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POLITICS OF KNOWLEDGE AND COLLECTIVE ACTION IN HEALTH IMPACT ASSESSMENT IN THAILAND

The experience of the Khao Hinsorn community

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Introduction

Impact assessment tools for water governance are arenas of contested knowledge production (Dore et al. 2012). Over the past decade, the effectiveness of impact assessment tools in enabling inclusive, sustainable, and equitable decision-making in water governance has been intensively studied. The politics of expert knowledge versus situational knowledge (commonly named “local knowledge”) has been extensively considered, including the discourses it produces and the power relations in play (Contreras 2007). How knowledge is claimed as legitimate or not has been widely discussed, including how knowledge interacts with policy decision-making through formal (legislated) and informal processes (Daniel 2013).

In the Mekong region, impact assessment tools are increasingly utilized, in particular Environmental Impact Assessments (EIAs), for which every country has now legislated, and to a lesser extent Cumulative Impact Assessments (CIAs) and Strategic Environmental Assessments (SEAs). These tools are commonly associated with the production of expert knowledge, with varying – but still largely limited – degrees of public participation and information sharing (Baird and Frankel 2015). When impact assessments are conducted for large infrastructure, such as hydro-power dams, special economic zones, and coal-fired power stations, they often become the focus of contestation about the predicted magnitude and distribution of costs and benefits. This contestation can be introduced by design when public participation is meaningfully incorporated. When it is not, the impact assessment can itself become a source of controversy (Daniel 2013).

While expert knowledge in impact assessment is often revealed to privilege the agendas of those in positions of power (Wells-Dang et al., 2016), in Thailand *Tai Baan* research (“villagers’ research”) has emerged as an influential form of situational knowledge production and community empowerment, often catalyzed by

civil society groups (Scurrah 2013). One form of *Tai Baan* is as a “counter-hegemonic” response to expert knowledge, organized to resist particular state- or private-sector-led projects. Here, in a highly politicized context, situational knowledge often reflects the advocacy agenda that it is tied to, and the experts of project proponents often seek to downplay its legitimacy as “unscientific” (Scurrah 2013). Within less politicized contexts, however, *Tai Baan* has been undertaken as a research initiative towards sustainable resource governance, where situational knowledge engages *with* local government institutions (Scurrah 2013). Furthermore, as shown by Sangkamanee (2013), how the community renders itself “legible” through *Tai Baan*-produced knowledge to engage the state is itself a dynamic and tactical process in securing state support for desired projects.

In Thailand, uniquely for the Mekong region, Health Impact Assessment (HIA) has gained significant traction. A commonly cited definition of HIA emerged from the Gothenburg Conference in 1999: “a combination of procedures, methods and tools by which a policy, program or project may be judged as to its potential effects on the health of a population and the distribution of effects within the population” (Kemmm, 2013: 4). Emerging from widespread support for “healthy public policy” in Thailand since 2000, HIA was legislated into the country’s 2007 National Constitution and the National Health Act of 2007 (Sukkmnoed 2013). Thailand is recognized as a global leader in HIA, especially among lower-middle-income countries (Byambaa et al. 2014). There are four approaches to HIA in Thailand (see next section), of which two are most commonly practiced: Environment Health Impact Assessments (EHIA) and Community Health Impact Assessment (CHIA). EHIA practitioners view HIA largely as an extension of EIA, with procedures now detailed in Thailand’s legislation (Chandanachulaka 2013). The process is expert-led, which emphasizes scientific knowledge production, in particular on health impacts due to changes in the physical and biological environment. Public consultation is given a reasonably significant role, yet psychological, social, and spiritual factors of health (which are often raised by consulted communities) remain downplayed as insufficiently “scientific” (Sukkmnoed 2013). The second approach, CHIA, is community-led, with support from the National Health Commission Office (NHCO) and civil society groups. While not compulsory, a CHIA can be requested under the National Health Act. The CHIA knowledge production process emphasizes the importance of community learning about the impacts of planned projects and policies on community health, and so it may be viewed as an empowerment process. Within the water governance literature, HIA has been little, if at all, studied.

