



TEAK LOGGING IN A TRANS-BOUNDARY WATERSHED: AN HISTORICAL CASE STUDY OF THE ING RIVER BASIN IN NORTHERN THAILAND

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Abstract

This paper explores the circumstances of teak logging from 1909 to 1924 around the Ing River, in the Mekong watershed. Teak logging in the Ing forests was not a simple phenomenon occurring in a geopolitical vacuum. First, teak logging practices were made possible by the French control of French Indochina, including part of the right bank of the Mekong River, which Siam had ceded to France in 1904. Second, the actual logging operations in this region depended upon the geographical location of the Mekong River. That is, teak logs from the Ing forests could only be transported via the river, which crosses the borders of Siam and French Indochina.

Introduction

This paper examines the circumstances of teak logging from 1909 to 1924 around the Ing River, a tributary of the Mekong River, to understand the conditions that restricted and facilitated the logging operations in the trans-boundary area. The plentiful supplies of teak (*Tectona grandis*) in Southeast Asian countries such as Burma, Indonesia, and Thailand were a magnet for European colonists (Hurst 1990, 245; Peluso et al. 1995, 196). Patterns of teak logging in these countries were influenced to a large extent by German and British scientific forestry, which called for all forest areas to be mapped, enumerated, demarcated, and preserved (Vanderveest 1996, 160-1). However, teak logging in Thailand was exceptional, in that it was practiced not only in the Chao Phraya, the domestic watershed, but also in the watersheds of the Mekong and the Salween, the so-called “international rivers” of today (Figure 1).

This study starts with a discussion of the importance of teak as a resource at the end of the nineteenth century and its subsequent implications for political conflicts in Siam, Thailand’s official name until 1939. Then a brief account of the practices of teak logging in the watersheds of the Chao Phraya and the Salween is

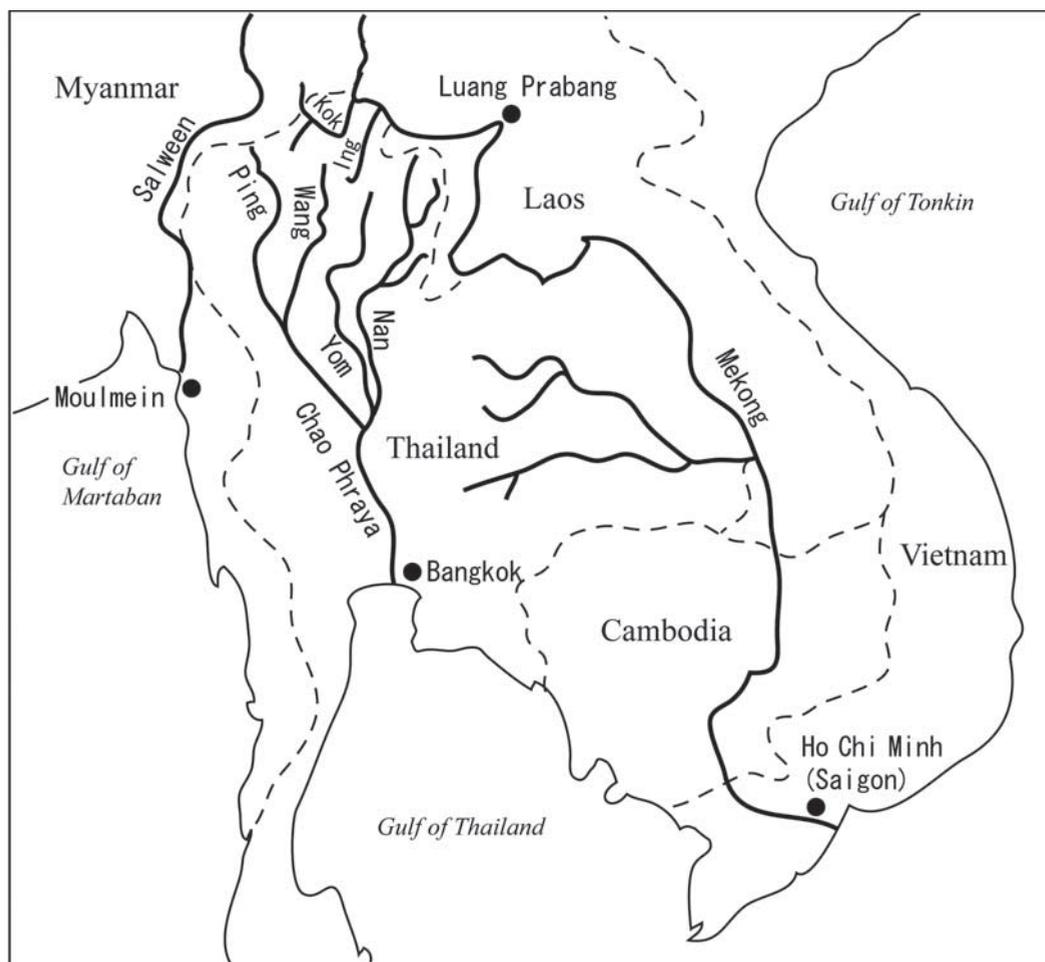


Figure 1 Map of the watersheds of the Chao Phraya, the Salween and the Mekong.

provided, before focusing on the particular conditions of teak logging operations along the Ing River of the Mekong watershed.

