

Conflicts and Negotiations among Multiple Stakeholders of the Sai Transboundary River Management between Northern Thailand and Eastern Myanmar

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Abstract

Efficient utilization of water without conflict is always a difficult issue at the national level, still more at the transnational one. This article investigates the detailed process of conflicts and negotiations over the Sai transboundary river management between Mae Sai district, northern Thailand and Tachileik township, eastern Myanmar. Applying the concepts of critical water resource management and the social-anthropological research methods of in-depth interviews and observation, the article identifies the multiple stakeholders at both intra- and inter-state levels and analyzes the reason why seemingly simple complaints of Tachileik people against weirs constructed by Mae Sai farmers as the cause of floods have developed into larger and complicated conflicts. The analysis illuminates the difficulty and challenges of transboundary river management. At the same time, it also reaffirms that in the case of transboundary resource management, the farmers' related conflict is not simply a dichotomous confrontation between the state and the local, but a diverse and complex one among multiple-level stakeholders.

Keywords: transboundary river management, water conflict, negotiation, multiple stakeholders, northern Thailand

Introduction

A country's economic progress is said to be related to water resources. While the availability and access to water resources are important issues,

water's unique variability in space and time (Lenton and Muller, 2009: 3), connectivity (Orlove and Caton, 2010: 402), and what we might call "share-ability," following Wolf (2007), who discussed how "shared water" can cause conflicts. Earlier Wolf (2007) wrote that the unique nature of water prompts people to think about ways to manage and utilize it efficiently without conflicts among those who need it.

Mae Sai city, Chiang Rai province is the northernmost city of the Kingdom of Thailand and it shares a border with Tachileik township, Shan State, Republic of the Union of Myanmar. In 1894, the Sai-Ruak River (or the Mae Sai River), a small-sized transboundary river (in comparison with the large Mekong River) between Mae Sai and Tachileik, was determined as a border between Thailand (then known as Siam) and Myanmar (then Burma) but it became official only in 1991.

As with is true of other transboundary rivers (Wolf, 2007; Delli Priscoli and Wolf, 2009; Sullivan, 2010), conflicts and negotiations are recognized among multiple stakeholders of the Sai River. Here, the main source of conflict was three rock-fill weirs that local Mae Sai farmers had built across the river in the 1970s. According to the Tachileik people and Myanmar authorities, those weirs caused floods several times in Tachileik. Myanmar authorities problematized the weirs and destroyed them, using power shovels on July 13, 2015. The Mae Sai farmers, having their weirs destroyed, gathered at the Mae Sai-Tachileik border checkpoint (bridge) that day and closed the border gate to show their dissatisfaction (Chaimol, 2015).

This article explores the detailed process of conflicts and negotiations over the transboundary management of the Sai River. It identifies the multiple stakeholders not simply from the two riparian states but also from within each nation-state by describing the detailed process of conflicts and negotiations among those stakeholders with reference to transboundary water resource management literature. Through the analysis of complex causes of the conflicts and negotiations,

the article clarifies how the management of the transboundary river is challenging for multi-objective stakeholders.

Theoretical Background

Transboundary water resource management is complex in terms of the multiplicity of stakeholders and scales (Wolf, 2007: 245). Social organizations and institutions are often formed to effectively manage water distribution not only at one level but at various levels. Orlove and Caton (2010: 402), for example, describe how organizations can be formed by bureaucrats, private sectors, or local individual stakeholders; and how levels can be local (such as water-user associations or village waterworks utilities), national, and international (such as ADB or the World Bank). Transboundary water resource management is complex in this way.

In addition to the complex conflict phenomena due to water scarcity and the transboundary nature of water, Orlove and Caton (2010: 402) suggest the concept of “connectivity” with water as an intermediary resource from an anthropological point of view, which makes water resource management even more complex. Water resources or rivers connect people of various backgrounds and societies from far different places, communities, regions, or even beyond a state’s border through the utilization of the same water source. If it is a transboundary river, the socio-cultural, economic, and political backgrounds of the connected people can be quite different. The conflict can easily disintegrate into a zero-sum game, and thus it becomes difficult and complex to discuss and negotiate.

Based on the concept of connectivity by water, Orlove and Caton (2010: 402) introduce the concept of “waterworlds,” meaning the diverse environments that are affected by water, originally proposed by Hastrup in 2009 (Hastrup, 2009; Hastrup and Rubow, 2014). They raise the following five central themes: (1) the value of natural resources and human rights; (2) equity in access and distribution governance; (3) governance, that is, organization and rules; (4) politics or discourse

and conflict; and (5) knowledge, or local/indigenous and scientific systems.

