there is an ideal ecology, an ideal condition of nature, and a static set of relations within and to a place that invasive species disrupt and that we as humans should strive to recreate. Even the discourse of invasive species is laden with language that evokes an affect of fear, of being threatened, of the need to fight against these biological invaders. The sought after edenic perception of nature, defined and maintained by human intermediaries further reifies a divide between nature and culture, ecologies and human projects. Further, it denies the reality that ecologies are always, already in flux. They are dynamic systems that cannot persist in modes of stasis, but are themselves complex assemblages of becoming in which water hyacinth now participates. Water hyacinth and water-beings seem to share strong affinities for proliferation, diffuse spread, and unpredictability in their common assemblages. This framing offers a richer yet messier conceptualization of the ontological relations between people and place, socialities and ecologies. While water hyacinth may be contaminating Thai waterways, so are human projects and practices altering the ecosystems. This is not a departure from an edenic ideal but an awareness of the ontological complexity of species and materials producing realities. Yet in the words of Anna Tsing (2015: 27) "as contamination changes world-making projects, mutual worlds—and new directions—may emerge."

The possibilities for new practices and alternative worlds emerges in a disparate set of human practices with water hyacinth, one that provokes an altogether different idea of naturecultures (Haraway 2003). As water hyacinth proliferates, people across Thailand have approached the plant not as a threat, but as a newcomer to the local socioecologies that might be integrated into new projects and practices. For example, King Bhumibol instigated research on the capacities of water hyacinth to remove pollutants from waterways contaminated by wastewater effluents. The studies demonstrated the ideal conditions under which water hyacinth was able to readily absorb heavy metals and outline acceptable uses of the plants for compost soils for flowering plants afterward (Chunkao, Nimpee, & Duangmal

2012). The pollution remediation qualities of water hyacinth make it perhaps a useful addition to counter the negative impacts primarily of humans. In addition, Thai researchers are developing methods to commercially produce ethanol from water hyacinth as an alternative biofuel (Sapp 2016). In this project, water hyacinth's abundance is an asset mitigating the problems of shortages that befall other grain-based biofuel projects.

Perhaps the most striking set of worlding possibilities that have arisen are the creative consumer applications of water hyacinth that integrate rural water communities into the circulation of global capital. Thailand has a growing international reputation for the development of durable and elegant water hyacinth furniture. In 2001, water hyacinth furniture was already a THB 50 million industry (Thapanachai 2001). From ottomans to loveseats, chairs to tables and accessories, water hyacinth furniture is being promoted as an international innovation. Recruiting workers in villages across the country, companies like Performax employ people to harvest and dry the water hyacinth stalks; the stalks are then transported to a factory where they are woven into furniture for local sale and export around the world ("Thailand's Performax Water Hyacinth Furniture" 2012). In some areas, local production of furniture and other handicrafts made from water hyacinth attract tourism. Phayao province boasts a "Water Hyacinth Village" as a tourist site where people can see the process of water hyacinth handicrafts from stalk harvest to weaving purses and mats. Again, this process draws communities into the circulation of global capital by inviting international tourists into their villages and their work.

In all of these examples, people are finding creative ways to collaborate with water hyacinth. Rather than approach the species as an unwanted other to eliminate, water hyacinth is recognized as a part of a changing ecosystem that brings possibilities. From deploying water hyacinth for pollution remediation to building local economies through furniture and handicrafts, this alien plant species that contaminates the edenic ideal of Thai ecosystems is integrated into new projects, new forms of hydrosocial relations, and new worlds. To create these worlds requires decentering the human in our assessment of ecological changes. Anna Tsing (2012a: 144) asks “What if we imagined a human nature that shifted historically together with varied webs of interspecies dependence? *Human nature is an interspecies relationship”* (emphasis in original). This interspecies interdependence is at the core of how many river communities across northern Thailand approach water-beings. While the communities I worked with in Chiang Mai and Phrae Provinces have not yet seen water hyacinth in their river headwaters, they nonetheless approach the plant with the same sensibilities that have shaped their relations with the vibrant, dynamic material worlds on which they depend and in which they participate.

As we walked through the Mae Yom National Park one afternoon, I asked P’Ong about ecosystem changes, changes in species and water quality along the Yom River. We were walking through a section of forest that had been heavily logged during the second logging episode by a Thai company. He mentioned that in this area, where the earth had been disrupted and the canopy reduced, concentrations of different plants had emerged, different fungi and herbs and edibles. Because of these different species, the area had become a favorite for locals to collect ingredients for their own meals. Then trees began to grow more densely again and some of the species disappeared while others spread and grew. He explained that much has changed over the years, but there is one thing that he believes will never change: “We are part of this place. We depend on the forest as our supermarket and the river as well. We must do what we can to protect them and change with them, not against them.” In this simple statement, he demonstrates the mutual dependence and parity between the embeddedness of people and embeddedness of other-than-humans.