Background

In the past, teak was one of Thailand's most important natural resources. Also scattered throughout central and southern India, Burma, the upper Mekong territory of Indochina, and Java, teak was the most sought-after timber for ship-building in the world during the colonial period, due to its quality and durability (Oliver 1901, 529; Dickson 1908, 170).

When British and French colonialists expanded into mainland Southeast Asia, one of their objectives was to obtain teak resources. In British Burma, the British quest for teak timber began in the 1820s, and led to three successive extensions of territorial control, in 1826, 1852, and 1886 (Jorgensen 1980, 81–3).



During these periods, various unsettled disputes about teak logging interests flared up between the British and the Burmese governments, eventually culminating in the third British invasion, into Upper Burma (Bryant 1997, 206). Due to the ensuing warfare and the concomitant decline of teak supplies in British Burma, the British shifted their sources of teak extraction from British Burma to the Lanna kingdom, a tributary state of Siam (Falkus 1989, 137–8).

In Siam, conflicts over teak logging were not dissimilar to those in Burma during the mid-1880s. The result of the Bowring Treaty in 1855, a British treaty that forced Siam to open up to Western colonialism, was that the country became more vulnerable to the extraction of its raw materials, including teak timber. Under the provisions of the Bowring Treaty, the Siamese government lost the right to stipulate its import and export duties, and was forced to concede extraterritorial rights to the British (Lysa 2004, 328). In the 1880s, after teak forests in British Burma had declined, Europeans began scrambling for teak forest concessions, especially in Chiang Mai and other areas in northern Thailand, then known as “Western Laos” or the “Siamese Shan States” (Brailey 1999, 514). Burmese foresters, especially the Shan, were the main concessionaires in the teak logging business, while Chinese and local Lanna people played minor roles. To work the teak forests, the Shan often borrowed large sums of capital from British logging companies, which embarked on the teak business in the Lanna kingdom from 1888. Because the chiefs and local lords in the area traditionally possessed the rights to teak forest concessions, access to teak logging operations required permission from these local chiefs in return for royalties and sometimes a premium paid to the forest owners. Contracts were written on palm leaves, without reference to any official logging regulations (NA r5 M 16/10, 5 May 1902). Often the same forest area was granted to more than one lessee, resulting in indiscriminate cutting of teak (Ingram 1971, 106–110). As a result, the number of conflicts over leases for teak logging between the local lords and the Shan soared. As the Shan were British subjects, this meant that Siam was potentially susceptible to British colonialism.

The government of Siam gradually attempted to appease the British government, while at the same time applying its own rule of law to teak forest management. The problem of overlapping teak concessions was addressed in the Anglo-Siamese Treaty (the Chiang Mai Treaty) of 1874, as well as an 1883 treaty. It was cautiously stipulated in both treaties that the Prince of Chiang Mai would prevent forest owners from forging agreements with more than one party in the same teak forest (Le May 1999, 55–6). Also, according to the treaty of 1883, written permission issued by the central government for working teak forests became imperative (Truetanai 2001, 18–9).

During the 1880s, the lack of regulations on teak logging operations resulted in large numbers of teak trees being felled without girdling, which caused considerable damage and loss to teak resources. The disorder of forest leases also

made it difficult for the government to raise taxes and royalties from the extraction of teak timber. Because of these drawbacks, the government of Siam deemed it necessary to sort out the disorganization of teak forests in the north, in accordance with the ongoing plan to reform the country's administration.

The 1892 administrative reform, enacted by the central government, brought the Royal Forest Department of Siam into existence under the Ministry of the Interior. Established in the province of Chiang Mai, as recommended by H.A. Slade in 1896, the Royal Forest Department was the sole state organization in charge of managing and controlling Siam's teak logging operations. Its supervising roles were pervasive, although never comprehensive, and were vital in regulating teak logging practices throughout the country from the end of the nineteenth century.

The Chao Phraya watershed

The Chao Phraya watershed was the main area of teak logging in Lanna. From west to east, it encompassed the Ping, Wang, Yom, and Nan river basins. From 1896 to 1925, 81 per cent of the teak harvested in Lanna was transported along the Chao Phraya River to Bangkok, while 16 per cent was floated down the Salween River to Moulmein in Burma, and 3 per cent down the Mekong River to Saigon in Cochin China (Suehiro 1996, 30). Siam's teak logging operations were dominated by six foreign logging companies. Of these, four were British-owned (the Borneo Company Limited, the Bombay Burmah Trading Corporation, the Siam Forest Company Limited, and the Louis T. Leonowens Company Limited), one Danish (the East Asiatic Company Limited), and one French (the French East Asiatic Company Limited).

