

RESEARCH PAPER

Strategic Environmental Assessment in Cambodia: Development and Progress



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ABSTRACT

Strategic environmental assessment (SEA) represents an advanced tool for evaluating key impact challenges of major infrastructure projects, plans or programmes. Although a recently-introduced tool, it possesses some very important advantages over a commonly-implemented environmental impact assessment. This paper provides a historical perspective on SEA processes in Cambodia as well as describing the hierarchy of bodies responsible for its implementation. It then compares the level of SEA development in Cambodia with the situation in neighbouring countries from the Greater Mekong Subregion. Finally, having commented on the substantive and transactive features of SEA in the nation, the paper briefly discusses its major disadvantages that may potentially hamper its progress.

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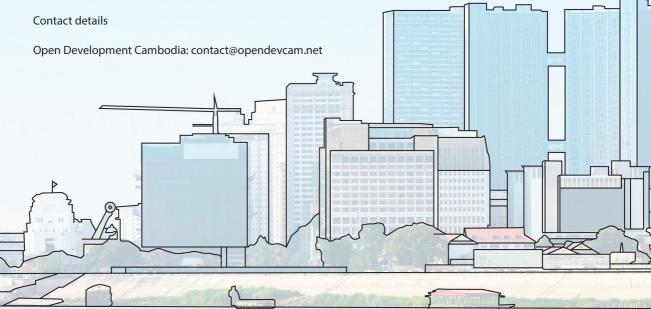
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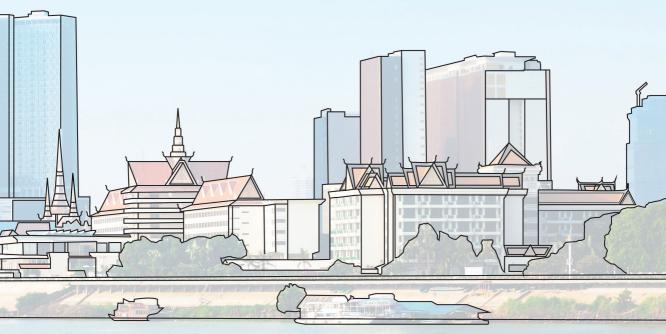
KEY WORDS

Cambodia, Environment and Natural Resources Code, environmental impact assessment, Greater Mekong Subregion, strategic environmental assessment

ABBREVIATIONS AND ACRONYMS

ADB Asian Development Bank	
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- CDC Council for the Development of Cambodia
- EIA environmental impact assessment
- ENRC Environment and Natural Resource Code
- FAO Food and Agriculture Organisation of the United Nations
- GMS Greater Mekong Subregion
- ILO International Labour Organisation
- IMF International Monetary Fund
- NCSD National Council for Sustainable Development
- ODC Open Development Cambodia
- SEA strategic environmental assessment
- WWF World Wide Fund for Nature



1. Introduction

Environmental impact assessment (EIA), defined by Yanhua et al. (2011, p.1499) as "the assessment of the possible impact (positive or negative) that proposed project may have on the environment, considering natural, social and economic aspects", currently represents a popular mechanism of evaluating consequences and effects of major infrastructure projects. Although, according to Burton and Munn (1981, p.133), the general concept of EIA has been in use in various countries since the first half of the twentieth century, the formal requirement that "an EIA be made and that an 'environmental impact statement' (EIS) be filed prior to implementation of certain major development projects" was first officially established by the US Environmental Policy Act on January 1, 1970. Since then, specific EIA-related legislation similar to that in the US has been adopted by most countries of the world.

Though EIA represents a popular framework for environmental assessment, many researchers admit that "project EIA may occur too late in the planning process to ensure that all the relevant alternatives and impacts are adequately considered" (Wood and Dejeddour, 1992, p.3). Indeed, according to the authors, due to its project-related specifics, in most cases EIA appears to be a technical instrument identifying specific impacts and aiming to mitigate and minimize the negative ones. That is why it does not seem to represent the most suitable option to be used as a political means of early warning and prevention of adversity. To address these challenges, strategic environmental assessment (SEA) – "a structured proactive process to strengthen the role of environmental issues in strategic decision making" – was introduced (Verheem and Tonk, 2000, p.177). Aiming to "incorporate environmental and sustainability considerations into strategic decision making processes, such as the formulation of policies, plans and programmes", SEA is generally viewed as a more advanced step towards greater sustainability (Nilsson and Dalkmann, 2001, p.305).

