

Han ten Brummelhuis, *King of the Waters: Homan van der Heide and the Origin of Modern Irrigation in Siam*, Leiden, KITLV Press, 2005, xvi + 409 pp. ISBN 90-6718-237-0 (pbk.).

This important work of scholarship breaks new ground in the history of Siam's political economy and the transfer of technology that took place in Southeast Asia during the colonial period. The new ways of managing natural and human resources introduced in late nineteenth-century Siam altered the natural environment, which in any case had not been 'natural' for centuries. Work on the book began in the early 1980s when Brummelhuis collected archival material in Thailand and the Netherlands for his doctoral thesis. He has exploited the scholarship of Thai and Western economic historians – Ammar, Chatthip, Sompop, Suntharee, Suthy, Feeny and Johnston – as well as the work of Japanese environmental historians such as Ishii, Takaya, Tanabe, Tomosugi, and Yano to produce an exhaustive study of irrigation at a critical juncture in Siam's modern history.

The human subject of the book is Homan van der Heide, the Dutch engineer hired by the Siamese government between 1902 and 1909 to advise it on irrigation. Heide created the Department of Irrigation, becoming its first head in 1903. From 1892, and again after he left Siam, Heide pursued a career in the Dutch East Indies as a hydraulic engineer until his final departure for Europe in 1914. Following his tours of duty in the East, he returned to the Netherlands where he became involved in one of the first private engineering firms. A man of decidedly anti-British sentiments which arose after skirmishes with British advisers in Siam, Heide was sympathetic to National Socialism in the 1930s and died in an internment camp in Kampen on 4 November 1945. The preface and the introduction, where much of this information is unobtrusively located, should not be missed.

It is to Brummelhuis's credit as a historian that he gives us a sketch of Heide's character as well as an analysis of what he tried to achieve. King Chulalongkorn once introduced Heide as 'King of the Waters,' a wry comment on the fact that in seventeenth-century Siam Hollanders were thought of as landless buccaneers who ruled over waters only. Brummelhuis is basically sympathetic to Heide but identifies a certain rigidity in his personality. After dismissing the monomaniacal reputation that the Dutch engineer has been saddled with, the author thinks the epithet is expressive of Heide's 'absolute character'. Heide's immense self-assurance in approaching the problems of tropical hydraulic engineering did not always sit well with his Siamese employers. He saw his role in scientific terms, and while he had a

peerless understanding of the water economy of the southern part of the Chao Phraya plain, he had little patience with the humdrum routine practices of the bureaucracy. His relationships with other foreign advisers and Siamese bureaucrats were often prickly.

From the outset it is clear that the book is more than an analysis of Heide's irrigation projects and the entanglements with King Chulalongkorn's government that ensued as a consequence. The first three chapters are devoted to a polite but fearless revision of almost everything that has been written on Thai social organisation, irrigation technology and political economy, especially as it relates to agriculture earlier in Ayutthaya and through the reform period of Heide's time. Brummelhuis punctures a hole in the orthodoxy about labour scarcity being an absolute given in the premodern political economy, arguing that it is only a scarcity within particular socioeconomic formations.

In chapter three, Brummelhuis treats the reader to a sophisticated interpretation of the *sakdina* social formation in premodern times as well as to some enlightening discussions of labour power and the transformation 'the revenue state' into the modern Siamese state during the reign of the fifth Bangkok king, Chulalongkorn. Brummelhuis often refers to 'development' as the main economic objective of the king and his ministers, glossing the term with several Thai phrases which mean something like 'fructifying the land'. Chulalongkorn, as well as many of his ministers, saw jungle and uncultivated land as waste land. The roots of contemporary Thailand's mania for making the land productive, by no means exclusive to that nation-state, are to be found in this earlier period.

Arriving in Bangkok in 13 June 1902, Heide did not waste time getting to work. After travelling upcountry to collect information and data, by the end of December of that year he had prepared a lengthy report arguing for the feasibility, desirability and necessity of an irrigation scheme for Siam. He had concluded that rainfall in the lower part of the Menam valley was inadequate for rice cultivation. In only a few areas did fields remain inundated for the three months needed to guarantee a good crop of rice in a normal year. Water needed to be distributed more consistently and over a wider area to enhance an individual peasant family's productivity, and good drainage was as important as an adequate supply of water.