The British logging companies played the most important roles in Siam's teak logging industry. The Borneo Company, which began operations in 1888, was the pioneer, and the largest teak firm in the country. Its early success was based on close relations with Siam's royal family (Falkus 1989, 138). However, the Bombay Burmah Trading Corporation, which arrived later during the 1890s, appeared to become the most influential, as can be seen from its acquisition of permits for half of the forested areas within the Chao Phraya River basin by the end of the 1900s (Macaulay 1934, 75). Of all teak logging leases granted from 1896 to 1930, European firms accounted for 85 per cent, while local lessees held only 14 per cent, and the Royal Forest Department a meager 1 per cent (Brown 1988, 119).

After the establishment of the Royal Forest Department, regulations covering teak logging were implemented to manage forest resources on a sustainable basis. H.A. Slade, the first Chief Conservator of Forests, from 1896 to 1901, initially proposed that unsystematic methods of extraction should be controlled, mistakes of granting concessions over large areas to one firm remedied,



and trade in non-teak woods encouraged as a means of livelihood for local people (NA r5 M 16/3, 1900). For example, in 1897 and 1899, the minimum girth of teak trees to be cut was regulated and royalty rates were fixed (Bourke-Borrowes 1927, 15–7). The first regular system of leases split each area into two, each half to be harvested over a six-year period. This created a “felling cycle” of twelve years. In 1909, W.F. Lloyd, who headed the department from 1905 to 1923, introduced the Dietrich Brandis system, which divided forest areas into two portions to be harvested over fifteen years each, one open and one closed, thereby making a thirty-year felling cycle (Loehseh 1958, 5). The royalty for the open areas was set at 4, 6, and 12 Baht, for small-, medium-, and large-sized logs. (NA r6 M 14/1, 12 Oct. 1923). During this period, the Royal Forest Department gained more control over teak forests, thanks to the three newly reorganized forms of permission: concessions or forest leases (94 per cent), state-owned logging (3.5 per cent), and local exploitation of teak timber (2.5 per cent) (ibid).

Among Siam’s export products, the ranking of teak timber shifted between second and fourth in importance, although generally behind rice and tin (De’ Ath 1992, 51). Prior to the 1930s, the major destinations for teak exports from Bangkok included India, Hong Kong, and Singapore. At the beginning of the 1890s, worldwide teak exports were dominated by the Siamese (48 per cent), British subjects (42 per cent), and French subjects (10 per cent) (Ingram 1971, 107). After that, however, European timber firms, particularly those owned by the British, began to take over the teak forests of Siam, which gave these firms the ability to produce teak logs for the global market. This occurred between 1905 and 1909, when teak exports peaked both in volume and value (Silcock 1970, 46).

The Salween watershed

Unlike in the Chao Phraya forests, there was only one foreign timber firm involved in teak logging in the Salween watershed. Traditionally, in the province of Mae Hong Son, the local chiefs held the rights to teak logging. Prior to 1909, the local chiefs, including Chao Ratchawong, worked the teak forests in Mae Hong Son and Mae Lan. In the Upper Salween forests, Chao Upparat of Mae Pai and Chao Suriyawong of Mae Moei were the local concessionaires. However, the Bombay Burmah Trading Corporation took over their leases when, in 1909, the Royal Forest Department issued a new consolidated lease encompassing the localities of Mae Yuam, Khun Yuam, and Mae Pai in Mae Hong Son Province, together with forest areas in Mae Ngae, Mae Moei, and Mae Lan (NA r6 M 14/1, 12 Oct. 1923).

The forest regulations in the Salween watershed were designed to maximize taxes and royalties. But even though Siam’s government sent forest officials into the Salween forests to monitor logging and collect royalties, the method

proved ineffective because of the limited number of officials in charge of vast forest areas. In addition, little attention was paid to the marks on teak logs distinguishing their origins, most of which could have been extracted from Siam (NA r5 M 16.3/2, 10 Nov. 1898). To solve this problem, in 1899 H.A. Slade devised a plan to collect the royalties for teak logs from the Salween forests at Kado station near Moulmein, which was the teak exporting port and market in British Burma. In addition, the Royal Forest Department implemented a new regulation that no logs without hammer marks could be exported from Karenni of the Shan states or Siam into Lower Burma. In 1909, the royalties levied on Salween teak were set at 15 Baht for large logs, 6-7 Baht for medium, and 4 Baht for small (NA r6 M 14/1, 12 Oct. 1923). As civil servants of the Siamese government, Limouzin, J.G.F. Marshall, Khun Phon Plarak, E. MacNaught, and W. L. Palmer were dispatched to be in charge of the Kado station from 1899 to 1914 (NA r5 M 16.3/3, 25 Jun. 1899).