This paper aims to take a look at SEA development in Cambodia. It provides a brief historical perspective of the impact assessment initiatives that were introduced in the country in the past decades. Then it briefly describes the structure of the SEA process and explains how it is organized in Cambodia. Later, the article provides a comparison of how the SEA procedures are organized in neighbouring countries that are part of the Greater Mekong Subregion (GMS).

Here, the paper touches on the substantive and transactive features of SEA, as it discusses whether this type of strategic impact assessment ultimately leads to the improvement of the situation on the ground. It also questions whether the SEA process in Cambodia is efficient per se. Pluralist features of SEA are also discussed with respect to public participation and consultations with local communities for further SEA improvement. Finally, having highlighted the advantages of SEA and assessed this process in Cambodia and the GMS, this paper raises the question of general deficiencies of this type of impact assessment.

2. SEA in Cambodia

2.1. Development of SEA

In the Greater Mekong Subregion, China was the first country that initiated strategic environmental evaluation process at the governmental level. Quite predictably, with its enormous financial and administrative resources and centralized management, it rapidly progressed from its first EIA-related initiatives in the 1990s to a fully-fledged SEA system today. Following China, other countries of the region launched their SEA initiatives. Economic and political conditions of these nations differ, and these divergences shaped the nature of their national approaches towards developing comprehensive SEA systems and ultimately influenced the pace of their progress.

In contrast to China, a current leader in terms of SEA implementation in the GMS, Cambodia began its path towards designing its national strategic environmental evaluation system and standards only in the mid-2010s. The ideas of environmental protection and impact assessment were not unknown, however. Indeed, the very first law on environmental protection and natural resource management was adopted in 1996 (ILO, 1996). This overarching document was then followed by a series of sub-decrees and specific laws. In particular, sub-decrees No. 72, 79, and 80 on EIA, community forestry management and community fisheries management were accompanied by the respective substantive laws on forestry, fisheries, and natural protected areas (Figure 1).

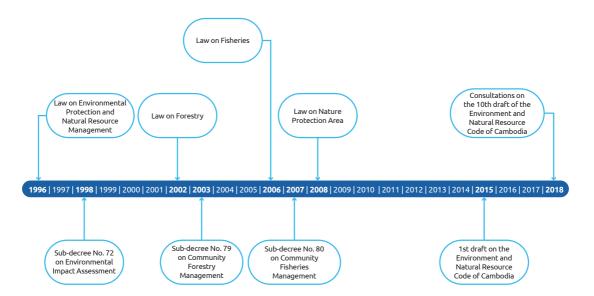


Figure 1: Progress of environmental legislation in Cambodia

Source: Authors' adaptation of the data obtained from World Bank (2009) and ODC (2018)

Although the decrees and laws signified a huge progress towards achieving greater sustainability in the country, they did not bear the necessary traits of comprehensiveness required for stateinitiated SEA implementation programmes. While researchers like Alshuwaikhat (2005) attribute lack of such initiatives to the absence of governmental funds, others align this delay with other negative aspects of the current political situation in the country such as the high level of corruption (Ear, 2007). Nevertheless, despite the potential lack of financial and administrative backing, the first pilot SEA for Cambodia's tourism sector was successfully launched in 2008. This document, however, appeared to be the initiative of Asian Development Bank (ADB) rather than the idea of the national government (ADB, 2008).