P'Ong here is articulating a form of "becoming-with," a framing of companionship among species and materials that are shaped through their interactions. By embracing mutual connection and interdependence on other species, he demonstrates that "becoming-with is a form of worlding which opens up the frames of what registers to us and so what matters to us (in part by recognising what matters to others)" (Wright 2014: 279). P'Ong illustrates how he understandings what matters to others - not just other people, but other species and materials so that the world that they collaboratively shape is one that allows for collective persistence and common thriving. It is this form of worlding that he understands as at risk when dams are proposed that would drown this forest.

For some, water hyacinth poses an equal or greater threat to becoming-with forms of companionship and collaborative world-making. As an alien that displaces other species and unsettles ecologies, water hyacinth is a challenge not only to human economies and projects, but, to some, this invasive alien is understood as a challenge to ecosystems and the forms of sociality that they constitute. To others, water hyacinth is an ecosystem change, but not necessarily an incontrovertibly negative one; like all ecosystem changes, it comes with the promise of positive possibility as well. Water hyacinth, then, is not immutably and morally bad despite being often called "evil plant" in Thailand, but instead destabilizes the complacency of humanity as the mediator of value and propriety (Chunkao, Nimpee, & Duangmal 2012: 42). Water hyacinth is an enactment of uncertainty, materially and ontologically, in ways that cannot be fully captured by scalable human projects for controlling resources. Tsing (2015: 42) tells us that

> "the challenge for thinking with precarity is to understand the ways projects for making scalability have transformed landscape and society, while also seeing where scalability fails—and where nonscalable ecological and economic relations erupt. But it would be a huge mistake to assume that scalability is bad and nonscalability is good. Nonscalable projects can be as terrible in their effects as scalable ones."

Water hyacinth is precisely this type of nonscalable project of an alien plant that creates the possibilities for innovative economic relations, but is not an innocuous additive to Thai waterscapes. The rapid, nonscalable proliferation of water hyacinth has complicated repercussions on the social systems and ecosystems of Thailand. From flooding to halting transportation to species loss and infrastructure degradation, pollution remediation to biofuels to furniture, water hyacinth participates in worlding processes at once promising and problematic. Water hyacinth demonstrates the ways that humanity is not in control, but exists in precarious dependence on systems always in flux. The ability to find hope in the changing ecosystems, to participate in worldings of becoming-with water hyacinth, demonstrates a commitment to place and the material world that defies labels of moving species as alien or indigenous. In the flux of dynamic ecosystems, it is perhaps not moving species that are most challenging, but stasis, an attempt to immobilize and regularize a system for human ends such as by building dams.

Story Three: Dams

During my last month in Thailand, I returned to Saiap for a final visit. The trip aligned with an annual education experience coordinated by an NGO in Chiang Mai. At this point, I was familiar to many of the villagers and friends with others so I was invited to be part of the events organized for the students from across the region, each of whom was learning how to do activism suited to the needs of their own communities. Saiap was the model, a successful and positive image of the good that might be possible. The day the students arrived, several villagers gathered in the temple to share their stories and strategies for successful protest. The conversations reiterated the themes for productive activism that I had been hearing for the previous year: community solidarity, environmental interests, the value of local counterknowledges, and the ontological murkiness of water-beings and other earth beings.

One student, who had been writing furiously while the Thai villagers had been taking turns telling stories asks in English: “What are the effects of the dams?” The translator, Din, a jovial Thai man with a melodic voice pauses and asks her to elaborate on her question. “I mean, I know it will destroy the forest. I know that it will take away fields. But what will happen to them, the people here?” Din translates the question carefully: “*Thaa… thaa kheuan sang leew, khun khit waa aachaa mii panhaa aray bang*?” “If the dam is built, what kinds of problems do you think you will have?”

P’Ton, a middle-aged Thai villager who wore a bandana around his head and a camouflage-colored button shirt open to a bright blue t-shirt beneath, had been quiet most of the conversation so far. He seemed to defer to other community members, perhaps because others have more experience with being spokespeople for the protest movement or because they held a higher status within the community. Regardless of his reasons, he stepped out of this deferential role at this question and answered succinctly and immediately: “*Kheuan ben alee-ehn*.” “Dams are alien.” P’Ton laughs at his own joke, using an English word to explain the difficulties of a dam in the community, and the collection of Thai community members joined in as they waited for the statement to be translated into English for the college students. Din replied in English “Dams are new challenges. They bring unexpected changes.” P’Ton, still waiting for the response from the students, repeats in his Thai-accented English “A-lee-ehn! Dam a-lee-ehn.” The students catch the use of English here and laugh as well.