This chapter illustrates how the Khao Hinsorn community has deployed CHIA as a means to engage in – and challenge – an expert-led EHIA that backed the construction of a coal-fired power station. Through the CHIA, the community successfully revealed analytical shortcomings in the EHIA, and in the process broadened the definition of legitimate knowledge considered within formal state-led decision-making processes. We therefore argue that CHIA has emerged as an important and strategic collective action response in Thailand, which has

contributed towards social learning and community empowerment, and thus enabled the contestation of unequal power relations within knowledge production, with implications for social justice outcomes. Conceptually, we frame our chapter around the politics of knowledge and its relationship to collective action through the various forms of HIA implemented in Thailand.

The rise of HIA in Thailand

Impact assessment, in the form of EIA, was first introduced into Thailand in 1975 with the National Environmental Quality Act, and the establishment of the National Environment Board (NEB). In 1992, with the Enhancement and Conservation of National Environmental Quality Act (NEQ), the requirements for EIA became more comprehensive, including establishing EIA Expert Review Committees appointed by the NEB. Under the NEQ, the range of projects requiring an EIA increased from 10 to 22 (it presently stands at 34). While public participation in EIAs is not specifically required under the NEQ, only a few years later Thailand's 1997 National Constitution affirmed a wider range of community rights including on public participation and information disclosure, reflecting increasing demands for political reform (see Unger and Siroros 2011). While EIA legislation and practice continue to evolve, EIA remains expert-led, with limited opportunities for substantive public participation (Chompunth 2012; Baird and Frankel 2015). Throughout the development process of EIA legal frameworks, health is dealt with in only a limited way, mainly in terms of occupational health (Chandanachulaka 2013).

The origins and evolution of HIA in Thailand have been detailed elsewhere (see Sukkumnoed 2013; Chandanachulaka 2013). HIA emerged in Thailand around 2000 due to a growing interest in “healthy public policy” during a period of national health system reform. This country-wide discussion, which built on the expectations of the 1997 Thailand Constitution, emphasized various community rights, including the right to health, the right to participate, and the right to access information. Following broad-based public consultation, and despite delays due to political conflict, on 4 January 2007 the National Legislative Assembly approved the National Health Act (Sukkumnoed 2013). The Act recognizes people's right to live in a healthy environment, and states in Section 11:

An individual or a group of people has the right to request an assessment and participate in the assessment of health impact resulting from a public policy.

An individual or a group of people shall have the right to acquire information, explanation and underlying reasons from [a] state agency prior to a permission or performance of a programme or activity which may affect his or her health or the health of a community, and shall have the right to express his or her opinion on such a matter.

Subsequently, in August 2007, a new National Constitution was passed by referendum and also incorporated a requirement for HIA in Section 67, paragraph 2. In

total, four forms of HIA were proposed under the terms of the National Constitution and the National Health Act (see Table 7.1). Below, we focus on EHIA and CHIA, the two forms of HIA that have been most commonly implemented in Thailand.

Due to the political conflict in Thailand since the mid-2000s, the government did not immediately act to legislate Section 67 of the National Constitution. Therefore, in June 2009, representatives of a community affected by the Map Tha Phut industrial zone in Rayong Province sued the government in the Administrative Court. The case suspended US\$10 billion of planned investment from Japan until Section 67 was enforced. In response, the government organized several committees that establish the rules and procedures of HIA, which were approved in October 2009, with further details on public scoping and public review agreed in December 2009 (Sukkomnoed 2013).

Thus, a legal basis and procedure for EHIA was established, with eleven project/activity types identified as requiring a compulsory EHIA (Chandanachulaka 2013). Responsibility for the EHIA is divided between the Office of Natural Resources and Environmental Policy and Planning (ONEP), which creates an Expert Review Committee to review the EHIA, and the National HIA Commission,¹ which is responsible for the EHIA systems and procedures. As each EHIA is prepared by a consultant who is hired and funded by project proponents, critics see similar shortcomings to EIAs in that EHIAs are expert-led, with inherent conflicts of interest. Furthermore, while public consultation occurs at the EHIA's "public scoping" and "public review" stages, experience to date has demonstrated the need to improve the accountability of the process, including the provision of input to the Expert Review Committee (Sukkomnoed 2013).

