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PLACE ATTACHMENT AND COMMUNITY RESISTANCE

Evidence from the Cheay Areng and Lower Sesan 2 dams in Cambodia

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Introduction

Hydropower in Cambodia is an important means for achieving the government's electrification target of connecting 70 per cent of the population to the grid by 2030, reducing electricity costs, and preventing frequent outages. Much of Cambodia's hydropower potential is as yet unexploited and lies in poor rural areas, which are often inhabited by ethnic minorities. Many of these are increasingly resistant to the government's hydropower plans, finding help for their fight from international and domestic NGOs, media outlets, and domestic activists.

Resistance by ethnic minorities and indigenous groups brings to the foreground issues of identity and competing visions of development. This chapter explores these issues, drawing on Swyngedouw's concept of hydro-social scales and the literature on place attachment. The case studies are the conflicts around the planned Cheay Areng dam in Koh Kong Province and the almost completed Lower Sesan 2 dam in Stung Treng Province.

The chapter not only illustrates how hydropower dam development disintegrates a local community's ability to manage their surrounding natural resources, but also highlights how attitudes towards dams and the emergence of resistance are connected to people's identity in relation to place. This is not to say that communities are homogeneous. Indeed, some community members may agree with the necessity of a hydropower dam and largely support the developmental aims, while others vigorously oppose it. The chapter explores how resistance and identity may be linked and therefore are important aspects to consider for governments when planning dams, particularly in areas with ethnic and indigenous communities. It analyses such dynamics by looking at processes and agents of resistance. This resistance can manifest in various ways, ranging from petitions and peaceful demonstrations to, at times, violence.

River basins as competing hydro-social scales

River basins are human-made waterscapes reflecting specific political, social, and natural relationships at certain points in time (Swyngedouw, 2009, 2014; Molle et al., 2009). These waterscapes are contested as they are populated by a range of actors within and across different geographical scales who use water for different purposes. This produces overlapping hydro-social scales consisting of competing networks of interest (Swyngedouw, 2007).

The construction of hydropower dams is an example of such competing networks as they include national and local governments, multinational corporations and transnationally operating financiers, transnational and domestic NGOs, and local communities. The introduction of such a wide range of actors restructures existing socio-ecological relationships and actor networks into new hierarchies, often to the detriment of local communities, affecting their economic, social, and spiritual relationship with the natural environment (Rigg, 2006; Swyngedouw, 2014; Duarte-Abadía et al., 2015).

Areas of hydropower production are therefore laden with meaning for actors with diverse interests. For some, particularly for national and local governments envisaging economic development, but also for companies looking for new investment opportunities, they are areas for investment to exploit abundant natural resources and to drag a rural population out of (perceived) isolation and poverty. For many of the communities living in these areas, however, and particularly for indigenous ethnic communities, such areas often embody specific livelihood-cum-religious practices, which are deeply connected to the specific place. This place, it can be argued, is likewise created and imagined.

Such places where resources lie seemingly unproductive and unmobilized have been termed ‘resource frontiers’ (Lagerqvist, 2013). These are places ‘shaped by flows of capital and contingent socio-economic conditions’ (Woodworth, 2017: 133; see also Nuttall, 2012). In the course of development interventions, they also see considerable changes in property rights and livelihood practices (Barney, 2009: 146).

Place attachment and hydropower dams

Following Tuan’s seminal study (Tuan, 1974), place attachment has been discussed in diverse and often contested ways. On a fundamental level, place attachment denotes an emotional bond, which attaches groups or individuals to places (Low and Altman, 1992). Proshansky et al. (1983: 61–62) argued that place identity goes beyond emotional attachments as the term denotes a cognitive structure. Low (1992), meanwhile, argued that place attachment goes beyond emotional and cognitive experiences and includes cultural beliefs and practices.