Multiple stakeholders are connected by transboundary water resources and compete for water from the same river with different objectives; thus, conflicts among them can easily occur. Since international conflicts over transboundary rivers have some tendencies in common with the ones over domestic rivers (Trolldalen, 1992, cited in Wolf, 2007: 244), I would like to briefly look first at domestic conflicts.

In the case of domestic rivers, political conflicts often arise over dam construction and water distribution. States and local people are the main actors in these conflicts (Orlove and Caton, 2010: 405). States’ legitimacies of national law or dam construction for economic purposes are often contested by opposing local discourses of human rights or environmental protection through social movements, or discourses of customary laws through local rituals, etc.

Wolf (2007: 243) notes that “shared water does lead to tensions, threats, and even to some localized violence.” Although he does not agree with the popular thesis that ‘water leads to war’ proposed by Wittfogel (1956, cited in Wolf 2007), he does acknowledge that some political conflicts or acts of violence over rivers in the worst cases are related to the important links of water management, social structure, and political culture among multi-objective stakeholders.

Concerning the existence of multiple stakeholders related to river management, Wolf (2007: 244) referring to Trolldalen (1992), agrees that a nation-state should not be treated as a homogeneous entity. He not only differentiates the state and local people, but also separates local people into several groups, such as those who live in coastal areas, farmers, fishermen, and so on. According to Wolf (2007: 247), if stakeholders of a river do not cooperate well with each other, it will lead to “inefficient water management,” including a decrease in both the quantity and quality of water, and the weakening of environmental health. And yet, it is not easy for related stakeholders to cooperate because they have different views on their rights to water (Wolf, 2007: 249).

Research Methods

The present article is based on field research using the socio-anthropological approach in the northernmost district of Mae Sai, Chiang Rai province, Thailand, and supplementally in Tachileik township, Shan State, Myanmar between July 2019 and February 2020. The field information and some narratives were collected largely from in-depth interviews with approximately 10 stakeholders in Mae Sai, Thailand, and interviews with 16 local people of the riverside communities in Tachileik, Myanmar in addition to field observations and documentary information on both sides. The interviewees of Mae Sai include the district chief, officers of the Royal Irrigation Department in Chiang Rai, a member of the Chiang Rai Chamber of Commerce, a village headman, a subdistrict chief, and leaders of a farmers' water use group. The interviewees of Tachileik consisted only of local people as the field research, which was scheduled to be held later, had to be cancelled because of the COVID-19 pandemic. Interviewees in Tachileik included farmers, shopkeepers, riverside dwellers, and a pastor of a church at the Sai riverside, who were asked about their experience of floods and utilization of the river water, in addition to their basic livelihoods. Their ethnicities were Burmese, Shan, Akha, and Kachin. All of the interviews were recorded based on the consensus of the interviewees, but for the Tachileik side, names were not asked, nor were photos taken in compliance with research ethics. For Thais, the interviewees' names were asked but kept anonymous in the report and in this article. For the then-district chief of Mae Sai and other government officers, I received an agreement to use their official positions.

The Sai-Ruak River and the Border Demarcation between Mae Sai and Tachileik

The Sai River is a transboundary river in Tachileik township, eastern Shan State of Myanmar. There are two permanent border checkpoints in Mae Sai district which are the First and the Second Thailand-Myanmar Friendship Bridge over the Sai River.

The upper stream of the Sai River is in Myanmar. It meets the border of the two countries some kilometers upstream of the First Friendship Bridge, and from there the Sai-Ruak River flows as a transboundary river approximately 55 kilometers in length: 10 kilometers as the Sai River, meeting with the Ruak River that comes from the north of Tachileik, and thus changing its name to the Ruak River. From there it continues to flow as the Ruak River for approximately 44 more kilometers (Rattanaphakdee, n.d.) until it meets the well-known international Mekong River at the Golden Triangle, Chiang Saen district, Chiang Rai province. The Sai River is about five to ten meters wide and its water flows throughout the year.

At the end of the 19th century the Anglo-Siamese Boundary Demarcation Commission led by Great Britain conducted surveys on the borderlines, and on October 17, 1894, determined the Sai-Ruak River as a border between Siam (as Thailand was known then) and Burma (as Myanmar was known) (Ketcharoen, 2002 cited in Kidnukorn, 2017; Rattanaphakdee, n.d.). However, the entire river was decided as the border at that time, which means that whenever the river course changed because of heavy rains and floods, the borderline also changed (e.g. Pang Ha village headman, 2019; Member of Koh Chang SAO, 2019; Kidnukorn, 2017).