As a result of the natural pattern of drainage, the teak logs from the Salween forests, although originating in Siam, had to be floated down into the Salween watershed in British Burma. Because the Salween River has a very rapid flow, the teak logs could be assembled into rafts only near Kyodan, 75 miles north of the river mouth (Pendleton 1963, 227). Royalties were collected at Kado station. The forest workers in the Salween forests were Karen, Shan, and Khmu.

Up to the middle of the 1890s, half of the total teak output from the Salween forests was transported down the Salween River for transshipment to India and Europe (Chatthip and Suthi 1981, 9). The annual volume of Siamese teak sent to Moulmein was approximately 120,000 logs at this time, while in later years it fell to less than 20,000 logs (Dickson 1908, 170).

Teak logging in the Ing River basin

The management of teak logging along the Ing River of the Mekong watershed differed significantly from the Chao Phraya or the Salween because of specific geopolitical features. To clarify the conditions that affected the teak logging in this trans-boundary watershed, it is necessary first to examine the political background of the Siamese struggle with French colonialism from 1893, before detailing the history of teak logging operated by the French in the Ing River basin.

The political struggle of Siam against French colonialism in the 1890s

During the last decade of the nineteenth century, each teak harvest domain was politically vulnerable to the influences of the great powers competing to

colonize Southeast Asia. Logs from the Ing forests found their way to international markets along the Mekong River, which was controlled by the French in French Indochina. The teak logging in that area was not a simple phenomenon occurring in a political vacuum. Rather, it took place in the context of a three-cornered struggle between Siam, the French, and the British over possession of the banks of the Mekong River.

By 1887, the sphere of influence of the British and French colonial empires had expanded to the point that confrontations were likely at the geopolitical margins. To the west of Siam, the British had occupied the Irrawady delta, and had come to dominate Burma and the Shan states. To the east, the French had gained control over Tonkin, Annam, and Cochin China, after making Cambodia a French protectorate (Landon 1941, 30).

In the early 1890s, the French encroached upon the Laotian provinces of the Siamese empire. The French endeavored to legitimize their claim over the left bank of the Mekong River, including Luang Prabang, by invoking “the incontestable rights of Annam,” namely the claim that Annam had once governed the entire east bank of the Mekong River, and even part of the territory on the west bank (Landon 1944, 14). Control over the Laotian provinces would have granted the French two strategic benefits. First, the French would have been able to regulate the use of the Mekong River as the pivotal route linking Cochin China and Cambodia with Annam and Tonkin, thereby connecting the French colonies in Southeast Asia. Second, French control over these areas would have established a trade route into the southern provinces of China, enabling France to exploit the economic prosperity of that region (Hirshfield 1968, 28).

Siam was diplomatically forced by the British to function as a buffer between the French colonies to the east and the British ones to the west, but Siam was reluctant to cede the east of the Mekong River. Daily skirmishes took place between the troops of France and Siam on the left bank of the Mekong River, with the tussle coming to a head in July 1893, when two French gunboats entered the mouth of the Chao Phraya River. Partly at the suggestion of the British, the Siamese government eventually acquiesced to the French ultimatum that Siam not only cede to France the left bank of the Mekong River, including the greater part of Luang Prabang and the islands in the river, but also compensate the French for losses incurred. Moreover, the Siamese government was no longer permitted to construct any military fortifications in the provinces of Battambang and Siem Reap, or within a 25 kilometer wide demilitarized zone along the west bank of the Mekong (Tuck 1995, 123).

On 15 January 1896, the rivalry between the British and the French for Siam was cordially settled through the Anglo-French Declaration. This pact also endorsed the independence of Siam, as well as the neutrality of the Chao Phraya



River basin (Goldman 1972, 212–3). As stipulated in the declaration, both Britain and France would observe a mutually agreed limit on the extent to which they could trespass on Siamese territory, and would pledge not to enter into any agreement with any third power to intervene in this area (Jeshurun 1970, 116).

Nevertheless, the declaration had essentially no effect on relations between France and Siam. After the crisis in 1893, Siam still had to relinquish more territory to France in the 1900s, regardless of the guaranteed sovereignty of Siam by the two imperialists. Siam lost the provinces of Melouprey and Tonle Repou, the semi-autonomous kingdom of Bassac, and a portion of the provinces of Siem Reap to French Cambodia in 1902. In 1904, Great Britain and France again came to terms with an Entente Cordiale (Goldman 1972, 218). In the same year, Siam lost the right bank of the Mekong River to France. On 13 February 1904, a new Franco-Siamese Convention divided Siam into various spheres of influence, with only the Chao Phraya valley exempt from the colonialists' ambitions (Christian 1941, 187).

Through concerted efforts, France had come to control several strategic areas along the expanse of the Mekong River. This made the French logging operations in the Ing River basin not only politically possible but also physically possible due to the Ing basin's position as a part of the Mekong watershed.