Regarding CHIA, communities can request a CHIA under Section 11 of the National Health Act. Thailand's first CHIA workshop to develop its guidelines, organized by the NHCO, was held in April 2008. Subsequently, the NHCO and supporting civil society groups worked with an expanding network of communities affected by industrial, mining, and biomass and coal-fired power-plant projects to pilot and develop CHIA (Pengkam et al. 2017). Among practitioners, including the NHCO and civil society groups, CHIA is understood as a "social learning" process for community development and empowerment that enables collective action. Key tools in CHIA include community mapping, which illustrates connections between natural resources and the community, and community timelines of significant events and changes. The process also entails understanding a proposed project (including its rationale, ownership, funding, and potential impacts), understanding relevant laws and procedures, assessing impacts using collected data, and ultimately engaging in decision-making.

While CHIA data collection is principally a community-led process, there is expert input, for example on the details of the project and legal implications, so it is best understood as a co-production of knowledge approach (Van Kerkhoff and Lebel 2015). The CHIA is a mutual learning process between the community and

experts that aims to integrate their respective knowledge. In contrast to EHIA, where community involvement is in the form of “public consultation,” in CHIA the communities themselves are the researchers.

An important debate related to HIA in Thailand and globally concerns the definition of “health,” which ranges from the mere absence of illness to a more holistic notion of physical, mental, and social wellbeing. The definition chosen has implications for the scope and focus of an HIA. While defining health in terms of illness enables focus, understanding it as wellbeing reveals its relationship with wider societal policy choices, including on key societal systems such as energy, transportation, industry, and food, which in turn have implications for mega-project construction.

Recently, this debate played out in Thailand’s National Health Promotion Foundation, an autonomous government agency established in 2001 that has leaned towards equating health with wellbeing and has supported participatory processes towards this end. In Thailand’s post-2014 *coup d’état* political landscape, the military government has sought to restrict the foundation’s mission to narrower interpretations of health, in the process restricting civil society’s voice within debates about plans for large development projects (*Bangkok Post* 2016). More broadly, Thailand’s 2007 Constitution was repealed by the military government in May 2014, and within the interim constitution in place at the time of writing, it is clear that community rights, including those relating to participation, access to information, and control over natural resources, have been weakened, which has implications for the future practice of CHIA. This is notable, given that the

TABLE 7.1 Typology of HIA in Thailand

<i>Type of HIA</i>	<i>Lead preparing HIA</i>	<i>Approach / purpose</i>
EHIA	Consultant firm; reviewed by Expert Review Committee convened by Office of Natural Resources and Environmental Policy and Planning (ONEP)	Mandated under Section 67 of 2007 Thai Constitution. “Environment health” approach, with two stages incorporating public participation.
Policy/planning level HIA	Responsible government agency, supported by National Health Commission Office (NHCO)	Decision-support HIA to inform policy and planning of government agencies on health. “Social view of health” approach.
HIA requested by public	NHCO and petitioner	Public concerned about the implications of a policy may request an HIA. Produced study is considered by relevant regulator. “Social view of health” approach.
CHIA	NHCO and community	Community-led process, with support from NHCO and civil society groups. “Social view of health” approach.

Source: Authors’ compilation

military government has a stated policy to accelerate investment in large infrastructure in the interests of economic growth (Reuters 2016).

The politics of knowledge in HIA in the Khao Hinsorn community

In this section, we discuss how EHIA and CHIA have been deployed towards a proposed coal-fired power station in the Khao Hinsorn community. We provide a brief background on the community and the significance of water resources there, and outline how plans for the coal-fired power station materialized. We then discuss the process by which EHIA and CHIA were undertaken, and how the CHIA catalyzed community-led collective action in collaboration with the NHCO. We discuss how the findings of the EHIA and CHIA differed, and how a politics of knowledge ensued when the CHIA revealed deficits in the EHIA, such that it failed its expert review.