This was not the first time I had heard P’Ton call dams alien nor was he the only person to use this reference. Still, this moment was profound and memorable for two reasons: first, P’Ton seemed committed to the word “alien” in this instance in part because it performed his cosmopolitanism and marked him with a level of sophistication to be able to use English in his answer; second, P'Ton offered "alien" as an answer to the kinds of problems that might arise due to dams, as though this single word encompassed all the possibilities for problematic outcomes without more thorough elaboration being necessary. If alien is a term used to describe the practices of an unwanted being that comes from outside (like water hyacinth), it seems appropriate to characterize dams that way as well. P'Ton discursively used an alien language to create common understanding of this infrastructure as itself, alien. Yet in English, Din glosses the word as bringing "new challenges" and "unexpected changes." In this context, alien seems intended to convey all the unpredictabilities and unknowabilities that would result from the implementation of a dam. With the word choice, P'Ton presents the dam not only as a strategy for water management that comes from outside his community (and largely, outside his nation-state as Chapter 3 discusses) but also as distinctly dissimilar from any other changes the social and ecological communities of the region have ever encountered, a change that cannot be assimilated.

In Saiap, these changes are hypothetical at this point, but the current water management agenda threatens to make them a reality. The dams proposed in the post-flood plan coalesced a discursive field of collaboration among northern Thai communities and contestation against the Thai state. Discursive practices produce and codify the meaning of these dams, with a set of related outcomes that is represented by the English word "alien." In this section, I analyze how this term, "alien," becomes a way to discursively classify and organize materials, technologies, and hydrosocialities they make possible. I argue that alien, as it is applied to technologies like dams, encodes the affective impacts of these proposed technologies and the condition of precarity introduced into people's lives.

Alien Language, Alien Being

As I mentioned earlier, the word alien appears in English translations of government and NGO documents in reference to other human and non-human beings, but not in reference to dams. However, in communities in northern Thailand, “alien” made an appearance only as a way to describe these large-scale technical-material infrastructures. This use of the word differs from the references to water hyacinth, maize, or people because it is not a written translation of English, but a transition to spoken English, a form of code-switching or code-mixing. In sociolinguistic terms, code-switching or code-mixing refers to the practice of alternating between languages in a fluid conversation or borrowing from other languages. This practice has repercussions on identity formation and power relations because language always indexes qualities beyond the words or languages themselves; language is often a proxy for race, ethnicity, and social class among other qualities (Mendoza-Denton 2008). In the Thai context, this use of an English word participates in the increasing influence of English in Thailand and is spoken as an intentional strategy for constituting identities and relationships (Navaporn 2014, Ochs & Capps 1996). In the following, I offer a short explanation of the role of English in Thailand as context to better understand the identities and relationships constituted through code-mixing and uttering the English word “alien.”

English became a prevalent and important language in Thailand beginning during the period of colonization. Initially, leadership saw English as a way to negotiate with colonial forces to prevent their incursion into Thailand. Navaporn (2014: 100) explains that “English was used by the Thai people to protect their independence and as a vehicle for absorbing modern ideas and technology into the country.” The language was initially only part of the lexicon of educated elites in positions of power to halt colonization through nimble negotiations in English. However, the extensive presence of American soldiers in Thailand during the American War with Vietnam precipitated the spread of English into different economic and geographic sectors of the nation (Navaporn 2014). In 1996, English became a required course beginning in first grade at all government schools in Thailand and is often a component included on entrance exams for public universities (Glass 2009). Most of the younger generation of students are thus exposed to English in the classroom at an early age. However, P'Ton is old enough that he likely was not exposed to much English in the classroom. His ability for code-mixing comes from other sources and encounters.

Thailand's adoption of English as a medium of communication comes from a sense of its importance in a global context and this sensibility shapes forms of expression in the language. In many areas, forced English education was part of the experience of colonization. Having never been colonized, English in Thailand has developed differently. Pimyupa Watkhaolarm (2005: 155) analyzes literatures in English from Thailand and argues that the linguistic and social patterns captured in these literatures demonstrates that "Thai English variety is still at its early developmental stage in expressing the Thai culture…English is not infused in the Thai identity. It has never been needed as a lingua franca in Thailand. It is not associated with the experience of colonialism. Thus, the English language, to Thai people, is the language of 'the others,'" specifically the British, American, and Australian people, known colloquially as *farang*, a general reference to Caucasian people. Coming from these outsiders, English language is itself alien in Thailand, a force entering the linguistic socialscape with unpredictable effects.