A large body of literature has investigated the relationship between people’s place attachment and environmental attitudes (Devine-Wright and Howes, 2010; Fernando and Cooley, 2016). Exploring the relationship between place attachment

and local protective environmental action, Devine-Wright (2009) argued that place attachment can generate local resistance against place-disruptive projects. This is so because individuals go through stages of psychological responses, including becoming aware of the project, interpreting the implications for the place, evaluating whether the change will be positive or negative, coping by considering responses, and finally acting.¹ Whether action will take place in the end, however, depends on a variety of factors, including – but not limited to – the belief in personal political efficacy or the presence of cohesive, stable social networks.

Vorkinn and Riese (2001) found that strong place attachment could produce negative attitudes towards proposed hydropower projects. Similarly, Bonaiuto et al. (1996, cited in Carrus et al. 2005: 241) showed how local identification prevents negative attitudes towards the environmental conditions of a place where such negative attitudes are held by outsiders. However, a group of insiders might be positively positioned towards a transformative project, also based on their attachment to the place (Twigger-Ross et al., 2003).

The literature on place attachment has therefore problematized the concept of community. For instance, Manzo (2005) pointed out that identity and feelings of belonging to a place are connected to gender, race, ethnicity, and class. Indeed, in urban areas the same neighbourhood can have diverse meanings for different social groups (Loukaitou-Sideris, 1995). Attachment intensity to a specific place thus varies between different groups of people (Wynveen et al., 2011).

Looking specifically at religion and ritual, Mazumdar and Mazumdar (1993) analysed how ritual can connect people to places. Exploring place attachment in the Niobrara National Scenic River in Nebraska, Davenport and Anderson (2005) discovered a ‘web of river meanings’ as different people and groups have different forms of attachment to the river, which can also change over time.

For hydropower, meanings of rivers and spiritual and emotional wellbeing join where dam-induced resettlement threatens local populations who hold specific religious beliefs. Problems are not necessarily clear cut, however. Whether or not the dam presents a positive development is often viewed differently within and between communities, conditioning responses to the project (Siciliano et al., 2015). The following cases explore the role of religious and other cultural practices in relation to the surrounding natural environment as well as on communities’ perceptions of their identity and power relationships with dam proponents.

The Cheay Areng dam

If built, the 108-megawatt Cheay Areng dam would be located in the Areng Valley, a biodiversity-rich area in the protected Cardamom Mountains. The area is mostly inhabited by ethnic Chong, but also Khmer. The dam would displace 1,500 people, most of them Chong, who are rotational farmers, fishers, and gatherers of forest products. The project is currently suspended, pending further government decisions.

The project was first taken on in 2006 by China Southern Power Grid, who tasked Cambodia's Sawac to conduct an environmental impact assessment (EIA), completed in 2008. As international criticism mounted, China Southern Power Grid withdrew from the project, offering no explanation. In 2010 China Guodian took over but then withdrew, citing problems with the project's financial viability. In January 2014, Sinohydro acquired the concession (Quinlan and Phak, 2013; Pye, 2014a; Yeophantong, 2014).

Following Sinohydro's engagement, the planning process gained pace, but so did community resistance. On 28 January 2014, Sinohydro signed a contract with construction company Cambodia Lancangjiang. In February 2014, the Ministry of Energy and Mines authorized drilling and geological surveys for a feasibility study. Following this, representatives from Sinohydro and the Ministry of Energy and Mines and officials from Thma Baing District visited the site to prepare the construction of an access road to bring in heavy machinery (Chhay and Pye, 2014).

Sinohydro then tasked Sawac with the EIA and SBK Research and Development with the resettlement plan. In March 2014, the provincial government informed commune authorities that Sawac would conduct the EIA in the area. In the same month, SBK Research and Development submitted the resettlement plan for governmental review, following asset surveys that had begun in December 2013. Khnhel Bora, SBK's director, Pich Siyun, director of the Koh Kong provincial branch of the Ministry of Energy and Mines, and Tou Savuth, governor of Thma Baing District, all stressed that consultations with local communities had been conducted as part of the resettlement plan (Chhay and Pye, 2014; International Rivers, 2015: 21, 27–28).