Along with the legal enforcement of the straight baseline at the international level based on Article 7 of the United Nations Convention on the Law of the Sea (UNCLOS) in 1982, the consciousness of a 'fixed boundary' has also been raised regarding the Mae Sai border. Boundary surveys and demarcation were held alongside the Sai-Ruak River again during the years 1987 and 1988. After the boundary line was determined, boundary reference pillars (BRP) were put up (Rattanaphakdee, n.d.). The Thai and Myanmar governments signed a memorandum of understanding (MOU) on June 8, 1991, and ratified this borderline on March 12, 1992. This was the first-ever fixed boundary between Thailand and Myanmar in that area.

Construction of Farmers' Weirs in the Transboundary Sai River

The area of Mae Sai district today is about 285 square kilometers, about 171 square kilometers of which, or 60 percent, are agricultural lands (Information Center, MoI, 2021; Mae Sai district chief, 2019b). About 96 square kilometers of the agricultural area are spread throughout the area south of the Sai-Ruak River and east of Route 1; water from the Sai-Ruak River has been used for irrigation since the farmers first settled.

The current agricultural areas in Mae Sai district were forests in the past. Many landless farmers had moved from today's Lampang and Lamphun provinces in northern Thailand, pioneered, and settled there in the 1940s or earlier (Koh Chang sub-district chief, 2019; Member of Koh Chang SAO, 2019; Royal Irrigation Department, 2018a, 2018b). After immigrating, farmers used hoes to dig ditches (known as *muang* in the northern Thai language) to irrigate their rice fields from the Sai River. It was labor-intensive work, and the allocation of agricultural land was done by the amount of labor provided to dig the ditch. Along with digging ditches and reclaiming their farmland, the farmers cooperatively constructed weirs (or *fai*) over the Sai River to send water to the ditch. This is the traditional *muang-fai* system of northern Thailand (Tan-kim-yong, 1995). The farmers used bamboo and sandbags as materials to construct the handmade weirs (Member of Koh Chang SAO, 2019).

The Sai-Ruak River in the past was much wider than the river today, wide enough for boats to go by (Koh Chang sub-district chief, 2019), and the amount of water was also greater (Head of Irrigation Branch of Chiang Rai, 2019). Thus, the farmers made weirs only in the dry season (March and April) to raise the surface level of water. There was enough water and there were no problems or conflicts between Thailand and Myanmar. When the amount of river water increased in the rainy season after May, the farmers dismantled the weirs to allow the full flow of water.

The Mae Sai farmers constructed three *muang-fai* and one more ditch that did not require a weir in the Sai River. From upstream to

downstream, they were named as follows: 1) Fai Muang Daeng or *Hua Fai* (meaning the head of the weir) or Fai Sai Lom Joi in Mae Sai subdistrict; 2) Fai Wiang Hom in Wiang Hom village, Mae Sai subdistrict; and 3) Fai Muang Ngam in Pa Sang Ngam village, Koh Chang subdistrict, Mae Sai district (Figure 1).