The effects have indeed been unexpected. Navaporn (2014) outlines how English circumvented and proliferated across Thailand even as the government created rules and regulations to limit exposure to English via mass media. Citing the cultural, economic, and political force of English on a global scale and in globally circulating popular culture, Navaporn suggests that the media outlets have strategically used English to harness this perception. English has spread in many areas of the world, including Thailand, in part because the language is associated with social values of progress, modernization, prestige, and technical prowess (Kachru 1986, Leontovich 2005, Navaporn 2014). Even outside the media world, English proliferates in part because it carries this reputation, particularly as it accompanies technologies (like computer) and ideas (like "highlight"); often this results in the adoption of a transliterated English word into Thai either because Thai does not have an equivalent or because the English becomes the preferred referent (Navaporn 2014). The prevalence of English is evident in urban spaces as well as rural: there are English subtitles on Thai television programs, signs on government buildings and road are typically written in both Thai and English, and brands of products are often visible in both Thai and English or sometimes exclusively English.

While English has taken a firm root in Thailand, it is rarely deployed conversationally. Instead, English is most prominent in practices of naming and code-mixing, precisely the way P'Ton used the English word "alien." In this context, "alien" indexes a variety of values and concerns. Katherine Howard (2010) analyzes the ways that social relationships mediate when and how code-switching happens; she argues that people "enunciate" different cultural imaginaries through their code-switching practices. For P'Ton, this single instance of code-switching, offered to an English-speaking group of people who are not *farang*, evokes multiple imaginaries at once, and with them multiple, conflicting worlds. Given the affective purchase of English, P'Ton uses English words both to connect with his audience in a common language while also claiming the cosmopolitan, prestigious reputation that is encoded in the global circulation of English. He also chooses a particular English word–alien–to reference a set of infrastructure designs he is campaigning against, critiquing the plan as something that comes from the outside. As discussed in Chapter 3, the development of large-scale dams in Thailand stems from the same era as the proliferation of English: the post-World War II era when American soldiers spread English and the U.S. Bureau of Reclamation designed hydroelectric dams and water development plans. Both English and dam construction expand across Thailand; despite changes in the Thai state's relationship to the United States, their histories persist. This code-switching instance thus attaches P'Ton to the progress, technology, and prestigious reputation of English, a language that comes from and connects him to "others," while simultaneously distancing him from the material, technical, measures often framed as progress that he articulates as also coming from the outside, from others. These overlapping meanings point to the multiple worlds in which P'Ton and his village live, the multiple worlds they contribute to constituting and reinforcing through their linguistic choices and code-mixing.

In addition, choosing to use the word "alien" is a practice that foregrounds the conditions of uncertainty that shape practices of belonging in this community. Alien, as Stefan Helmreich (2009: xi) reminds us is "a sign of uncertainty." In this context, under current conditions where the future of the village is made uncertain by the prospect of dams, the doubling of this uncertainty through the word "alien" reaffirms the unstable position of the community. The word choice effectively postures against the dam while also voicing underlying fears provoked by the threat of this development infrastructure.

Creating Alien Belongings

Referring to the proposed dams as alien positions the speaker, P'Ton, in complex ways that demonstrate both cosmopolitan-ness and also a grounded drive to protect local hydrosocialities. At the same time, this word choice constitutes his relationship with other people and material presences in similarly complex ways. Specifically, this word choice produces a relationship with the non-existent but proposed dam as alien and produces practices of belonging within the human and more-than-human community. As mentioned earlier, dams produce uncertainty in the context of these communities which is encoded in the framing of dams as "alien." Helmreich (2009: 17) explains that "aliens are life forms whose place in our forms of life is yet to be determined." He is referencing a set of extremophile life forms that become known to humans through particular scientific investigations and he argues that alien oceans are always already comprised of alien strangers that are beyond the scope of the known ocean, that radically undo simple ideas of what the ocean IS. I apply this idea of radical disruption to understand how alien dams permeate community identity and practices even in their material absence on rivers. I suggest that the dam as an alien is not only a future threat, but has become an organizing feature of how people within Saiap understand themselves and their relationships to each other, to place, to water-beings, and to the state.

As discussed in Chapter 3, Thailand has a rich history of intervening to manipulate the flows of water, ultimately organizing independent practices into a unified, centrally-governed infrastructure. This system has been promoted by relationships with international partners like the United States and the World Bank; the designs and strategy for water management are therefore alien, coming from beyond the borders of local communities and even the Thai state. While this system may have moved water ever-closer to rational, it has not been without social and ecological impacts; in this context, alien references both the external origins of dam engineering as well as indexing uncertainty, in this case forms of hydrosocial uncertainty (Foran & Manorom 2009, Molle, Foran, and Kakonen 2009, White 1995).