Dynamics of community resistance

Community resistance to the dam was persistent and strong, although the resistance mostly emerged from the Chong community. This was supported by a network of dissident monks organized in the Independent Monks Network for Social Justice, the Cambodian Youth Network, and domestic and international NGOs (Phak and Woodside, 2014; Yeophantong, 2014; Khuon, 2014a).

While protests intensified after Sinohydro's engagement, the project had attracted criticism earlier. In February 2012, opposition politician Son Chhay wrote to Prime Minister Hun Sen to voice concerns about the environmental impacts. In reply, Hun Sen stated that the dam would go ahead and that Sawac's 2008 EIA study had outlined mitigation of all environmental impacts. Further, all 263 families that would lose their land would be compensated fairly (*Phnom Penh Post*, 2012).

In 2013, the Chong community began to reach out to a wider audience by launching a petition on change.org.² In the same year, a group of dissident monks from the Independent Monks Network and led by But Buntenh travelled from Phnom Penh to the dam site to conduct tree ordination ceremonies, watched closely by armed police (Quinlan and Phak, 2013; Phak and Pye, 2014a).

Following Sinohydro's takeover, resistance became more robust. When spotting Sinohydro personnel trying to enter the dam area in March 2014, around 150

Chong villagers – with Ven Vorn of Chumnap Village, Thmor Baing District, one of the protest leaders – worked in rotating shifts of thirty to forty people over the following three days to block Sinohydro from moving heavy machinery into the dam site to conduct the feasibility study. During the weekend of 15–16 March 2014, Sinohydro personnel who had been surrounded by villagers in a Sinohydro office at the dam site had to be escorted from the area by military police. Following the incident, the government asked Sinohydro and Sawac to stay out of the dam area until the situation had calmed down (Phak and Pye, 2014a, 2014b).

The community managed to maintain the roadblock until September 2014, when soldiers removed it and replaced it with an army outpost (Peter and Khuon, 2015). This, however, did not reduce the resistance. In December 2014, when Sawac representatives attempted to enter the dam site, villagers blocked their access (Pye, 2014b). Confirming the determination of the Chong community, Vana Savoeum, a villager participating in the blockade, said when the blockade began: ‘We will use tractors, motorbikes and fell ... trees on the road to block them’ (Pye and Phak, 2014).

In response to the resistance, the army created a new thirty-soldier platoon in Thma Baing District in June 2014, one day before a compensation meeting was to take place between villagers and the government’s dam working group, which consisted of local and national energy officials and Sinohydro representatives. Compensation proposals included ‘new homes for each family on 1,000-square-meter plots, giving them five hectares of farmland each’, but the families rejected the proposals on the grounds that they would result in the flooding of ancestral lands, sacred forests, and burial sites (Khuon, 2014b). In October 2014, SBK stated that the resettlement study was not yet complete as a new relocation site needed to be identified (Pye and Cuddy, 2014).

In February 2015, Hun Sen announced that the current government would not continue with plans for the Cheay Areng dam and that any decision about its eventual construction would be postponed until after the next national elections, due to be held in 2018 (Khan, 2015).

Spiritual and cultural issues

The key point of contention from the perspective of the Chong has been their connection to the surrounding natural environment, which provides them with traditional livelihoods and spiritual wellbeing. Indeed, the rejection of the above compensation proposals occurred at least partly due to a neglect of these issues.

Interviewed by the *Phnom Penh Post*, a young Chong community member named Lucky spoke about the Chong’s “‘connection to their homeland” and the good quality of life’ as the forests and the river provide plenty of food. Yung Pun, a fifty-seven-year-old Chong community member, explained why she did not want to move:

We’ll lose our animals, forest ... the house ... The new site that the government is moving people to is very difficult to live in. It’s a damp forest and has lots of mean wildlife like tigers and elephants, and has no rice fields.

In addition, Yung Pun pointed out that the new site lacked schools, did not have access to water or fish, and was far from sources of income (Quinlan and Phak, 2013).