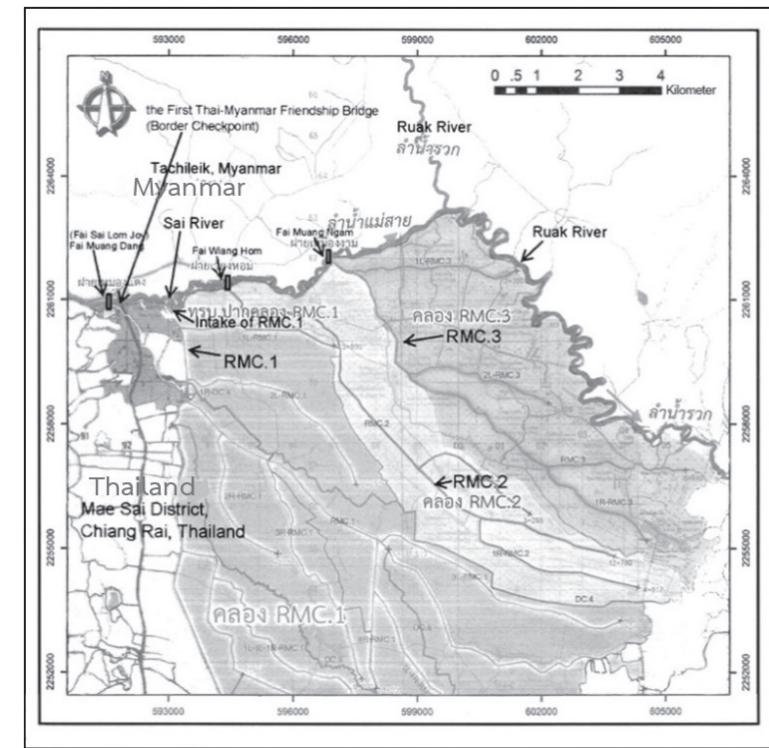


Figure 1 Map of the Sai-Ruak River, 3 *fai* (weirs) and Mae Sai Agricultural Development Project Area (Source: Chiang Rai Irrigation Project, 2019. English added by the author)

In the 1970s the Chiang Rai Irrigation Project under the Regional Irrigation Office 2 of the Royal Irrigation Department of Thailand initiated a new plan known as the Mae Sai Agricultural Development Program to construct an irrigation canal system to provide water from the Sai River to a large agricultural area of the northeastern side of Mae

Sai district (Chiang Rai Irrigation Project, 2005). The irrigation system was called inundation canals. The program of constructing weirs, canals, and other related structures was carried out in two phases: Phase One from 1970 to 1979, and Phase Two from 1984 to 1990 (Figure 2). The three rock-fill weirs were constructed during Phase One, and three canals were developed in Phase Two. As a whole, the development program benefited the total area of 98.72 square kilometers in Mae Sai district (Chiang Rai Irrigation Project, 2005).



Figure 2 (left) Fai Muang Ngam rock-fill weir for Right Main Canal (RMC) 3, probably taken in March 2007; (right) temporal, bamboo weirs, taken in April 2018

Source: Chiang Rai Irrigation Project, Royal Irrigation Department

Among the three weirs, the second Fai Wiang Hom and the third Fai Muang Ngam were called the weir of Right Main Canal 2 (or RMC2) and the weir of Right Main Canal 3 (or RMC3), respectively, under the Mae Sai Agricultural Development Program. The first Fai Muang Daeng or the head of the weir was also rebuilt as a rock-fill weir under the Mae Sai Agricultural Development Program. But the construction of its reinforced canal was done at a different time. The canal called Right Main Canal 1 (RMC1) was constructed under the Mae Sai Agricultural Development Program, but it is on the east side of the Mae Sai First Friendship Bridge, a little bit upstream of the RMC2, while Fai Muang Daeng is on the west side of the bridge. The RMC1 did not have any weir because the water of the river flows into the canal naturally because

of the height difference between the bottom of the Sai River and the canal.

Destruction of Farmers' Weirs as a Cause of Floods

Since the borderline was fixed clearly without being influenced by the change of a course of the river in 1992, problems related to the border seemed to have been settled. But as time passed, conflicts between Mae Sai and Tachileik related to the Sai River began to be recognized because of repeated floods, and they became more serious and more apparent in 2014-2015 following several floods caused by heavy rains (Head of Branch 5, 2019).

The local Myanmar people and authorities viewed the three rock-fill weirs constructed by Thai farmers as the main cause of the floods. After announcing their plan to demolish the weirs only one day in advance, on the morning of July 13, 2015, Myanmar authorities first demolished the Fai Muang Daeng, then continued with the second and the third weirs (Water Group Leader X, Y, and Z, 2019). Mae Sai farmers, shocked at having their weirs demolished, protested Myanmar's actions and closed the gate of the border checkpoint at the First Friendship Bridge (Chaimol, 2015). After a few hours with the mediation of the Mae Sai district chief, the gate was reopened.

Subsequently, the Myanmar authorities allowed Thai farmers to construct only removable weirs using bamboo or thin tree branches (Figure 2). But those weirs were not strong enough to dam the river water, and they collapsed in a few days; thus, the farmers could not irrigate their fields (Member of Koh Chang SAO, 2019).

Encroachment of the Border Markets and Residential Buildings to the Sai River

While the Thai farmers' three rock-fill weirs were regarded as the cause of floods by Myanmar authorities, another cause was also found in both the research interviews and the field observations. This was the rapid

economic development of the border market areas around the First Friendship Bridge, and the gradual encroachment of the market and residential areas along the river from both Mae Sai and Tachileik.