In Saiap, the histories of the negative dam impacts of the Pak Mun and Sirikit Dams have become almost mythologized. In these other settings, the material presence of the dam creates ecological impacts that parallel yet differ from the incursion of an alien plant or animal species; whereas an alien species continues to move, a dam remains geographically stable, yet its impacts proliferate, causing ecological ripple effects. Dams are alien to the preexisting socioecologies and hydrosocial relations. Yet, as with other alien invasions discussed in this chapter, dams are sites of uncertainty and from this uncertainty emerges change: in this case, the prospective alien produces a set of community practices of belonging that revolve around countering the unpredictabilities of this alien.

While the experiences of other communities are predictive, the effects in Saiap, Baan Mae Roo, and San-Lek are unknowable, yet to be determined. Practices with large-scale dams are at this point limited to visiting other places to understand the challenges rooted there and campaigning against a series of both predictable and unpredictable possible outcomes. Often expressions about the dam are expressed with the Thai "*ca,*" a Thai future tense marker: the dams *will* displace people or the dams *will* cause ecological changes. Alien, however, is a statement that does not require this future tense marker because it is already pointing to a future condition of uncertainty. When pressed in a private conversation later, P'Ton explained that dams are alien because they disrupt communities not only by displacing people, but by creating the need for other kinds of employment and income, by introducing changes in living situations, relationships among people, relationships to ancestors and spirits, and relationships to place. With this word choice, he conflates the historical experiences of others with the fear and uncertainty of what will happen in his own community.

This uncertainty provokes constant attention to the prospect of dams and the possibility of irremediable alterations to hydrosocial and ecosocial relations. In effect, the dams are present even in their physical absence. Dams as an alien infrastructure are more than their physical form reshaping the course of a river; they exist in budgets, administrative documents, feasibility studies, newspaper articles, and public hearings. In Saiap, as in Baan Mae Roo and San-Lek, dams may or may not come to be realities, but become discursively attached to techniques of administration, budgets, and biopolitically motivated strategies of protection. As Brian Larkin (2013: 335) explains, these different attachments are forms of infrastructures that "allow them to move in differing circulatory regimes." As dams operate as entextualized forms, they produce a reality in which the dam's primary function is a poetic and aesthetic one rather than a technical one. Larkin (2013: 334) elaborates that "in the case of infrastructures, the poetic mode means that form is loosened from technical function. Infrastructures are the means by which a state proffers these representations to its citizens and asks them to take those representations as social facts." The paper trail of the state water management agenda exists both to reassure communities downstream that they are taking action to prevent repeat floods and to reinforce the threat of its eventual physical reality in the upstream communities who would be displaced. This is a form of what Tess Lea and Paul Pholeros (2010: 191) call "the governance of expectations by ideas." Creating relationships between people and a not-dam form of a dam, a dam that exists as an idea and on paper, detaches the dam from its real physical form yet makes it all too real discursively. The dam as a material presence remains a perilous concern bolstered by the poetic representational forms that perpetuate the dam as a state project.

For the communities protesting the dams, these aliens also come into being through the behaviors of the communities themselves. Dams are materialized, again not as physical structures of concrete and technology, but represented in anti-dam protest banners, campaigns, and behaviors that have become a focal point of the communities. These campaigns aim to make the infrastructures themselves visible; for the upland communities, these infrastructures in their material, political, and poetic ways are an aberration, the alien addition, that is always already a reality even without being materially present. The protest behaviors that discursively produce the dam also establish practices of belonging, patterns of behavior that mark people as part of the community. The Saiap communities claim 100% unity in their opposition to building dams on the Yom River. This solidarity is politically constructive, allowing them to demonstrate a unified front. To belong in the community therefore requires participation in anti-dam practices that have emerged in forms of environmental knowledge, practices of conservation, spiritual beliefs, protest banners and wall paintings, attendance at protest actions, and financial investment. Anti-dam practices have persisted for nearly thirty years in Saiap and have thus created a legacy within the community. While the particular forms of these practices may ebb, flow, and change with transitions in state administration, social media, and other technologies, there is a continuity in their purpose: resisting the dam. The intent of these actions is to convey commitment to an external audience, but the practices also effectively produce a community identity inextricably tied to dam protests and persistently keep the alien dam, and the uncertain impacts it might have, at the center of the community life.

In addition to creating community, the alien dam inspires practices of conservation and preservation of local landscapes. Because this alien endangers ecologies and specifically the Yom River, more attention is paid to the river, to place, and to creating a sense of identity through local relationships. Trees ordained like monks and a stretch of protected river are ways of constituting particular forms of socioecologies and hydrosocialities that are place-based and focused on local conditions threatened by dams. These local relations intentionally show ecological stewardship, but they also create a sense of the known local conditions that stands in stark contrast to the uncertainties of the alien dam.