Ven Vorn said that Chong villagers had not been consulted or even officially told about the dam. He argued: 'We can't accept to relocate to the new place, because we might get only land to build a house, but not cultivatable land and especially because this is our ancestors' spirit place' (Chhay and Pye, 2014). Altars to the spirit forest are prayed to every year for a good harvest in the coming season, or if a relative falls sick, or if an animal is lost. Has Porn, another Chong community member, said: 'If the spirit forest floods, it will be like my own body is drowned.' Hun Sen, however, argued that there would be no impact on Chong culture and that villagers could find work on the construction site and later work as guides as the area would be developed into an ecotourism destination. In response, Hoeng Pov, a member of the Mother Nature organization, argued, 'It's like they have the money and want to pay us to destroy our homes ... The government can give us jobs, but it can't pay us for our culture and our forests' (Peter and Khuon, 2015).

The Lower Sesan 2 dam

The 400-megawatt Lower Sesan 2 dam was approved by the Council of Ministers in November 2012, following completion of an EIA by Key Consultants Cambodia in October 2008 and a feasibility study by Power Engineering Consulting Joint Stock Company No. 1 (PECC1). Clearance of the reservoir area began in March 2013. The resettlement and compensation plan was published in January 2014 and construction began the following month. Production of electricity is scheduled for 2017.

Originally the dam was a joint venture between Electricity of Vietnam's (EVN) subsidiary EVN International Joint Stock Company and Cambodia's Royal Group (Khouth et al., 2013). Following the withdrawal of EVN as main partner, the project developer became Hydropower Lower Sesan 2, a joint venture between Royal Group and Hydrolancang, who together own a 90 per cent stake in the dam. EVN International Joint Stock Company owns the remaining 10 per cent (Royal Government of Cambodia, 2013).

Lower Sesan 2 is located near the confluence of the Sesan and Srepok rivers, part of the 3S river system. Lower Sesan 2 is projected to have a major detrimental impact on the Tonle Sap, the Mekong Delta, and downstream food security as it will lead to a 9.3 per cent drop in fish stocks across the basin (Ziv et al., 2012).

According to the EIA, the dam will lead to the resettlement of 4,785 villagers into six resettlement sites (Mekong Watch and 3S Rivers Protection Network, 2013). The inhabitants are indigenous and ethnic minorities with livelihoods including farming, fishing, livestock herding, and collecting non-timber forest products. The environmental management plan provides for compensation of US \$127 million for lost assets, including rice fields, trees, gardens, houses, and fisheries, and stipulates the provision of land for relocation (Grimsditch, 2012: 30). This, however, has turned out to be insufficient.

Dynamics of community resistance

As part of the EIA process, Key Consultants held public consultations in February 2008 with those people who would be most affected by the project. Of those attending, 85 per cent disagreed with the project and were especially dissatisfied with the compensation and relocation provisions (Grimsditch, 2012: 33; Baird, 2009).

The compensation policy for Lower Sesan 2 changed several times. The original policy was announced by EVN in 2011 (Ham et al., 2013: 52). An improved policy was published by the Cambodian government in 2013, setting out better economic terms and asking people to self-select their resettlement locations (Royal Government of Cambodia, 2013; Ham et al., 2013: 52, 55). Still lacking, however, was consideration of the cultural impacts.

The improved offer split Kbal Romeas, one of the villages to be flooded and home to the Pu Nong indigenous community, into three groups: one group accepted it; a second said they would accept it pending a new EIA and after they received the promised compensation; and a third rejected it outright (Cambodian Centre for Human Rights, 2015: 2).

Then, in July 2015, residents of other villages who had previously accepted relocation changed their minds. In a letter to Hydropower Lower Sesan 2 they requested sufficient time to store food in advance of moving, pointing to problems with the fertility of the new land. The new houses were not well constructed and inadequate to keep cattle, villagers were asked to move in the middle of the farming season, and the relocation of the spirit forests, where the ancestral burial grounds are located, was still not resolved (May, 2015). In response, representatives from Hydropower Lower Sesan 2, Ith Prang from the Ministry of Energy and Mines, and the deputy governor of Stung Treng, Doung Pov, pledged to relocate the graves properly, provide 20 kilograms of rice per person per year (although it was not reported for how many years), assume responsibility for the maintenance of the houses for four years (this pledge was made specifically by Hydropower Lower Sesan 2), and not use force against the villagers.