As seen in Figure 1, a fully-fledged SEA implementation process in the country started only in mid-2010s. At that time, the first draft of the Environment and Natural Resource Code (ENRC) which included SEA provisions was prepared. Since then, nine more drafts have been created, with the tenth one being presented for consultations with and feedback from the public. In this sense, the ENRC stipulates the pluralist nature of the SEA process in Cambodia. The document itself finally calls for SEA to be applied for policies, plans, and programs that "may cause significant impacts on the environment" and relate to cultural heritage protected areas, the natural protected area system, ecosystems, mangrove forests and coastal zones, livelihoods of local communities and indigenous peoples (Vishnu Law Group, 2018). Thus, despite not being completely finalised, the ENRC of Cambodia, in contrast to all the previous legal documents adopted in this field, will create a solid regulatory framework for the SEA mechanisms in the country.

2.2. Responsible Bodies

Though the ENRC was prepared by Vishnu Law Group, a private company, the SEA development process in the country was initiated by the Royal Government of Cambodia. That is why the government appears to be the main body supervising the process and managing SEA implementation activities. However, as the government represents different ministries, a separate body overseeing and controlling the SEA was created. The National Council for Sustainable Development is performing the functions of the main coordinator and monitor of SEA-related "policies, strategies, legal instruments, plans and programmes" among the ministries (NCSD, 2015). The body "comprises high-level representatives of concerned government ministries, with the Prime Minister as its Honorary Chair and the Minister of Environment as its Chair" (ibid). In the Council, the Ministry of the Environment plays a special role, supervising and coordinating all the major processes through preparing proposals for the National and Regional Environmental Action Plans, and so on (Figure 2).

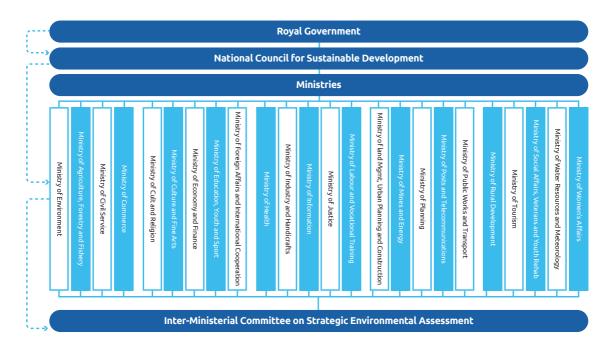


Figure 2: Governmental bodies responsible for SEA in Cambodia

Source: Authors' adaptation of the data obtained from NCSD (2015) and CDC (2018)

As various projects have different potential impacts, not every ministry is engaged in all the projects, plans, and policies subject to SEA in compliance with the ENRC. That is why interministerial committees on SEA are supposed to be created in each particular case to jointly work on impact assessment and facilitate the process (NCSD, 2015).

As the ENRC has not yet formally entered into force, SEA implementation in the country still represents a pending issue. In such circumstances, despite some already discussed industry-related pilot documents (such as the SEA of Cambodia's tourism industry), no specific standards for an assessment at the strategic level have been established. That is why SEA reports do not currently require any standardized preliminary research into areas that will potentially be negatively affected by proposed development programmes, policies, or projects. Thus, apart from the lack of legal and policy frameworks, there appears to be a deficit of expertise, human and administrative resources (as no exact division of functions has been defined).

On the other hand, as the ENRC of Cambodia pays special attention to SEA, a firm political will in the country seems to be present. In this connection, there is the potential that the first SEA reports will cover the most important areas of national development as well as the nation's most crucial industries. In addition, as the ENRC is the first document synchronizing and clearly regulating steps and procedures related to SEA, the actual implementation of the assessment should be less time-consuming (and thus will possess a transactive nature) when compared to the pilot SEAs conducted without any clear rules. At the same time, however, these advantages are yet to be fully realized in the future when the ENRC finally enters into force.

2.3. Neighbours from the GMS

Although all six countries of the Greater Mekong Subregion (GMS) – Cambodia, China, Lao PDR, Myanmar, Thailand, and Vietnam – share relatively similar traditions and common history, their SEA development and implementation progress differs significantly. In this respect, some researchers bind SEA legislation success to the overall national development of these countries. For instance, in their review analysis of SEA development in East and Southeast Asia, Dusik and Xie (2009, p.36) conclude that "lower-income countries [in the region] remain without significant nationally driven or donor supported SEA initiatives". Indeed, following the argument of Kjörven and Lindhjem (2002), the world pioneers and most enthusiastic proponents of SEA appear to be countries of the European Union and the USA – nations with high GDP levels.