The European quest for working teak forests in the Mekong watershed

It was not surprising that concessions to work the Mekong forests, and the Ing forests in particular, were sought after by numerous Europeans, beginning in the last decade of the nineteenth century. Among teak forests in the northern tributary states of Siam, none were comparable to those of the Mekong forests of the Ing and Kok river basins, in which the most beautiful and abundant teak trees were found (NA r5 M 16/10, 5 May 1992). Teak logging operations in each watershed appear to have been diverse, although the Ing and Kok river basins were similar in that the teak had to be transported via the Mekong watershed.

The Kok River basin

In 1909, the Borneo Company gained the rights to work the Fang forests situated in the Kok River basin within the Mekong watershed (NA r7 KS 5.1/3, 10 Nov. 1929). In 1899, the government of Siam had owned the rights to logging in this region. The Kok forests were situated on the hills of the headwaters, from which the only possible line of transportation of teak timber was via the Mekong River. However, the Siamese government proposed that teak timber from the Fang forests be transported across the ridge of Phi Pan Nam Mountain, into the Ping River, a major tributary of the Chao Phraya watershed.

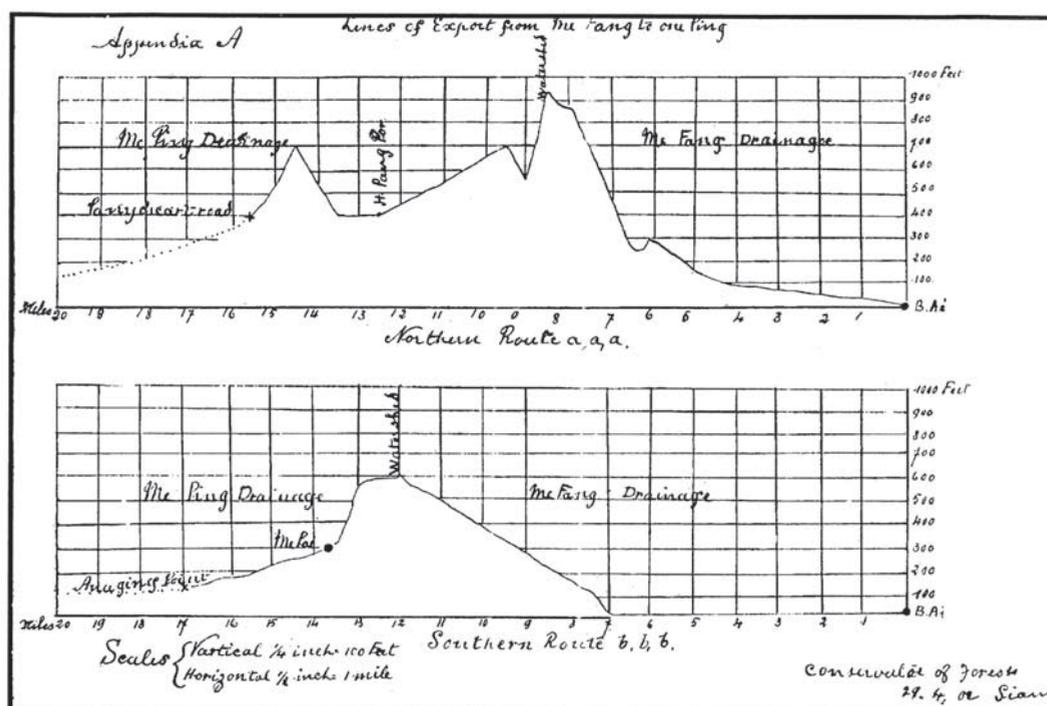


Figure 2 A route plan for teak timber "exports" from the Fang River to the Ping River (Source: NA r5 M 16.1/23 Mae Ing Forests in relation to France, 28 Jan. 1902)

The Fang forests were geographically contiguous with the Southern Shan states of British Burma, and the government of Siam preferred to lease the forests to any British timber firm possessing adequate capital to extract the teak trees over the watershed into the Ping River. According to a survey by the Borneo Company, there were two possible lines of export into the Ping valley region, both requiring machinery and a light railway, with the southern route preferred (Figure 2) (NA r5 M 16.1/23, 28 Jan. 1902). To deter French encroachment, a crucial condition of the leases issued by the Siamese government in the 1890s was that the timber of the Fang forests would not be transported along the Mekong River (ibid).

Although this condition conflicted with the natural drainage of the Kok River, the teak of the Fang forests harvested by the Borneo Company from 1912 to 1930 was transported into Mae Phan and Mae Poi, tributaries of the Ping River in the Chao Phraya watershed. The Company constructed a tramway on which loaded trucks were drawn by elephants from the final delivery point in the forest to the top of the watershed, and a chute or timber-slide to transport the logs down the precipitous slopes from the highest point on the watershed at the end of the tramway (Bourke-Borrowes 1927, 40).