Ecologically and socially, the alien dam, while not yet a material presence, has a profound impact on Saiap. In this situation, the discursive, representational alien being becomes part of the constellation of ideas that constitute a community. Referring to the dam as "alien" evokes the uncertainties and perils of this transformation in the Thai waterscape. Yet at the same time, this alien becomes a galvanizing force for community building and ecological sustainability because its yet undefined capacities allow it to contain the anxieties, mistrust of government, and unstable futures for members of the Saiap and the NRN. Attentiveness to the alien dam produces particular kinds of worlds in which communities organize and come together; the alien allows for cohesion and solidarity, for common ground.

At the same time, the alien also obscures the possibilities of other kinds of worlds. By defining what is outside of the community, what produces uncertainty, the protesters and activists are also establishing a set of possibilities and realities they cannot or will not imagine. In Saiap, opposition to this alien has persisted for so long that the community identity is inextricably tied to it. While people in Saiap discuss the future, these conversations generally carry a sense of trepidation. None discuss a time when anti-dam protests will no longer be necessary because they have succeeded in their fight. The alien dam comes to represent the enemy, the threat, the future undesired. The alien might foreclose some possibilities for the future and the protesters might combat particular kinds of singularizing worlds this alien seems to bring, but through their activism, might communities also be foreclosing the possibility of other worlds as well?

Conclusion

So how do alien and indigenous discourses participate in the shaping of hydrosocial relationship? How do water-beings reconfigure their potentialities? In this chapter I have demonstrated how these discourses are deployed or omitted by different constituencies, in references to different multispecies, multimaterial, and social contexts. From indigenous peoples who live as resident aliens and do not identify by this globally circulating nomenclature to the invasive alien species water hyacinth that ecologically reconfigures Thai waterways and with it hydrosocialities and the capacities of water-beings, from maize that requires chemical treatments that demonstrate a lack of respect that does not align with other practices of respect toward water-beings to dam infrastructures that are alien materials, disrupting water-beings and hydrosocialities even in their absence, these discourses demonstrate that human relations with water-beings create multiple overlapping and sometimes conflicting realities.

Alien remains a categorization of inclusion and exclusion; by inviting water-beings to participate in particular assemblages rather than others, the community demonstrates the way they order their social and material space. The discursive categories draw together earthly materialities and social practices in ways that index social insecurities and the propensity toward change. Yet water-beings are, as the entire text has suggested, more than only their deployment in human projects and practices. Even in these efforts to organize lived experiences, water-beings cannot be tamed or confined to these categorizations. Instead, water-beings are also part of negotiating and reformulating how these discursive strategies are deployed and the multiplicity of worlds they make possible. These kinds of entanglements and world-making projects demonstrate the tensions between organizing social experience and the layers of disruptive potential in the materialities on which this order is based.

Chapter 7
Conclusion

As I left Thailand in the final days of 2014, discussions about water focused not on floods or on managing an overabundance of water but on drought. People across Northern Thailand suggested that 2014 had been a drier year, fewer tropical storms, less overall rain accumulation. Thailand's recent history with floods, however, had also made water management officials wary of retaining too much water in upland dams throughout 2014, resulting in lower volumes stored upstream as well. A villager from Baan Mae Roo expressed exasperation and fear about these conditions: "Now, the state will say the dams are for drought prevention instead of floods," she explained.

Concerns over drought proved well-founded. By the middle of 2015, as Thailand's dry season endured, the nation was in a persistent drought. In Bangkok, the low water levels led to saltwater creep from the Gulf of Thailand; residents were warned about the possibilty of salty tap water and cautioned to conserve water across the metropolitan area to aid farmers upstream who were facing even more dire situations (Kupferman-Sutthavong 2015, Tang 2015, Wipatayotin, Theparat & Jikkham 2015).

Upstream, water scarcity led to increased tensions and contestations as lives and livelihoods were put at risk due to uncertain water supply. The rainy season was off to a late start and Thailand's rice belt, the Chao Phraya Basin, was in a holding pattern as water supplies were insufficient and water reserves were dwindling (Post Reporters 2015b). In July 2015, the RID reduced the release of waters from the Bhumibol Dam on the Chao Phraya River by more than half as the water level fell to 2% of its usable capacity and the Sirikit Dam water level fell to only 6.84% of its usable capacity (Online Reporters 2015, Post

Reporters 2015a, Wipatayotin, Theparat & Jikkham 2015). The government issued pumping bans, prohibiting farmers from pumping water for agricultural uses across the Chao Phraya Basin and increased artificial rainmaking efforts at the insistence of King Bhimibol; in many areas water pumping into local fields continued unabated as farmers fought for their livelihoods (Post Reporters 2015c, Seehawong 2015). As river beds ran dry between catchment reservoirs and already-planted wet-rice stood unnourished in dry paddies, farmers saw disobeying the pumping ban as the only way to salvage their crops. However, these actions also compelled the government to position soldiers to patrol the waterways, enforcing Thailand's greater strategy of water rationing (Bloomberg News 2015). For people in the plains, the water rationing strategies became another demonstration of protecting Bangkok at the expense of rural Thailand, seemingly a repetition of immediate responses to the 2011 floods but under different auspices: the shortage of water rather than its overabundance (Wattanasukchai 2015).

