Environmental Science and Policy 89 (2018) 378–384

Contents lists available at ScienceDirect

Environmental Science and Policy

journal homepage: www.elsevier.com/locate/envsci

Difficult travels: Delta plans don't land in the Chao Phraya delta

Daniel Hogendoorn[a,*], Arjen Zegwaard[b], Arthur Petersen[a]

[a] Department of Science, Technology, Engineering and Public Policy (STEaPP), University College London (UCL), United Kingdom
[b] Amsterdam Institute for Social Science Research, University of Amsterdam, Netherlands

ARTICLE INFO

Keywords:
Worldviews

ABSTRACT

Bangladesh, Myanmar, Vietnam and Thailand have large river deltas. The first three deltas have international commitments for so-called delta plans: large-scale national efforts to reshape deltas in light of future economic growth and climate change. Thailand's Chao Phraya delta has no such commitments. Why is this the case? This article proposes that Thailand's absence of a colonial past has retained a differently ordered institutional capacity and that Delta plans embed assumptions that fit poorly with a Thai worldview. The article relies on literature and adds original research collected on three separate field visits to Thailand.

1. Four impressive deltas in South and Southeast Asia

The Himalayas and their Eastern extending mountain ranges give birth to major rivers in Bangladesh, Myanmar, Thailand, and Vietnam. Some end in impressive deltas. In Bangladesh, the Ganges, the Brahmaputra, and the Meghna make the country into one large delta, its distributaries woven into the Bay of Bengal. In Myanmar, the untamed meandering branches of the Ayeryawaddy traverse rural lands to meet the Bay of Bengal and the Andaman Sea. In Vietnam, the Mekong flows through the Nine Dragon heads into the South Chinese Sea. And in Thailand, the Chao Phraya, carved left and right by man-made canals, enters the Gulf of Thailand passing through the capital Bangkok.[1]

Delta plans—or plans to formulate delta plans—exist for three out of these four countries. Such Delta plans root in Dutch experience. Bangladesh, Myanmar, and Vietnam all have ongoing delta planning processes involving the Dutch government, Dutch knowledge institutes and Dutch engineering companies, preceded by efforts to create demand by the Dutch government and its water industry, building on existing, longstanding relations.[2] In Vietnam, the Dutch contributed to the Mekong delta plan (Zegwaard, 2016). In Bangladesh, the Dutch have worked on a variety of efforts, including the Bangladesh 2100 delta plan. And in Myanmar, the Dutch government, research institutes and private sector operators have fostered their ties with the World Bank and the Burmese government in the capital Nay Pyi Taw to contribute to a delta strategy for the Ayeryawaddy.[3]

And in Thailand? The Chao Phraya delta (located in the Bangkok and Samut Prakan provinces) has all the threats of a delta, from flooding, salinization, land subsidence, erosion, droughts, to vulnerability to climate change and population increase.[4] Yet the Chao Phraya has no delta plan, despite the efforts of the Dutch.[5] The embassy

* Corresponding author.
E-mail address: d.hogendoorn@ucl.ac.uk (D. Hogendoorn).

[1] The scholar Yoshikazu Takaya documented the Chao Phraya delta with great care. His introduction to Agricultural Development of the Tropical Delta: Study of the Chao Phraya Delta (1987) concludes with a nice thought. When the Indian subcontinent 'crashed' into Asia, mountain ranges rose and cracks appeared. Those cracks give us the paths of the main rivers of South and Southeast Asia. Takaya speculates that the Chao Phraya river was once much longer. The contemporary short path is a remnant from a more majestic river (Takaya, 1987). A mud brown, species rich river, running from a hilly north to the flat plains towards the Gulf of Thailand.

[2] Interview Deltares, March 2017

[3] Interview World Bank, November 2017

[4] A major 2011 flood in Bangkok, for example, spurred the development of an integrated *city*-wide masterplan (cut short by a 2014 military coup). Our interviews suggest that Bangkok, and not the *delta* is the relevant object for planning. This in contrast, for instance, to the Ayeryawaddy delta, which is an administrative unit of Myanmar from British times onwards, where British institutions were fostered to integrate Myanmar's Ayeryawaddy delta into the global economy (Adas, 2011).