The border town of Mae Sai had begun to develop after Thailand and Myanmar signed an MOU in 1991, and it developed further in 2007 when the Thai government announced the “Five Chiang” Strategy¹ to develop these “Chiang” cities together along the border (Mae Sai district chief, 2019a). The border market on the Mae Sai side is called Sai Lom Joi Market and the one on the Tachileik side, Tar Lor Market. According to a Member of Koh Chang SAO (2019), the area of Sai Lom Joi Market was residential in the past. However, around 2000, many tourists were coming to this area and development continued, along with an increase in border trade. In 2019, I observed that the border market areas were still popular among tourists, although there were fewer than 10 to 20 years earlier. Many Myanmar people also crossed the border from Tachileik to Mae Sai on foot, motorcycles, cars, or trucks, contributing to the border economies.

When I asked about the cause of the floods of the Sai River, the leader of a water utilization management group replied:

The Myanmar side only pays attention to our weir constructions in the Sai River. Therefore, at that time [when Mae Sai farmers protested against the demolition of their weirs by Myanmar in 2015-Author], we did not have any negotiation with the market areas because authorities of both sides did not focus on them. If we had not had any solution to the encroachment of the markets to the Sai River from the beginning, we would not have any interaction with the market community along the river (Water Group Leader Y, 2019).

Concerning the relationship between the rapid economic development in the border areas, the encroachment of markets into the transboundary river, and floods, the Koh Chang sub-district chief (*kamnan* in Thai) had the same idea. He said:

¹ The five Chiang are Chiang Mai and Chiang Rai provinces in Thailand, Chiang Tung (Keng Tung) in Myanmar, Jinghong (Chiang Rung) in China, Chiang Thong (Xieng Thong) in Laos.

It was because the people of both sides, Thailand and Myanmar, encroached on the river. With development or innovations in technology, people do these things very quickly. This area has changed rapidly during these five to ten years. Myanmar complains about floods in Tachileik but they do not emphasize who is encroaching on the transboundary river between Thailand and Myanmar. Today, the river course is very narrow in some places, so water does not flow through easily. If we observe the cause of the floods, we know that the problems were caused by the destruction of the environment by people. The cause of the flooding is not the weirs (Koh Chang sub-district chief, 2019).

Today not only the border market areas but also the entire Tachileik township has expanded. On the Tachileik side, luxurious residential houses can be seen alongside the river. After the owners experienced floods, they constructed higher concrete block walls along the river to protect their houses (e.g. Tachileik B and C, 2020; Tachileik O, 2020), which made the Sai-Ruak River narrower with less space for river water to flow through in case of heavy rain. It caused more floods in the border market areas than before. In addition, the rapid expansion of the township has resulted in the lack of a good drainage system (Tachileik Q, 2020). Without it, the market areas became more vulnerable to floods.

In sum, the encroachment of the border market areas on the Sai River is one of the causes of floods. And yet, according to the research interviewees, it has not yet been recognized as the cause of floods in the meetings between Mae Sai delegates and those from Myanmar.

Multiple Stakeholders of the Sai Transboundary River and Negotiation

Multiple stakeholders are involved in this conflict over the Sai transboundary river (Table 1). Concerning the state-level stakeholders on the Thai side, issues related to border security are under the control

of the Royal Thai Armed Forces, river management is under the Ministry of Natural Resources and Environment, while irrigation management for agriculture is under the Royal Irrigation Department (Head of Irrigation Branch of Chiang Rai, 2019). Likewise, on the Tachileik side, there is a Township Border Committee (TBC) under the Myanmar military section, which oversees border security, including water utilization of the Sai River, and coordinates with Thailand. The two states sometimes hold a meeting under a Thailand-Myanmar Joint Border Committee (JBC, sometimes also called TBC), whose regular members include the Mae Sai district chief as a head of the Thai team, officers from the Royal Thai Armed Forces, the officers of the Irrigation Branch of Chiang Rai, Mae Sai farmers, and others from Thailand depending on the topic to be discussed, as well as Myanmar authorities including the Tachileik governor and officers of the TBC.