The Ing River basin

From the 1890s, several Europeans worked the teak forests in the Ing River basin of the Mekong watershed. It was said that teak trees could be found in every part of the Ing River basin and that they grew more beautifully, although relatively fewer in number, around the area where the Ing River debouched into the Mekong (Dauphinot 1905, 632). The government of Siam attempted to reserve this section of forest, not allowing concessionaires of either nationality to operate there. In spite of such efforts, in 1873 the French devised a plan to exploit the Ing forests and transport the teak along the Mekong River (Berrier-Fontaine 1873, 440). Eventually, in 1909, a concession for the Ing forests was granted to the French East Asiatic Company, partly due to the pressure of the French at Siam's borders, and more substantially due to the geographical constraints of teak logging in the Mekong watershed.

As French imperial pressure on Siam increased from the 1890s, many French colonists and companies asked for rights to operate teak logging businesses in the Ing forests. In 1899, a French merchant named Leon Gravy petitioned for concessions of the Mekong forests, in particular, the Ing forests at Chiang Khong in Chiang Rai Province. The Siamese government declined on the grounds that no single Siamese company would be involved in the entire operation, contrary to what the government had previously thought (NA r5 M 16.2/14, 31 Jan. 1899). In 1901, M. C. Waternau, who worked for the French newspaper *République Française*, also sought permission to work teak forests in the Ing and Kok river basins. He claimed that only the French were in a strategic position to exploit these areas because of their ability to export the timber along the Mekong River. Despite the validity of his statement, the Siamese government refused to confer the Ing and the Kok forests on Waternau because of the political sensitivity of these forest concessions (NA r5 M 16.2/8, 9 Mar. 1901).

This policy was not confined to the Ing and Kok watersheds. In the sub-district of Phayao in Lampang Province, also within the Mekong watershed, the government of Siam was reluctant to release control over teak forests. At first, the Siamese government wanted to maintain control on this section of forest as a strategy to deter French encroachment. Eventually, however, the government made an important decision to open the Mekong forests, including those in the Nan region, to the French, although the government still preferred to grant the concessions to either the British or local chiefs.

Initially, the Bombay Burmah Trading Corporation expressed enthusiasm about leasing the Ing forests. In 1901, after the corporation heard of the ongoing plan of the French to practice teak logging in that area, it asked the government of Siam for a concession (NA r5 M 16.2/5, 30 July 1908). In response, the govern-

ment hastily agreed in the hope that the British presence would curb the increasing influence of the French. The intention of the government accorded with a report on the Ing forests authored by W. F. L. Tottenham in 1902, which claimed that exclusion of the French from working the teak forests in this area was “absolutely necessary” (NA r5 M 16.1/23, 28 Jan. 1902). However, the Bombay Burmah Trading Corporation did not make use of the concession, as there were many difficulties involved in working the Ing forests. In particular, the teak logs had to be floated down the Mekong River, and there was no local market along the river. Instead, the corporation worked the forests at Tam Yai and Tam Noi in the sub-district of Phayao in Lampang Province, from where the logs could be transported via the Yom River to the Chao Phraya.

After the project of granting the British the rights to work the Ing forests failed to materialize, the government’s hopes were revived when the local chief of Nan, Chao Suriyaphong Pharitdet, asked for a six-year concession in the Ing and the Nan forests (NA r5 M 16.2/53, 9 Jan. 1903). Still, the government questioned his intentions, as he could have been acting as a nominee for the French to tap the teak forest resources in the Ing River basin. Although the requests of the chief were later authenticated, in 1902, the government granted him only a six-year concession to work the teak forests in the region.

Four years later, in 1906, the Siam Forest Company also asked to operate teak logging in the Ing River basin, especially the part located in the region of Nan adjacent to the Ngao forests in Lampang District, which were already being worked by the same company (NA r7 KS 5.1/2, 10 Dec. 1926). The company wanted to extract trees that were already girdled in this part of the Ing forests, and then transport them into the Yom River, in spite of the fact that these forests lay within the Mekong watershed. According to Prince Damrong, the company should actually have been granted the concessions of the Ing forests, because the company was the primary timber firm expressing its intention to practice teak logging in the Ing forests, and the teak timbers were likely to be exported into the Chao Phraya watershed. Nevertheless, the government was uncertain how to manage the Ing forests due to mounting pressure from the French.

To deal with these problematic forests, the Siamese government eventually decided that the Ing forests would be subdivided into three sections — north, central, and south forests. The south section, the timbers of which could be worked into the Yom River, was granted to the Siam Forest Company. However, the north and central sections, from where the only feasible export route was via the Mekong watershed, were eventually given to the French East Asiatic Company in 1909.

The Siam Forest Company had difficulty in extracting teak from the south section, the Chun forests in the Nan region, because of the distance to the Yom River. The area was geographically closer to the head watershed of the Ing River

than to any tributary of the Chao Phraya watershed (ibid). Because the company was required to float the teak logs down the Yom River, a logging railway had to be constructed to transport the logs from Phayao to a tributary of the Chao Phraya watershed (Pendleton 1963, 226).