Once again water, or more precisely its lack this time, was at the center of Thailand's social and political debates, raising new questions about the material capacities of water-beings and human relations to them in the Thai context. The drought, like the 2011 floods before it, demonstrates that despite human attempts to rationalize rivers, to make water modern, singular, and productive as an economic resource, water remains stubbornly unpredictable and intractable. The droughts are another instantiation of the complicated social, political, and material confluences that make water ineluctably a site of social contestation, protests, upheaval, and renegotiation. And it is through these moments of disaster, of material upheaval, of water-beings creating the world according to their own designs rather than human interests, that both the value and vitality of water-beings come into focus.

This dissertation is an exploration of exactly that kind of disaster: the 2011 flood disaster in Thailand. Yet it is not about an event or a temporally delimited episode; I approach the 2011 floods as a disaster that ruptures normative understandings of water management, of the capacities of water-beings, and of hydrosocial relations and compels reconfigurations of socioecological assemblages and sociopolitical arrangements. I provide an analysis of the sociomaterial conditions that preceded and coded it as a disaster, and the configurations of worlds that emerge through it. The disaster makes visible the underlying politics of place and the uneven political terrain on which human and water futures are formed, the unexamined assumptions that make techno-scientific approaches to the material world privileged, the dissonant forms of hydrosociality that map onto social, geographic, and experiential differences and produce the world as multiple, and the potential of water-beings and human beings to imagine and constitute the world otherwise.

Disaster provides the disruption that makes this dissertation possible. This dissertation is an ethnography of water-beings.

In its abundance or absence, in lived experiences, political maneuverings, and material entanglements, water is unequivocally social, undeniably material, and ontologically more than both of these sets of relationships. Astrid Stensrud (2016: 78) contends "that water is good to think with because it always flows between places, entities and persons; it can both connect and disconnect, and is always in the relational in-between spaces." Throughout this text, I draw attention to waters' relationality, to the ways that water-beings flow into assemblages and create both expectable and unexpectable outcomes. I focus on how water produces worlds that cannot be constrained by material infrastructure, worlds that may not fully fit within the politics of indigenous recognition, worlds that inspire advocacy and protest, and worlds that conflict, overlap, and effect change.

This text has traced some of myriad forms of hydrosociality that shape the waterscapes of Northern Thailand. I have examined the intricacies of Thai state-making and development paradigms as hydrosocial practices that use water as a medium for territorializing both geographic areas and the human populations in them. I chart how watershed development paradigms shape the landscape and privilege particular kinds of hydrosocialities over other. The effect of these state-making and development strategies is to materially reconfigure the Thai waterscape and to socially marginalize highland people and their local hydrosocial relations, particularly communities marked as ethnic minorities like the Karen of Baan Mae Roo and San-Lek. These modes of material engagement have compromised ecologies as well as the lives and livelihoods of people across the nation.

Despite the social and ecological ramifications, I have also shown that large-scale infrastructures like dams remain a prominent strategy in the arsenal of state water management planning. In the aftermath of the 2011 floods, as water-beings demonstrated their irrepressibility, the Thai state returns to the promise of rationalized resources with a renewed fervor and renewed explanatory framework: dams to serve the biopolitical imperative to protect human life. But not all human life.

I have also demonstrated how different forms of hydrosociality produce conflict. While it is simple to think the anti-dam campaigns in Thailand are about water, this text sketches the ways that the conflict is about more than rivers: it is about water-beings and the value of different realities. Because water-beings are at the center of these contestations, they are also at the center of political and cosmopolitical negotiations over them. In this text, I argue that it is imperative to look for the evocations of water-beings in everyday hydrosocial practices in Northern Thailand to better appreciate both what communities are fighting for and what they are fighting with. Water-beings are not just present in social contestations around water; they are actively shaping the terrain of these debates politically, materially, and cosmopolitically. Throughout this text, as throughout my experiences in Thailand, water-beings actively resist rationalization in state water paradigms, evoke disasters that reconfigure social and material worlds, participate in anti-dam protest actions in selective ways sometimes invisible to human ways of knowing, and shape identities of people and ecologies. Water-beings are participants in assemblages constituting Thailand's futures.