Agriculture, industry, and water in the Khao Hinsorn Subdistrict

The Khao Hinsorn Subdistrict is located in Phanom Sarakham District, Chachoengsao Province, in eastern Thailand. It is Thailand's second-largest mushroom-growing community, is also renowned for its mango production for domestic consumption and export, and is home to an expanding organic farming community, with some farmers accredited for export to the European Union. Other non-organic production includes rice, rubber, cassava, pineapple, and vegetables. The Khao Hinsorn Royal Development Learning Center for self-sufficient and sustainable farming is also located within the subdistrict. Next to Khao Hinsorn's residential and farming area is the 304 Industrial Park 2, established in 2001 under Thailand's Eastern Area Development Policy. The industries present include electronic parts manufacture, a paper mill, and the lumber industry.

Khao Hinsorn Subdistrict is located within the Klong Thalad sub-basin, which is the largest tributary of eastern Thailand's most significant river, the Bangpakong. The Klong Thalad sub-basin is 2,930 square kilometers in size and a plain in topography (Department of Water Resources 2007, cited in NHCO 2012). There are two significant water reservoirs nearby: the See-Yad canal reservoir; and the Rabom canal reservoir. With a combined storage capacity of 450 million cubic meters, they account for 60 percent of the area's natural water supply (NHCO 2012). Water flows westwards from these reservoirs along the See-Yad canal and Rabom canal, which converge to form the Thalad canal near the industrial estate before flowing into the Bangpakong River. Aside from maintaining local ecosystems, the water is used for general consumption, irrigation, and industry. The canals are also sources of local food, including wild bamboo shoots, water plants, and fish. As discussed below, even under existing conditions of use, seasonal water shortages are common.

Plans emerge for a coal-fired power station

In December 2007, the National Power Supply Public Company Limited (NPS), a private company owned by the Double A Power Group, won a bid under Thailand's 2007 Power Development Plan (PDP) to build a 600-megawatt coal-fired power plant within the industrial park. ONEP had approved the project's EIA in 2006, without the knowledge of the Khao Hinsorn community. When the plan was made public, Thai energy activists, seeking to transition the country away from coal, disseminated information on the impacts of coal-fired electricity production among the community (TAI 2014). The Healthy Public Policy Foundation, meanwhile, questioned whether a new power station was necessary. Public interest lawyers from the NGO Environmental Litigation and Advocacy for the Wants (EnLAW) also informed the community of its rights and the legal instruments available to them.

After discussions with the civil society groups, the community was concerned about the project's potential impacts, including on agriculture, health, and water resources. From 2008, community members organized various collective actions, including: putting up signs opposing the project; submitting petition letters to the authorities; filing a lawsuit at the Administrative Court to suspend the project; organizing direct-action protests; and even petitioning the King of Thailand (NHCO 2012). They also sought to influence the power-station licensing procedure by submitting their concerns to the PDP 2007 public review process. Despite these visibly political activities, the Khao Hinsorn community has publicly stated that they do not position themselves as "activists." Their stated intention has been to inform the decision-making, as they believe that decisions should be evidence-based and recognize existing local interests.

While the project's EIA was approved under Section 67 of Thailand's 2007 Constitution, it was apparent that an EHIA was also required before the Energy Regulatory Commission could issue a power-station license. Therefore, in 2007, NPS hired the private company Air Safe, who, in conjunction with consultant academics, were instructed to prepare an EHIA.

Initiating a CHIA

Concerned about the project's previous EIA process, and recognizing the expert-led nature of the EHIA, in October 2010 representatives of the Khao Hinsorn community asked Thailand's NHCO to conduct a CHIA under Section 11 of the National Health Act. Following a screening process, the request was approved in December 2010 (NHCO 2012). The two-year process to prepare the CHIA began with an introduction to the coal-fired power-station approval process, applicable laws, and relevant agencies by the HIA Coordinating Unit, which worked with representatives of the community to help them understand how they could participate in the decision-making. The EIA report was also discussed to understand the impacts of the proposed project. At first trust-building was required, as some community groups suspected the information was actually being gathered for

the EHIA. At this stage, community representatives identified health risks from air and water pollution, depletion of water resources, threats to security posed by incoming workers, and road accidents caused by coal transportation as their main concerns, which then defined the scope of the CHIA study.