[5] Interviews with Dutch experts suggest that both the Dutch government and Dutch engineering companies have struggled to sell water expertise to Thai governments (interviews Dutch Embassy Thailand and Arcadis Thailand, October 2016, March/April 2017). The Dutch had their hopes of selling knowledge for large scale projects in Thailand after losing a tender to Koreans in 2011. In 2017, the Dutch Government has stopped supporting the Dutch embassy in Thailand for limited export of water knowledge. A water mission of Dutch experts failed to set up business contracts. (interviews Embassy October 2016; Arcadis October 2016 & November 2017; interview KWater March 2017).

https://doi.org/10.1016/j.envsci.2018.09.001
Received 3 April 2018; Received in revised form 17 August 2018; Accepted 5 September 2018

organized water missions and engineering companies and knowledge institutes lobbied Thai governmental actors.[6] At the turn of the 20th century, the Dutch irrigation engineer Homan van der Heide devised a plan for the Chao Phraya delta and became the first director of the Royal Irrigation Department (ten Brummelhuis, 2005), and in the 1950s, the Dutch participated in World Bank-funded consortia for dam constructions (Sangkhamanee, 2018). And so, like in neighboring countries, ties and precedent existed.

Our question for this article is: what explains this lack of a Dutch delta plan in Thailand, and what does this say about knowledge- and policy-transfer?

Explanations readily suggest themselves. First, the absence of a delta plan in Thailand might be coincidental: Bangladesh, Myanmar, and Vietnam do have a delta plan; Thailand does not. And that is all there is to it. Other types of plans, techniques, tools and skills do 'travel' to Thailand: the 20th century brought infrastructure, banking, telecommunications; the 21st makes Bangkok a global hub in knowledge exchange (Baldwin, 2017). Our fieldwork reveals that in water and climate governance as well, Thailand is well connected. A random outcome is then our null hypothesis and the rest of this article consists of arguments weighing against it. Importantly, in using historical accounts explaining present outcomes, causality will not be settled, and we have no such pretension. After all, history does not repeat, and there are never enough comparable cases to show non-spurious regularities. Nevertheless, reasoning can improve by exploring different possible explanations. The article relies on literature and adds original research collected on three separate field visits to Thailand.[7]

A second reason (and a building block in this article) is that Thailand retained independence in history. But independence by itself explains little and should not be an impediment, and moreover, it fails to explain why Thailand does take in other travelling knowledge. A third reason—one we also subscribe to but argue is incomplete—is that Thailand lacks the political or economic incentives of its neighbors. Indeed, for a Thai-Dutch engineer aiding the Dutch embassy to promote the Dutch water agenda, the case is clear (and we 'shouldn't overthink it'): 'it's really, really simple: we don't give money, as we do in Myanmar. Why would the Thai government accept?'[8] To be sure, Bangladesh has long been a 'donor darling'. In Myanmar, cyclone Nargis in the delta opened the country to foreign aid in 2008. And when Thailand was a developing country, it could receive World Bank loans conditional on 'structural adjustment'. And today, Thailand, still classified as a developing country, is an upper-middle-income economy, providing its own technical assistance to neighboring countries.

Nevertheless, the economic explanation can only partially explain.[9] Incentives explain how reluctance—a threshold—is overcome. It does not explain what constitutes the threshold. What could inhibit Delta plans to travel?[10]

First, in Thailand, a continuous institutional development produced distinct policy-making practices. And second, we posit that delta plans are incongruent with these practices at the level of worldviews. Next, we thus describe a *longue durée* history of some Thai institutional elements. Then, we explore a worldview behind delta plans and explore points of incongruence with the proposed Thai worldview.