Spiritual and cultural issues

The situation in the village of Kbal Romeas illustrates the cultural issues involved in the dispute. Part of the dispute in Srekor Commune revolved around the fact that compensation documents made no mention of ancestral burial grounds that would be flooded (Kuch, 2014). The community's relationships with their ancestors and guardian spirits of villages, rivers, and forests 'form a key part of the community's cultural identity and sense of wellbeing. The local forests contain important sites where local people pray to these spirits, invoking their help in maintaining the spiritual and physical health of the community' (Cambodian Centre for Human Rights, 2015: 1–2; Moul and Sovathana, 2012: 5) and in producing good harvests (Ham et al., 2013: 55).

Economic, social, environmental, and spiritual aspects of life are thus intertwined as a basis for wellbeing and play an important role in establishing customary law and social norms (White, 1996: 335–336, 350–358, cited in Chhim, 2005: 21). For example, ancestral burial grounds

are extremely important spiritual sites. The families of the dead frequently pay their respects to the dead in order to attract good luck, and make offerings of food, and burn incense for them ... It is believed that the ancestors will be angry and curse them with sickness or other problems if they fail to conduct these rituals.

(Ham et al., 2013: 55)

To resolve the issues of the burial sites, village elders suggested abandoning the sites or moving them to a new location. In both cases, however,

spiritual and traditional rituals will have to be performed, and so do the moves of other spirits ... Moreover, in seeking out a new place to live, local people must first ask the spirit of the land guardian (*neakta*) for permission by praying and through rituals.

(Ham et al., 2013: 55)

Traditional beliefs also form part of the inventory of local resistance. In March 2015, villagers from the Lao and Pu Nong ethnicities paid tribute to the local deity *neakta krahom kor*, guardian spirit of the river, then asked it to protect them from harm and ‘curse the officials and investors behind the dam’ (Aun, 2015). The villagers set up effigies – representing Minister for Mines and Energy Suy Sem, company owner Chip Mong, and officials from Hydrolancang and local authorities – stabbed them with needles then burned them. This provoked a reaction from Doung Pov, who argued that the ceremony had violated the rights of the investors (Aun, 2015).

Conclusion

The cases in this chapter show that traditional compensation and resettlement packages – which typically target assets that can be expressed in monetary terms – have limitations when cultural aspects are involved. The Cheay Areng and Lower Sesan 2 dams present several problems for Cambodia’s dam planning. At the core of it are problems of identity. The dam areas are home to ethnic and indigenous communities, many of whom view them not only as their ancestral homelands but also as areas of spiritual meaning and wellbeing. Life is therefore deeply connected to a spiritual environment that faces serious disruption.

The cases of Cheay Areng and Lower Sesan 2 show that place attachment and the recognition of livelihoods and wellbeing are important factors in dam planning. Ignoring them runs the risk of significant resistance to projects. Spiritual and

cultural factors are also difficult to assuage via traditional compensation mechanisms and therefore require specific attention if dams are to be built and if they are to benefit not only populations in urban centres but also, importantly, local communities that are at risk of losing their livelihoods and cultures.

Notes

- 1 See Brown and Perkins (1992) for a similar framework.
- 2 See www.change.org/p/his-excellency-prime-minister-hun-sen-stop-the-construction-of-the-stung-cheay-areng-dam.