Table 1 Multiple stakeholders of the Sai River

	Thailand	Myanmar
Government sectors	Central government	Central government
	District government	Township government
	Military forces	Township Border Committee (TBC)
	Royal Irrigation Department	
	Office of the National Water Resources	
Business sectors	Traders at the international level Small-scale market venders	Upper-class or influential figures Small-scale market venders
Local level	Local farmers Local governments Others	Local farmers Users of underground water Relatives of the Mae Sai local people, Others

After the demolition of the three weirs and the Mae Sai farmers' protest, several negotiation meetings were held under the Thailand-Myanmar JBC. The Thai representatives requested the utilization of water at the beginning of the rice planting season (Head of Irrigation Branch of Chiang Rai, 2019). Myanmar representatives agreed to allow the Thai people to construct temporary weirs made of bamboo

for a limited period of the rice planting season. However, the bamboo temporary weirs were not enough strong to dam the river water and broke in a few days.

The issue was also discussed in some meetings at the central government level, including one in Naypyidaw in January 2017 (Chiang Rai Irrigation Project, 2019). However, once again Myanmar refused to concede to Thai requests except for the construction of removable bamboo weirs.

In terms of a coping strategy, as an alternative infrastructure to gain more water from the Sai River, the Chiang Rai Royal Irrigation Project obtained funding from the state level and implemented a water diversion project that diverted water from the RMC1 to the RMC2 and 3 in 2018 and 2019 because the RMC1 had more water than other canals. In addition, at the beginning of 2020, the Chiang Rai Royal Irrigation Project also planned to construct a flap dam in the Sai-Ruak River to help the Mae Sai farmers.

It is said that there was no concrete international agreement for the Sai-Ruak transboundary river resource management between Thailand and Myanmar (Head of Irrigation Branch of Chiang Rai, 2019). Thus, if Thailand wanted to do anything related to the river, including the construction of weirs, they needed to consult with Myanmar authorities and get agreements, and it should be vice versa. However, the Mae Sai farmers complained that the reporting system had worked only one way so far, from Thailand to Myanmar, and did not work the other way around. In other words, when Myanmar had some projects in the Sai-Ruak River, they just did it. It caused a feeling of dissatisfaction among the Thai people (Head of Irrigation Branch of Chiang Rai, 2019).

Dissatisfaction was also found among Tachileik people. Mae Sai farmers tended to think that Tachileik farmers did not use water from the Sai River since their land was topographically higher than the river (Water Group Leader X, Y, and Z). I observed that Tachileik farmers actually did use the river water either by pumping up it from the river or by using groundwater in wells (e.g. Tachileik D, 2020; Tachileik E and F, 2020). When I visited the opposite riverbank of the

intake of the RMC1 in Tachileik, I saw a large amount of water flowing into the Thai side. Two Tachileik locals who were with me as field coordinators said that Thailand takes a lot of water from the river.

Concerning transboundary river management, a complex mixture of antagonistic and cooperative attitudes was found among Thai people partly because of the existence of multiple stakeholders. The Mae Sai farmers and the officers of the Irrigation Department as their supporters complained about Myanmar authorities and insisted on the necessity of agricultural weirs. Yet, during the interview, the head of the irrigation branch of Chiang Rai (2019) showed some understanding of the Mae Sai district government's difficult position as well. He said that, realistically, they should not think only of agricultural benefits, but rather of balanced or comprehensive benefits including other sectors of Thailand. He said:

When Thailand does something, we are afraid that it may cause a conflict. We cannot think only about agricultural issues, instead we need to consider economic aspects as well. If a conflict occurred, border trade, either exports or imports, would have problems, which impede economic development. Thus, we always compromise to some extent so that no problem occurs in water resource management (Head of Irrigation Branch of Chiang Rai, 2019).

The Koh Chang sub-district chief (2019) had a similar view. He mentioned the necessity of considering many other issues apart from agriculture, such as tourism, national security, international trade, and investment. He said:

The government focuses on national security, which can affect tourism, trade, and investments. We have to compromise on some things because we have to live together. If we focus on benefits for agriculture but lose in international trade, we cannot live together in a border community. Every sector must consider both agriculture and international trade dimensions because the tourism industry of Mae Sai and Tachileik has grown rapidly (Koh Chang sub-district chief, 2019).

These statements show that the negotiation for the use of the Sai River water was more complex for the Thailand side because those involved had to consider both cooperation with the neighboring state as well as economic development of the Thai state beyond the issue of resource management of one river for agriculture. The Myanmar side was also complex because of the possible political distance between the needs and goals of the local Tachileik people of Shan State and the central government controlled by the Burmese.

Theoretical Discussion and Conclusion

The existence of conflict over the river was introduced in reference to Wittfogel (1956) and Wolf (2007), who emphasize the multi-objective stakeholders even in a nation-state through the 'connectivity' of water. This research also found various stakeholders of the transboundary Sai-Ruak River both in Thailand and Myanmar as well as conflicts among them.