2. Historically settled institutional elements within the Chao Phraya delta

All Southeast Asian 'first-millennium polities share close historical links with the region's contemporary nation-states', most of all in Thailand (Stark, 2006). Where does the germ of Thai institutions start and what are its distinctive elements? Takaya (1973) views Thai institutions as a series of best responses to river-related problems in the Chao Phraya river system, its history dividing into three periods: the city polis starting in the mountainous North in early Medieval times, then migrating South to the overwhelming floods of the river basin during the Kingdom of Ayutthaya, and then finally settling down in the previously inhospitable delta, transformed, under the guidance of the Bangkok Kings, into a rice bowl serving the city (Takaya, 1973).[11] Aside from responses to ecological challenges, we argue technocratic cultures would also have had to develop alongside Buddhism, the city-state, and kingship.

Buddhism, and with it writing systems and concepts of political organization, entered Southeast Asia via interregional trade networks. Buddhism arrived first in Myanmar and moved to Thailand with the Mon people, who settled the Dvaravati system of chiefdoms, a direct precursor to contemporary Thai kingship. Buddhism was not the only religious influence on institutions: the first century A.D. saw Hindu migrants enter, replacing a kin-ordered system with a hierarchical political-economic system (Murphy and Stark, 2016). Later, the 'Chinese' Tai people[12] replaced the Mon,[13] while the Dvaravati chiefdom became the Lavo kingdom, retaining a Buddhist cosmology and hierarchical political arrangement.[14] Indian traders and monks then brought Pali and Sanskrit scripts, facilitating the diffusion of Buddhist views. Today, above 90 per cent of the people of Thailand, Cambodia and Myanmar are practicing Theravada Buddhists.[15] Unlike Cambodia and Myanmar, Thailand continues fitting Buddhism to otherwise secular, but self-reformed political institutions.

2.1. City-states

Life in Southeast Asia was organized around city-states, ruled by Kings (Dellios, 2003; Embree, 1950). Cities—and Kings—ruled across territories with decaying, sometimes overlapping radiuses of influence, measured by tributes paid[16] (Winichakul, 1994, Aryan,

[6] Interview Dutch embassy in Thailand and Arcadis Bangkok in October 2016; follow up personal correspondence with water expert at Arcadis, April 2017.

[7] This research consisted of interviews with Thai water management practitioners in Bangkok and Ayutthaya, in October 2016, January 2017, and March-April 2017. Separate interviews were held in the Netherlands with Dutch delta planners and with practitioners in Myanmar and Vietnam. From the interviews vignettes are generated to provide support for the argument.

[8] Personal correspondence with water expert, April 2017.

[9] Economic incentive also fails to explain why Bangkok-centered Korean plans did travel after the 2011 disaster, consisting of tangible present fixes in infrastructure (Interview K-Water, April 2017), despite the disaster flooding most of the basin and delta.

[10] We do not imply that travel to the other Southeast Asian countries is *easy*. Many of the same problems arise that arise in Thailand. And there are idiosyncratic difficulties as well. In Myanmar, for example, the government in the capital Nay Pi Taw has had little capacity to make even the basic planning arrangements that are needed according to the World Bank. The closing of the

(*footnote continued*)
country's technical universities at the end of the Cold War means that delta plans have had little data to support projections. Interview World Bank, November 2017.

[11] The most prominent water governance institution, the Royal Irrigation Department, indeed was a continuation of the Ayutthaya ministries for irrigation and flood management, dating back to the 14th century (Takaya, 1987).

[12] Coming from Guangxi province in China (8th-10th century CE).

[13] Also replacing the Brahmic language and script. The current dominant language in the Chao Phraya is still the tonal language Thai, or Siamese. The Siamese language is a member of the Tai group and the Tai-Kadai language family.

[14] Historical sources and genetic evidence do not suffice to determine how continuous the two kingdoms were.

[15] Most young men, for example, spend time in a monastery to improve their chances of marriage.

[16] In the Mandala political system power was indivisible. The King was an absolute monarch. Delegating power to others implied a loss of power. Power