As an ethnography of water-beings evoked in three communities across Northern Thailand, this text demonstrates the particularities of these futures developing in place. Yet by focusing on the radical potentiality of hydrosociality and water-beings, this text is also a challenge to normative sensibilities of how the world is constituted and by whom. Rather than seeing the world-making practices in Saiap, Baan Mae Roo, and San-Lek as as "culture," I aim for these practices to provoke a reconsideration of the ontologies and epistemologies that enable this categorization. Throughout this text I take seriously Stuart McLean's (2009: 231) call to consider material presences like water-beings "storytellers, that is, producers of a reality endowed with its own dynamisms, its own historicities, and its own signifying potentialities, irrespective of the meanings ascribed to it by human acts of culture making." The worlds that emerge through assemblages of water-beings, human-beings, and other sociomaterial and nonhuman elements disrupt the idea that humans alone can tell the story of these worlds; these are worlds in which humans are only sometimes a part.

This perspective of the dynamism of the planet, of water-beings and other nonhumans co-constituting worlds, provokes questions about the place of humanity in the world. Wright (2014: 280) suggests that "becoming-with nonhumans, and appreciating their capacity of meaning-making and worlding, may enhance our ability to respond to the disturbing and amorphous becoming-with of the Anthropocene-more-than-(but including)-human assemblages." And perhaps this becoming-with might point us toward more ethical and generous ways of being in relationship with the other beings that inhabit and constitute our shared world.

While this should not be a breathless realization, it is also an acutely necessary one. Across the planet, disasters have grown in intensity and prevalence. In the years since the 2011 floods in Thailand, I have followed stories of recovery efforts after the Tohoku earthquake tsunami off the coast of Japan that happened in the same year, wildfires recurring in California, earthquakes in Ecuador, Italy, and New Zealand among others, flooding and drought in too many locales and diverse geographies to name, and the 2017 series of hurricanes and tropical storms that devastated Puerto Rico, flooded Houston, and wreaked havoc across the Gulf Coast and the Caribbean. These processes, once considered "natural" and independent of humanity, are increasingly a part of the human condition that unites all people through experience at once local and global, personal and shared. From floods to droughts, earthquakes to sink holes, mudslides to tsunamis, hurricanes to cyclones, tornadoes, and typhoons, disasters have become increasingly part of anthropological study not only because they impact almost all people across the spectrum of humanity in some way, but also because anthropology and scientific studies are revealing how humans collude to produce them.

Often these disasters stories present people of color whose lives are disrupted and devastated. This is in part because often the populations most vulnerable to disasters are the socially marginalized and often in the Global South. Further, disasters often affect the people who are least to blame for human actions that help to produce them. If humanity is going to survive the conditions that we have colluded to create, then we are going to need to change how we relate to the other beings co-constituting the world. This project thus posits an orientation to human-nonhuman relations, an orientation toward openness and the possibility that the world is not as definable as our techno-scientific formulations might suggest.

I suggest this as a perspective of hopefulness. In the villages in Thailand, there is much to be hopeful about. In the years since my research in Thailand, the dams have not been built. EIA studies have not been conducted. In 2017, the Royal Irrigation Department declared that building dams on the Yom River, what has often been called the Kaeng Seua Ten project, "would only worsen flooding and create drought as upstream watershed forests that help generate and absorb water would be destroyed" (Post Reporters 2017a). The project has been deemed unfeasible. The projects on the Chaem River and Khan River have similarly been held in abeyance, though with less seemingly adamant finality. Instead, the state has turned to an integrated flood management (IFM) plan that actually adheres to the principles of IFM by incorporating water resources, land use, and hazard management into a single paradigm for prevention (APFM 2009). The Thai plan incorporates flood-to-field diversion strategies, using selected areas of the plains as retention ponds or monkey cheeks to hold excess water through the height of the rainy season and release them to nearby farms in the dry season; farmers on these fields will thus have an abbreviated growing season, but be compensated for the use of their fields as retention ponds (Wongruang 2018). This plan is a turn away from large-scale infrastructures as water management; it is a hopeful turn but not a guarantee that dams are forever foreclosed as an option in the state's hydraulic toolbox.

For Saiap, a community that has been organized around its commitment to anti-dam protests for almost thirty years, dams are always on the horizon. They have had reprieves in the past, the plan suspended and reignited under new auspices by different administrations; there is reason not to trust that this reprieve is permanent and reason not to fully dismantle the sound networks, socialities, and practices around protesting dams. Nonetheless, there is currently much to celebrate in this outcome, especially in a region of the world where dams are common development incentives.

However, there is also much that can be learned from material disruptions and the kinds of hydrosocialities they make visible as well. Disasters make visible the underlying structures that the social and material landscape. But they also compel us to reconstitute our worlds; our challenge then is to reconstitute the world with a perspective of hope and an openness to the radical alterity of other kinds of beings as collaborators, co-constituting the world for the better.

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