In many cases of river conflicts, the opposing groups are generally between those upstream and downstream (Wolf, 2007). But in the case of the transboundary river in this research, the conflicting groups are first between the riparian communities: Tachileik, Myanmar and Mae Sai, Thailand. Here, the conflict between different sectors was also found both domestically and internationally.

Orlove and Caton (2010: 402) introduced the idea of "equity and justice" for water resource management under the concept of "waterworlds." It considers water distribution or competing access among multiple stakeholders of different sectors, such as agriculture and industry. The case study in the present research shows the conflicts related to access to water of Mae Sai farmers, as well as competition for water resources between local riparian communities during water shortage periods. In this case, conflicting stakeholder groups were not the industrial sector, but the commercial sectors which encroached the river. In addition, while the farmers' weirs were blamed as a cause of the floods, the encroachment of the border markets on the river had been

overlooked for long years despite its illegality. Thus, Mae Sai farmers have claimed justice in this sense.

The Thai authorities mostly followed international law with a firm understanding of border and transboundary resource management, and the Chiang Rai Irrigation Office understood that Thai farmers actually could not construct weirs over the Sai international river. Furthermore, they wanted to encourage good relations and cooperation with the neighboring state of Myanmar, rather than conflict. Thus, they accepted the situation or at least kept quiet when the Myanmar authorities destroyed the weirs in the Sai-Ruak River.

In short, the farmers were still put in a marginalized position and deprived of their access to a vital resource of water for the sake of protecting the economic development of the market sectors as well as the riparian communities themselves. Yet, there is a slight difference in this case from the more common phenomenon of a dichotomous confrontation between the state and the farmers. In this case, the state authorities have continuously given some support to the powerless farmers to ease their struggles over access to water. This support stems partly from the complex co-existence of conflicts, negotiation, and cooperation among multiple stakeholders at the transboundary level of Thailand and Myanmar.

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References

Delli Priscoli, J. and Wolf, A. T. (2009). **Managing and transforming water conflicts**. Cambridge and New York: Cambridge University Press.

Hastrup, K. (2009). Waterworlds: Framing the question of social resilience. In Hastrup, K. (Ed.) **The question of resilience: Social responses to climate change**. (pp. 11-30). Copenhagen: The Royal Danish Academy of Sciences and Letters.

Hastrup, K. and Rubow, C. (2014). **Living with environmental change: Waterworlds**. Oxon and NY: Routledge.

Ketcharoen, K. (2002). *Khwam khatyaeng rawang thai phama: Sueksa kan kaekhai panha khetdaen boriwen maenam sai maenam ruak lae maenam moei*. (In Thai) [The Thai-Myanmar conflict: A study of solving the border problems in the Sai River, the Ruak River, and the Moei River]. Unpublished MA thesis in political science, International Relations Program, Graduate School, Chulalongkorn University. Bangkok.

Kidnukorn, S. (2017). *Phonlawat khwam khatyaeng lae ruammue nai kanchatkan nam khamphromdaen phaitai boribot paomai kanphattana thi yangyuen: Sueksa korani maenam sai lae maenam ruak amphoe maesai changwat chiangrai kap changwat thachilhek rat shan*. (In Thai) [Dynamics of conflict, contradiction, and cooperation in transboundary water resource management in the context of sustainable development: A case study of Sai and Ruak River, Mae Sai, Thailand, and Tachileik, Myanmar]. In Sustainable development: The third anniversary of the establishment of School of Social Innovation. Chiang Rai: School of Social Innovation, Mae Fah Luang University.

Lenton, R. and Muller, M. (eds.) (2009). Introduction. In **Integrated water resources management in practice: Better water management for development**. (Chapter 1). London, Sterling, VA: Earthscan.

Orlove, B. and Caton, S. C. (2010). Water Sustainability: Anthropological Approaches and Prospects. *Annual Review of Anthropology*, 39(1), 401-415.

Rattanaphakdi, R. (n.d.). *Kan samruat lae pakpan khetdaen rawang prathet thai kab prathet phama*. (In Thai) [Boundary survey and demarcation between Thailand and Myanmar]. Unpublished report.

Sullivan, C. A. (2010). Challenges of river basin management, in Mysiak, J. (Ed.) **The adaptive water resource management handbook**. (Section 1.1 of Chapter 1). London; Sterling, VA: Earthscan.