The polemics of Heide's case are as interesting as the technical aspects, and Brummelhuis gives us a full account of the General Report on Irrigation and Drainage in the Lower Menam Valley, known as the Great Scheme.³ In deciding on the scale of what was required, Heide anticipated population growth over the next ten to fifteen years. His most dramatic recommendation was to build a dam with a movable gate downstream of the confluence of the tributaries at Paknampho. Chainat was deemed the most desirable location for the dam, which would be the basis for irrigating the

entire Lower Menam region. Locks would be needed in some parts of the system, and tertiary supply canals would be dug. The plan included

³ Brief extracts from the report as well as other documentary material on irrigation were published in the pioneering volume of Chatthip Nartsupha and Suthy Prasartset, *The Political economy of Siam, 1851-1910* (Bangkok: The Social Science Association of Thailand, 1978, 1981).

provision of drinking water for Bangkok. The entire scheme would take ten years to complete and would irrigate 1,369,339 hectares, more than half of all rice land that was under cultivation at the time.

The Great Scheme was not implemented, for many reasons, and the dam at Chainat was never built. Multiple demands on the available funds made it difficult to commit a budget on such a scale. Plans for a southern railway line from the west coast of Malaya to Phetburi were a case in point, for the railway competed directly with the investment required for the irrigation plan. To steer the decision in his direction, Heide argued that the trans-peninsular railway would be a danger to Siam's independence from the French. This was a shrewd tactic on his part, because he knew about Siamese wariness of foreign interference, which extended to the large foreign loans required for a huge infrastructure project that would put the country in debt to colonial powers, especially the British. Anxiety about risks to 'the freedom of Siam' continued into the reign of Chulaongkorn's son and successor, Vajiravudh.

Brummelhuis's account always places in focus the interpersonal relations in Heide's career as a hydraulic engineer in Siam. Foreign advisers working in sanitation, surveying, and finance did not always support Heide's ideas, for example, offering plans for the water supply that differed from Heide's. The Minister of Agriculture under whom Heide worked for much of the time, Chaophraya Thewet, was slow to respond to correspondence, leaving Heide to wonder if papers had been passed to the king or to the committee overseeing irrigation. Thewet's personal and political weakness as well as his lack of technical knowledge on many occasions obstructed Heide's efforts to implement his recommendations.

One of the most important protagonists in the irrigation story was the Siam Land, Canals and Irrigation Company, known as the Borisat, or 'the Company'. This was a private company, founded by an Austrian, Erwin Muller, and Siamese officials with close Thais to the court who held shares in the company. The powerful and influential Borisat had developed the Rangsit area north of Bangkok on the eastern side of the Chaophraya River and asked for a large concession on the western side. The shareholders had conflicts of interest if they owned land affected by irrigation works built by the Borisat, and indeed, members of the aristocracy and others reaped profits from land speculation in Rangsit. One of Heide's tasks as head of the Royal Irrigation Department was to supervise the Borisat, which the king and his ministers understandably regarded with suspicion, even if it did possess technical expertise in water management. In a sense, the Borisat and the Royal Irrigation Department were in competition with each other.

Brummelhuis devotes an entire chapter to the Borisat, but its role in the history of irrigation runs like a subplot through the entire book.

Even if the Great Scheme was put aside in favour of other infrastructure projects, the debate about the wisdom of large-scale irrigation and the piecemeal measures that were actually undertaken produced some interesting results. People's councils, or farmer's meetings, emerged around

1908-1910 to reach consensus on local water management in the face of flooding and problems with the irrigation networks. Furthermore, Heide is credited with repairing and dredging canals; he also constructed locks.

Criticisms seem captious for such a fine study, but a few are in order. The book is very long and could have been pruned for greater readability. Introductions to chapters belabour points that are already clear in an attentive reader's mind; in this respect, the book's earlier life as a doctoral thesis is evident. Brummelhuis does not have much new to say about the overall impact of Chulalongkorn's reforms and reiterates the conventional wisdom about the enlightened king and his ministers, although it has to be admitted that some discussion of the reforms is necessary to put the story about irrigation into context. The history of the vicissitudes of the Ministry of Agriculture in the 1890s is a case in point. Comparisons with colonial economies elsewhere in Southeast Asia, which have been made by other scholars, would have heightened the comparative usefulness of the book. Perhaps this is a separate task that awaits another scholar's attention. The photographs are plentiful and capture the scale of what was achieved, but many lack adequate captions giving dates and locations. It is possible that the information simply does not exist. The index is first-rate and enhances the volume's utility.

Wisely, I think, Brummelhuis leaves to others the work of positioning Heide in postcolonial theory. The first three chapters, which give the historical overview and establish the framework of analysis, are suitably theoretical. It is fitting that a Dutch scholar, whose native country has been engaged in hydraulic engineering for centuries, has undertaken this excellent, very readable study of his countryman's heretofore unrecognised contribution to Siam's political economy.

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