References

- Aun, P. (2015). Villagers call on spirit to curse officials, company behind dam. *Cambodia Daily*, 2 March. www.cambodiadaily.com/news/villagers-call-on-spirit-to-curse-officials-company-behind-dam-78885/ (accessed 24 March 2017).
- Baird, I. (2009). *Best Practices in Compensation and Resettlement for Large Dams: The Case of the Planned Lower Sesan Dam 2 Hydropower Project in Northeast Cambodia*. Phnom Penh: Rivers Coalition in Cambodia.
- Barney, K. (2009). Laos and the making of a 'relational' resource frontier. *Geographical Journal* 175(2): 146–159.
- Bonaiuto, M., Breakwell, G., Cano, I. (1996). Identity processes and environmental threat: The effects of nationalism and local identity upon perception of beach pollution. *Journal of Community and Applied Social Psychology* 6(3): 157–175.
- Brown, B., Perkins, D. (1992). Disruptions in place attachment. In I. Altman, S. Low (eds) *Place Attachment*. New York: Plenum Press, pp. 279–304.
- Cambodian Centre for Human Rights (2015) Kbal Romeas, Lower Sesan II dam profile. www.cchrcambodia.org/project_page/land_profile/pdf/13-Stung-Treng-Lower-Sesan-II-Dam-Profile-en.pdf (accessed 24 March 2017).
- Carrus, G., Bonaiuto, M., Bonnes, M. (2005). Environmental concern, regional identity, and support for protected areas in Italy. *Environment and Behavior* 37(2): 237–257.
- Chhay, C., Pye, D. (2014). Areng project changes hands again. *Phnom Penh Post*, 4 March. www.phnompenhpost.com/national/areng-project-changes-hands-again (accessed 30 December 2016).
- Chhim, K. (2005). *Indigenous and Tribal Peoples' Perceptions of Poverty and Poverty Reduction Strategies in Cambodia*. Geneva: International Labour Organization.
- Davenport, M., Anderson, D. (2005). Getting from sense of place to place-based management: An interpretive investigation of place meanings and perceptions of landscape change. *Society and Natural Resources* 18: 625–641.
- Devine-Wright, P. (2009). Rethinking NIMBYism: The role of place attachment and place identity in explaining place-protective action. *Journal of Community and Applied Social Psychology* 19: 426–441.
- Devine-Wright, P., Howes, Y. (2010). Disruption to place attachment and the protection of restorative environments: A wind energy case study. *Journal of Environmental Psychology* 30: 271–280.
- Duarte-Abadía, B., Boelens, R., Roa-Avenidaño, T. (2015). Hydropower, encroachment and the re-patterning of hydrosocial territory: The case of Hidrosogamoso in Colombia. *Human Organization* 74(3): 243–254.