Subsequently, a focus group consisting of representatives from eight potentially affected villages created hand-drawn maps that helped to illustrate the connections between the villages, natural resources, agriculture, and the use of water resources. From the communities' perspective, the map produced by the project's EIA team was inadequate because it "did not show farms, residence, temples, schools and lives" (NHCO 2012: 5). As the mapping process unfolded, a growing number of community members expressed a desire to be involved.

The map made it evident that water use from the coal-fired power station would impact not only on the adjacent Thalad canal but also on the connected Bangpakong River, downstream. Farmers' previous experience with the impacts of seawater intrusion on their crops when water flows were reduced in the Bangpakong River gave them insight into the potential impacts of the coal-fired power station on water resources and agriculture. The CHIA team drew on Royal Irrigation Department (RID) data to calculate the proportion of water use between users, and compiled past news reports documenting water scarcity and salt-water intrusion. Newspaper reports of local hospitals having to import fresh water to clean surgical equipment and for kidney cleansing when local water supplies became too saline were also collated. Following the production of the map, a community timeline was created, focus groups organized, and surveys undertaken to collate qualitative and quantitative information on organic agriculture, mango and mushroom production, and available water resources, among other issues.

Differences emerge

Differences between the CHIA findings and the EIA report's conclusions began to emerge. While the EIA concluded that there would be "low impacts" on the agricultural sector, the CHIA team found that the air particulate levels detailed in the EIA report exceeded certified standard values for organic produce. In addition, as more information was gathered about the industrial park, it was realized that the location of existing "burnt" mango trees, which had flowers but failed to bear fruit, correlated with the pathway of air pollution carried by the prevailing wind from the industrial estate. A map was produced illustrating the location of the burnt trees and the prevailing wind direction to demonstrate the relationship. Suspicion fell on a 47-megawatt biomass-coal-fired power plant and a coal-based iron smelter in the industrial zone.

The CHIA team presented their preliminary report for "public review" on August 21, 2011 in Chachoengsao Province. Government officials and academics were invited to comment on the findings. Significantly, the RID joined the public hearing and validated the CHIA's calculation that there would be insufficient water to maintain existing uses if the coal-fired power station were to extract 11 million

cubic meters of water as planned, with downstream impacts on the ecology of the Bangpakong River and salt-water intrusion in Prachinburi Province. The CHIA also identified that coordination between water users was weak, and recommended that an improved mechanism should be established.

Based on recommendations received during the public review, a more comprehensive report, titled *Food–Coal, the Crossroad of Agricultural Land Development of Phanom Sarakham–Sanam Chai Khet*, was produced and presented for expert review on June 19, 2012 at the National Health Office building in Bangkok. Relevant government agencies, including the HIA Committee, the Department of Industrial Works, and the Energy Regulatory Commission, together with researchers from the Healthy Public Policy Foundation, civil society groups, and the media attended the meeting. The community presented the CHIA’s methodology, findings, and conclusions. It estimated that over 1000 Rai of farmland and more than 100 families would be affected. The CHIA report argued that the Khao Hinsorn Sub-district is a significant agricultural area and embodies an important portion of the Klong Thalad watershed, so it is unsuitable for a coal-fired power station. The government agencies at the meeting recognized the validity of the CHIA process, and provided recommendations to make the CHIA report more comprehensive.

Another significant outcome of the CHIA was that the community included a systematic historical overview of the area in its assessment. The area originally had abundant forest, which was logged under Thailand’s past forest concession policies and converted to plantations, ultimately leaving the land degraded. The Khao Hinsorn Royal Development Learning Center and local NGOs have supported the recovery of farming, including promoting organic farming. Meanwhile, the partial industrialization of the area has produced heavy-metal water pollution, contaminating shallow wells. These insights were an incentive to prepare a future development plan for the area as part of the CHIA.

At the next meeting of the National Health Commission, on July 20, 2012, it passed a resolution on the CHIA: to forward the report to relevant agencies, including ONEP, “for consideration and decision-making,” and instructed the NHCO to coordinate with local government agencies, local authorities, academia, and local communities “to develop a mechanism for solving the existing problems and structure a framework for future development relevant to area potentials” (NHCO 2012: 10).