Tan-kim-yong, U. (1995). **Muang-fai communities are for people: Institutional strength and potentials**. Bangkok: Social Research Institute, Chulalongkorn University.

Trolldalen, J. M. (1992). **International environmental conflict resolution: The role of the United Nations**. Washington, DC: World Foundation for Environment and Development.

United Nations Convention on the Law of the Sea (UNCLOS), Dec. 10, 1982, 1833 U.N.T.S. 397.

Wittfogel, K. A. (1956). The hydraulic civilizations. In W. L. Thomas (Ed.), **Man's role in changing the face of the earth**. (pp. 152-164). Chicago, IL: University of Chicago Press.

Wolf, A. T. (2007). Shared waters: Conflict and cooperation. **Annual Review of Environment and Resources**, 32, 241-269.

Websites

Chaimol, C. (2015, July 14). District farmers blockade Chiang Rai – Tachilek border crossing in Mae Sai. **Chiang Rai Times News** (CTN). Retrieved May 15, 2019, from <https://www.chiangraitimes.com/chiangrai-news/district-farmers-blockade-chiang-rai-tachilek-border-crossing-in-mae-sai/>.

Chiang Rai Irrigation Project. (2005). **Fai songnam lae bamrung raksa ti ha khrongkan phatthana kankaset maesai**. (In Thai) [Operation and Maintenance Branch 5: Mae Sai Agricultural Development Program]. Retrieved January 4, 2020, from <http://ridgeo.rid.go.th/chrai/data/F5.html>.

Information Center for Administration and Administrative Development, Department of Provincial Administration, Ministry of Interior (Information Center, MoI). (2021). **Internet archive: Mae Sai district, Chiang Rai province**. Retrieved September 20, 2021, from <http://www.amphoe.com/menu.php?am=138&pv=12&mid=1>.

Royal Irrigation Department. (2018a). **Rai-ngan pra cham pi 2561**. (In Thai) [Annual Report Year 2018]. Bangkok: Royal Irrigation Department. Retrieved June 25, 2020, from <https://bit.ly/31iS4RN>.

Royal Irrigation Department. (2018b). **Rai-ngan phaen maebot kan phatthana lumnam changwat chiangrai**. (In Thai) [Master plan report for watershed development, Chiang Rai province]. Bangkok: Royal Irrigation Department. Retrieved June 25, 2020, from <https://bit.ly/2YxO0LK>.

Interviews

Chiang Rai Irrigation Project. (2019, August 6). **Written reply to interview questions**. Reply from Chiang Rai Irrigation Project to the questions written by the researcher.

Head of Branch 5. (2019, August 6). **Interview**. Head of Operations and Maintenance Branch 5, Chiang Rai Royal Irrigation Project.

Head of Irrigation Branch of Chiang Rai. (2019, August 6). **Interview**. Head of Water Management and Irrigation System Improvement Branch, Chiang Rai Royal Irrigation Project.

Koh Chang sub-district chief. (2019, October 26). **Interview**. Sub-district headman (or *kamnan* in Thai,) Koh Chang sub-district, Chiang Rai province.

Mae Sai district chief. (2019a, July 10). **Interview**. Chief of Mae Sai district, Chiang Rai province.

Mae Sai district chief. (2019b, December 2). **Interview**. Chief of Mae Sai district, Chiang Rai province.

Member of Koh Chang SAO. (2019, October 6). **Interview**. Member of Koh Chang Sub-district Administrative Organization (SAO), Mae Sai district, Chiang Rai province.

Pang Ha Village Headman. (2019, October 6). **Interview**. Village headman of Pang Ha village, Koh Chang sub-district, Chiang Rai province.

Tachileik B. and C. (2020, January 12). **Interview**. Male farmer and his father in Tachileik.

Tachileik D. (2020, January 16). **Interview**. Male farmer in Tachileik.

Tachileik E. and F. (2020, January 18). **Interview**. Farmer couple in Tachileik.

Tachileik O. (2020, February 7). **Interview**. Male riverside dweller in Tachileik.

Tachileik Q. (2020, February 7). **Interview**. Male riverside dweller in Tachileik.

Water Group Leaders X, Y, and Z. (2019, August 15). **Interview**. Leaders of water use management groups (farmers groups) in Mae Sai agricultural development project area (a group interview).

Water Group Leader Y. (2019, December 2). **Interview**. Leader of one water using management group (farmers group) in the Mae Sai agricultural development project area.