- Fernando, F., Cooley, D. (2016). Attitudes towards shale oil development in western North Dakota: The role of place based community values in attitude formation. *Journal of Rural Studies* 46: 132–146.
- Grimsditch, M. (2012). *Understanding New Threats and Challenges from Hydropower Development to Biodiversity and Community Rights in the 3S River Basin*. N.P.: 3S Rivers Protection Network and International Rivers.
- Ham, K., Hay, S., Sok, T., Sim, V., Lor, R. (2013). *Improving Hydropower Project Decision Making Processes in Mekong Basin: Case Studies of Lower Sesan 2 and Kamchay Hydropower Projects, Cambodia*. Phnom Penh: AusAid, CGIAR Challenge Programme on Water and Food, and Royal University of Phnom Penh.
- International Rivers (2015) *Submission to UN Special Rapporteur on the Situation of Human Rights in Cambodia. Hydropower Dam Development in Cambodia: Lower Sesan 2 and Stung Cheay Areng Hydropower Projects*. www.internationalrivers.org/sites/default/files/attached-files/submission_tospecialrapporteuronhydropower_151301.pdf (accessed 3 January 2017).
- Khan, S. (2015). Cambodian PM: No decision taken on Stung Cheay Areng hydropower dam project. *Agence Kampuchea Press*, 24 February. www.akp.gov.kh/?p=58587 (accessed 3 January 2017).
- Khouth, S., Sokha, S., Pye, D. (2013). Logging at dam site halted. *Phnom Penh Post*, 25 October. www.phnompenhpost.com/national/logging-dam-site-halted (accessed 24 March 2017).
- Khuon, N. (2014a). Chong villagers put festive spin on dam protest. *Cambodia Daily*, 18 April. www.cambodiadaily.com/archives/chong-villagers-put-festive-spin-on-dam-protest-56708/ (accessed 2 January 2017).
- Khuon, N. (2014b). Army creates new platoon in Areng valley. *Cambodia Daily*, 24 June. www.cambodiadaily.com/archives/army-creates-new-platoon-in-areng-valley-62198/ (accessed 2 January 2017).
- Kuch, N. (2014). Villagers want compensation for Lower Sesan 2 dam construction. *Cambodia Daily*, 14 February. www.cambodiadaily.com/archives/villagers-want-compensation-for-lower-sesan-2-dam-construction-52244/ (accessed 24 March 2017).
- Lagerqvist, Y. (2013) Imagining the borderlands: Contending stories of a resource frontier in Muang Sing. *Singapore Journal of Tropical Geography* 34(1): 57–69.
- Loukaitou-Sideris, A. (1995). Urban form and social context: Cultural differentiation in the meaning and uses of neighborhood parks. *Journal of Planning Education and Research* 14(2): 101–114.
- Low, S. (1992). Symbolic ties that bind: Place attachment in the plaza. In I. Altman, S. Low (eds) *Place Attachment*. New York: Plenum Press, pp. 165–185.
- Low, S., Altman, I. (1992). Place attachment. In I. Altman, S. Low (eds) *Place Attachment*. New York: Plenum Press, pp. 1–12.
- Manzo, L. (2005). For better or worse: Exploring the multiple dimensions of place meaning. *Journal of Environmental Psychology* 25(1): 67–86.
- May, T. (2015). Dammed if they don't. *Phnom Penh Post*, 28 July. www.phnompenhpost.com/national/dammed-if-they-dont (accessed 24 March 2017).
- Mazumdar, S., Mazumdar, S. (1993). Sacred space and place attachment. *Journal of Environmental Psychology* 13(3): 231–242.
- Mekong Watch, 3S Rivers Protection Network (2013). Fact sheet: Lower Sesan 2 hydropower project, northeastern Cambodia. 5 August. www.mekongwatch.org/PDF/LS2_FactSheet_ENG_20140918.pdf (accessed 24 March 2017).
- Molle, F., Foran, T., Floch, P. (2009). Changing waterscapes in the Mekong region: Historical background and context. In F. Molle, T. Foran, M. Käkönen (eds) *Contested Waterscapes in the Mekong Region: Hydropower, Livelihoods and Governance*. London: Earthscan, pp. 1–13.