Outcomes

When the expert-produced EHIA report commissioned by NPS was submitted to the NHC and passed on to ONEP, the latter’s Expert Review Committee had already read the CHIA report as supplementary material and had visited the proposed project site. Their assessment of the EHIA report was that it did not sufficiently assess seasonal water scarcity, and that it failed to consider the fact that even though the predicted water and air pollution from the coal-fired power station met Thailand’s minimum legal standards, it fell below an acceptable standard for organic farming. As a result, the EHIA report was not approved.

NPS, however, revised and resubmitted the EHIA report in October 2013. This time, although NPS recognized the presence of organic farming in the area, it did not carefully assess the project's potential impacts upon it, especially in relation to the export certification requirements. The Khao Hinsorn community, now well organized, submitted a 9,000-signature petition against the revised EHIA to ONEP. The latter's Expert Review Committee again rejected the EHIA report. Subsequently, a third EHIA report was submitted and rejected in January 2016, and a fourth was submitted in February 2017 (with the outcome still pending at the time of writing). However, as the project is private-sector led and has been incorporated into the PDP on the basis of the earlier bidding process, the government does not have the authority to cancel it. Therefore, NPS can continue to resubmit EHIA reports indefinitely.

Conclusion: politics of knowledge and collective action in HIA

In Thailand, HIA in its various forms is a new and significant impact assessment tool. EHIA and CHIA engender different structures of power relations regarding the production of expert versus situational knowledge and its recognition. EHIA has adhered closer to the formula of existing EIA procedures, in terms of being expert-led, funded by project proponents, and “consulting” the public. Meanwhile, CHIA has emphasized community-led collective action research processes to co-produce knowledge with state and civil society experts.

At Khao Hinsorn, the CHIA produced knowledge that revealed significant deficiencies in the EHIA, and ultimately resulted in ONEP's Expert Review Committee rejecting a number of EHIA reports. In this case, environment and water governance was improved by the CHIA process, which ensured that all relevant facts for assessing health impacts were recognized, and all relevant actors/interests were represented.

Khao Hinsorn is just one among a growing number of successful CHIA studies in Thailand that have either questioned planned projects or helped to address the impacts of existing projects (such as at Klity Lang Village, which has been affected by historical lead mining; see Pengkam et al. 2017). Several CHIA-type studies are now underway in Myanmar, building on Thailand's experience, although these are mainly conducted with civil society groups rather than government agencies.

As emphasized by Suhardiman et al. (2015; see also Cashmore et al. 2010), knowledge production in impact assessment entails power struggles over framing problems, explaining causality, proposing solutions, and defining social justice. This chapter furthers understanding of the politics of knowledge and collective action, in particular literature on Southeast Asia, by exploring new configurations of community–state–private–sector knowledge production within impact assessment (Dore et al. 2012; Daniel 2013; Sangkamanee 2013; Scurrah 2013). In contrast to *Tai Baan* research, CHIA is recognized by the state, as it is legislated by the National Health Act (2007), produced in collaboration with the NHCO, and officially presented to the NHC, who in turn can recommend that the report

should be acted upon. This conveys a certain legitimacy to the situational knowledge incorporated in the report, combined and contextualized as it is with expert knowledge. Thus, the rigid divide between state expert, civil society expert, and situational knowledge is partially dissolved, in contrast to the “counter-hegemonic” strategy of some forms of *Tai Baan* knowledge production, which challenges the state through advocacy (Scurrah 2013). Indeed, CHIA in the case of Khao Hinsorn is a state–civil society–community collective action that positions itself to critique (as necessary) the privately financed expert knowledge production of the EHIA, while at the same time proposing alternative visions for state–community collective action towards development (see Walker 2009; Sangkamanee 2013). Hence, CHIA is an arena within which situational knowledge and its recommendations are conveyed into formal, national-level state policy processes, and subsequently a means by which the community can negotiate its interests, including with respect to future local development initiatives.

Note

- 1 The National Health Commission (NHC) established the National HIA Commission to manage overall HIA development in Thailand

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