In 1909 the French East Asiatic Company finally won concessions, and began teak logging operations in the Ing forests. The teak harvested by the French East Asiatic Company from the Ing forests was floated down the Ing River, and then continued its long and difficult journey down the Mekong River to Saigon.

The practice of teak logging in the Ing River basin

The division of the Ing forest into north, south, and central zones was determined by the relative feasibility to extract teak to either the Mekong or the Chao Phraya watershed. Between 1909 and 1924, the French East Asiatic Company was the major firm operating in the central and north sections, located in the Nan region, where the company had to drag the timbers down to the Mekong River. The Louis T. Leonowens Company also asked to work a small portion in the north section of the Ing forests for eight years, and later sold the resulting logs to the French company (NA r5 M 14.1/16, 20 June 1917). Meanwhile, the Siam Forest Company shared part of the Ing forest concessions, especially in the south section in Lampang District, and had to transport the timber to the Yom River.

Although the French company invested a sizeable capital, it harvested only a meager quantity of teak because of the difficulties of the local landscape. Therefore, in 1912, the French company asked the government to grant another portion of forest of comparable size to that of the Ing forests. The government of Siam allotted the Kok forests, with a concession period lasting from 1925 to 1940.

As noted above, in 1909 the Royal Forest Department stipulated that any concession area would alternate between open and closed periods of 15 years. This condition was also applied to the Mekong forests. The French company was allowed to harvest the Ing forests for the first 15 years (1909–1924), and then the Kok forests for the latter 15 years (1925–1940).

Because the government recognized that forest operations in the Ing River basin were much more difficult than in the Chao Phraya watershed, it reduced royalty payments to 10 Baht for large timber and 6 Baht for small logs, while a cubic foot of timber was taxed at one *satang*, working out at roughly one Baht per log (NA r6 M 14.1/2, 13 May 1924).

Teak royalties from the Chao Phraya watershed were gathered at the Paknampho duty station. For the Mekong watershed, Prince Damrong established a tax station at the confluence of the Ing River under the supervision of forest



officials in Nan. In practice, the Royal Forest Department ruled that a quarter of the total amount of the royalty would be collected at the site of logging, and the remaining three-quarters be collected at the confluence of the Ing River with the Mekong (ibid).

The royalty rate for teak logs originating from the Ing forests was applied regardless of the watershed from which the teak timber was extracted. The difference, however, concerned the location of the duty station: either at the confluence of the Ing River, for areas of the Mekong forests worked by the French East Asiatic Company, or at Paknampho, for areas worked by the Siam Forest Company.

The process of teak logging in the Ing River basin

Teak logging in the Ing River basin was practiced in similar fashion to that of other river basins. However, the forest operations in the Ing River basin were not conducted without difficulty. In general, the operations in this basin began in June or July, at the beginning of the high-water period, when teak logs were transported mainly by Khmu laborers to the Mekong River (B 1898, 546). The route to Saigon, the final destination, was both long and difficult because of the natural characteristics of the landscape.

The teak was felled in the upper watershed of the Ing River, in the areas of Ban Tam Nai, Ban Ronghai and Ban Phin near Phayao town. The logs were brought to the Mekong River by the French East Asiatic Company, passing through Thoeng town. In the period of tributary kingdoms in northern Thailand, Thoeng was an important centre, comparable to Chiang Mai, Chiang Rai, and Nan. With the implementation of provincial administrative reform in Siam in 1897, however, Thoeng came under the Protectorate of Nan. The town was later transferred to the authority of Chiang Rai, in 1904 (Suepsak 2000, 10). At Thoeng, a large number of teak logs were made into rafts to be sent down the Ing River to the Mekong. Some logs were also processed locally at Thoeng, in a sawmill located by the Ing River.

The logs floated down the Ing River to its confluence at Chiang Khong. More timber was logged around this lower part of the Ing watershed, and also made into rafts to float down the Mekong River. The floating of timber in this region was problematic, because the natural course of the Ing River was very sinuous, with many *lhong*, the local dialect word for a 'meander'. At Thung Ang village near the confluence of the Ing, the French company had to cut a canal joining the two ends of a large horseshoe bend in the course of the river.

The modification of *lhong* was advantageous to the practices of teak logging in this part of the Ing River in many ways. The dangerous curves in the river course had caused the deaths of some laborers. Logs had been damaged by collisions with the sharp curves. The canal functioned as a shortcut and the

cutting of the canal at the junction of two bends of the river created a log yard, where the teak logs could be made into rafts or stockpiled to wait for the river to rise before continuing the journey toward the confluence of the Ing River.

To work the Ing forests, the French East Asiatic Company also invented a special cart, known as “high wheels,” which had enormous wheels and axles high above the ground (Bourke-Borrowes, 1927, 33). The logs were loaded under the axles, giving the cart a low center of gravity and hence great stability, while the large circumference of the wheels allowed the carts to travel at higher than usual speed.