- Moul, P., Sovathana, S. (2012). *Country Technical Notes on Indigenous Peoples' Issues: Kingdom of Cambodia*. N.P.: International Fund for Agricultural Development and Asia Indigenous Peoples Pact.
- Nuttall, M. (2012). Imagining and governing the Greenlandic resource frontier. *Polar Journal* 2(1): 113–124.
- Peter, Z., Khuon, N. (2015). Hydropower dam puts a way of life at risk. *Cambodia Daily*, 28 February. www.cambodiadaily.com/archives/hydropower-dam-puts-a-way-of-life-at-risk-78844/ (accessed 30 December 2016).
- Phak, S., Pye, D. (2014a). Dam route blocked. *Phnom Penh Post*, 17 March. www.phnompenhpost.com/national/dam-route-blocked (accessed 28 December 2016).
- Phak, S., Pye, D. (2014b). Standoff in Areng Valley continues. *Phnom Penh Post*, 18 March. www.phnompenhpost.com/national/standoff-areng-valley-continues (accessed 28 December 2016).
- Phak, S., Woodside, A. (2014). Villagers make plea over crocs. *Phnom Penh Post*, 8 April. www.phnompenhpost.com/national/villagers-make-plea-over-crocs (accessed 2 January 2017).
- Phnom Penh Post* (2012). PM insists worries about dam overblown. 10 July. www.eco-business.com/news/pm-insists-worries-about-dam-overblown/ (accessed 30 December 2016).
- Proshansky, H., Fabian, A., Kaminoff, R. (1983). Place identity: Physical world socialization of the self. *Journal of Environmental Psychology* 3: 57–83.
- Pye, D. (2014a). Eco groups slam Areng dam. *Phnom Penh Post*, 3 April. www.phnompenhpost.com/national/eco-groups-slam-areng-dam (accessed 31 December 2016).
- Pye, D. (2014b). Areng villagers block dam assessment team. *Phnom Penh Post*, 31 December. www.phnompenhpost.com/national/areng-villagers-block-dam-assessment-team (accessed 2 January 2017).
- Pye, D., Cuddy, A. (2014). Impact assessment for Areng dam nears final steps as project looms. *Phnom Penh Post*, 31 October. www.phnompenhpost.com/national/impact-assessment-areng-dam-nears-final-steps-project-looms (accessed 2 January 2017).
- Pye, D., Phak, S. (2014). Dam critics outline litany of risks. *Phnom Penh Post*, 19 March. www.phnompenhpost.com/national/dam-critics-outline-litany-risks (accessed 31 December 2016).
- Quinlan, D., Phak, S. (2013). Monks enter forest fray. *Phnom Penh Post*, 8 November. www.phnompenhpost.com/national/monks-enter-forest-fray (accessed 28 December 2016).
- Rigg, J. (2006). Forests, marketization, livelihoods and the poor in the Lao PDR. *Land Degradation and Development* 17(2): 123–133.
- Royal Government of Cambodia (2013) *Draft Law on Authorization of Payment Warranty of the Royal Government of Cambodia for the Hydro Power Lower Sesan 2 Company*. Phnom Penh: Royal Government of Cambodia.
- Siciliano, G., Urban, F., Sour, K., Pich, D. (2015). Hydropower, social priorities and the rural–urban development divide: The case of large dams in Cambodia. *Energy Policy* 86: 273–285.
- Swyngedouw, E. (2007). Technonatural revolutions: The scalar politics of Franco's hydro-social dream for Spain, 1939–1975. *Transactions of the Institute of British Geographers* 32(1): 9–28.
- Swyngedouw, E. (2009) The political economy and political ecology of the hydro-social cycle. *Journal of Contemporary Water Research and Education* 142(1): 56–60.
- Swyngedouw, E. (2014) 'Not a drop of water ...': State, modernity, and the production of nature in Spain, 1898–2010. *Environment and History* 20(1): 67–92.
- Tuan, Y. (1974) *Topophilia: A Study of Environmental Perception, Attitudes, and Values*. Englewood Cliffs: Prentice Hall.

- Twigger-Ross, C., Bonaiuto, M., Breakwell, G. (2003). Identity theories and environmental psychology. In M. Bonnes, T. Lee, M. Bonaiuto (eds) *Psychological Theories for Environmental Issues*. Aldershot: Ashgate, pp. 203–233.
- Vorkinn, M., Riese, H. (2001). Environmental concern in a local context: The significance of place attachment. *Environment and Behavior* 33(2): 249–263.
- White, J. (1996) The indigenous highlanders of the northeast: An uncertain future. In *Interdisciplinary Research on Ethnic Groups in Cambodia*. Phnom Penh: Centre for Advanced Study, pp. 333–374.
- Woodworth, M. (2017). Disposable Ordos: The making of an energy resource frontier in western China. *Geoforum* 78: 133–140.
- Wynveen, C., Kyle, G., Absher, J., Theodori, G. (2011). The meanings associated with varying degrees of attachment to a natural landscape. *Journal of Leisure Research* 43(2): 290–311.
- Yeophantong, P. (2014). Cambodia's environment: Good news in Areng valley? *The Diplomat*, 3 November. <http://thediplomat.com/2014/11/cambodias-environment-good-news-in-a-reng-valley/> (accessed 2 January 2017).
- Ziv, G., Baran, E., Nam, S., Rodriguez-Iturbe, I., Levin, S. (2012). Trading-off fish biodiversity, food security, and hydropower in the Mekong river basin. *Proceedings of the National Academy of Sciences of the United States of America* 109(15): 5609–5614.