The Royal Forest Department established a duty station at Ban Ten, near the confluence of the Ing and Mekong rivers, to collect royalties and taxes on the teak before it entered the Mekong River. At this point, the violent currents near the junction of the two rivers also created difficulty. If the water levels in the Ing and Mekong were unequal, a back-flow of water would occur in one of the rivers, making down-river floating of the teak logs unfeasible.

From the confluence of the Ing River at Chiang Khong, teak logs were floated down the Mekong River to Saigon. Log floating began in March or April. From Chiang Khong to Luang Prabang, the Mekong River had few obstacles, with the exception of some minor rapids at Praduhor and Chan (NA r5 M 16.2/61, 29 July 1892). Some teak logs were sold locally at markets in Luang Prabang, while others continued on to Vientiane. Along this stretch from Pak Ta (near Luang Prabang) to Nong Khai (opposite Vientiane), Khmu laborers, originally from Luang Prabang, were employed for rafting services because they had experience at rafting on the Mekong River and could be hired for inexpensive wages (Dauphinot 1905, 630; Bedetty 1900, 648). Logs were moored at Vientiane before being sent onward to Savannaket or Kemmarat, where they were assembled into rafts (Cordier 1907, 665).

Between there and Saigon, the movement of the teak logs was hindered by the Khone rapids of the Sipandon area, the Mekong River’s most formidable geographical feature, composed of numerous rocky islands. Two methods were used, depending on the season (NA r5 M 16.2/61, 29 July 1892). During the rainy season, the rafts were landed at certain islands, including Don Dek and Don Khone, and dismantled so that individual logs could be floated down small gorges between the islands. During the dry season, timber was landed on Don Khone, the largest island in the area, carried across the island by railway, and reassembled into rafts for the remainder of the journey. It took approximately two years for logs to be floated from Chiang Khong to Saigon (Cordier 1907, 666).

The French East Asiatic Company processed about 4,000 logs annually at two sawmills, one near Saigon and the other near Phnom Penh (Smith 1915, 20). The sawmill near Saigon, located some 35 km from the city, was well equipped with several cut-off saws, and handled the larger volume. The French company

stocked about 700 tons of teak logs at the sawmill, the biggest stock of teak in Indochina, while far smaller stocks were held at the sawmill in Phnom Penh and a few local sawmills run by Chinese (ibid).

From 1913 to 1924, the principal markets for Mekong teak included France, the United States, Great Britain, Singapore, and Hong Kong. In the earliest period of teak export from French Indochina, the sole destination of the product was France, due to a ban on the export to any other country. However, after 1914, the ban was lifted, allowing shipments to Great Britain and her colonies, including Singapore and Hong Kong (ibid).

Concluding remarks

Teak logging along the Ing River within the watershed of the Mekong River was made possible by two factors.

First, the French were able to overcome the Siamese government's political reluctance to grant logging concessions to the French because of strategic implications. The French overcame this barrier through their aggressive stance towards Siam, which resulted in major cessions of territory along the Mekong, and through their diplomatic entente with the British. The French East Asiatic Company was able to gain the rights to work the Ing forests under the aegis of the Franco-Siamese Convention of 13 February 1904 (Cordier 1907, 664).

Second, the French gained control over the route which, because of the natural geography, was the only feasible means for moving teak from the Ing forests to a port giving access to international markets. The Ing forests were situated within the Mekong watershed; the French controlled the ports at the mouths of that river; and after the territorial gains of 1893 and 1904, the French also controlled the banks of the river in between. Although the Siamese (with British connivance) initially resisted the implications of these geopolitics, the attempts to transport logs out from the Ing forests via the Chao Phraya watershed were eventually defeated by geography. The French East Asiatic Company was able to work the Ing forests because of the geography of the Mekong River.

Teak logging in the Ing River basin also has to be understood within the spatial discourse over national boundaries between Siam and French Indochina (Thongchai 1994, 129). The Siamese government tried to manage forest rights, and control people, by drawing national boundaries to delineate an exclusive frontier of forest resources (Vandergeest 1995, 388; Vandergeest 1996, 159). The French disrupted this project because a formal rigid demarcation would not only make France lose access to rich teak timber along the Siamese border, but also could potentially prevent them from securing a strategic area for controlling trade flowing between the southern part of China and French Indochina (Walker, n.d., 23; Walker 1999, 27).

In practice, the Siamese government in Bangkok was unable to impose its control on this remote area, and unable to overcome the specific difficulties involved in logging this terrain. In particular, the taxing, transportation of logs, and the employment of labor for teak logging operations posed problems for the government. Therefore, a critical incompatibility existed between the local realities of teak logging in the Mekong watershed, and the rhetorical discourses concerning the new spatial entities of Siam and French Indochina.

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King Chulalongkorn 1868–1910: r5

King Vajiravudh 1910–1925: r6

King Phrajadhipok 1925–1935: r7

and then by ministry:

Ministry of the Interior: M (Mahatthai)

Ministry of Agriculture: KS (Kasetrathikan)

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