Following this logic, Cambodia, not being the richest country in the GMS, is expected to potentially be in a disadvantaged position when compared to neighbours such as Thailand and Vietnam. Indeed, according to the IMF (2018), Cambodian GDP per capita in 2018 is 4.5 times lower than that of Thailand and almost two times lower than that of Vietnam. In practice, however, Cambodia occupies a position between Vietnam (which has a more advanced and well-established SEA system) and Thailand, where SEA initiatives are, surprisingly, less active and developed. Graphically, the SEA implementation in the GMS region could be represented through the colour code system where green signifies already-developed SEA legislation implemented in the country, yellow stands for some intermediate level of such development, and red is associated with lack of substantial progress with respect to strategic environmental assessment (Figure 3).

Figure 3: SEA legislation progress in the Greater Mekong Subregion as of early 2018



Source: Authors' analysis

Here, Thailand possesses the least-developed SEA legislation of all the GMS countries. Indeed, the 12th National Economic and Social Development Plan – the only overarching act encouraging the implementation of SEA – mainly focuses on water resources and watersheds, calling for pilot SEAs to be conducted in most complex cases (Office of the Prime Minister of Thailand, 2017). This means that despite overall interest in further progress towards a fully-fledged

environmental assessment mechanism, Thailand remains at the starting phase of developing a comprehensive SEA system.

In contrast to Thailand, a country with relatively high GDP and low SEA elaboration progress, the green arrow in Figure 3 demonstrates that the income factor – that is, lower GDP per capita – does not prevent such GMS nations as Vietnam and Lao PDR from taking significant steps towards transforming their national SEA approaches into a well-functioning system. Indeed, according to the Asian Development Bank (2015), China and Vietnam have long established their SEA legislative requirement. Action in Laos has included making provisions for SEA in its revised Environmental Protection Law of 2012. This law urges that SEA be implemented in a broad variety of policies, plans, and programs starting from energy and mining, and ending with information-culture and the tourism sector (GMS Information Portal, 2013). Similarly, following earlier versions of the Law on Environmental Protection of Vietnam, its 2014 version incorporates SEA into the strategy, planning and proposal phases of projects, policies, and plans (FAO, 2015). Thus, following in the steps of China where, according to Zhu and Ru (2008), the SEA concept was was first introduced in the early 1990s, Vietnam and Laos have formalized its procedures in their environmental protection laws.

Although not being a direct neighbour of Cambodia, Myanmar, the remaining part of the GMS, follows a very similar path with respect to SEA. In particular, despite quite successful implementation of pilot SEAs, no overarching legal framework for the strategic assessment has yet been created. That is why, while possessing a number of relevant laws on environmental conservation, wildlife and natural resources and so on, Myanmar is still in the process of developing its own SEA strategy through appointing the Environment Conservation Department (ECD) of the Ministry of Environmental Conservation to streamline the process (Raitzer et al, 2015). As Myanmar is quite similar to Cambodia in terms of GDP per capita, foreign aid continues to play an important part in compiling pilot SEA reports where such sectors as tourism draw the greatest attention (Myanmar Centre for Responsible Business, 2015).

3. Discussion

Cambodia represents neither the most advanced nation in terms of SEA development, nor the one making the least progress. The colour code graph (Figure 3) demonstrates that, in the GMS, it lags behind China, Laos, and Vietnam. On the other hand, however, being relatively at the same level with Myanmar, it is surprisingly overtaking Thailand. This position gives hope for further development of the process in the country, as foreign funds support pilot SEAs with the assistance of international NGOs.

In the context of big infrastructure projects, Albrecht (2008) mention the potential absence of trans-boundary agendas in most SEAs conducted around the world. Although project effects may definitely affect neighbouring countries, according to the researcher, SEAs appear to be almost never conducted with an inter-state agenda in mind. That is why "trans-boundary consultation could help avoid environmental conflicts between neighbouring countries" (ibid, p. 289). Granit, King, and Noel (2011, p.1) also highlight the importance of a consultative process for undertaking SEA "in a trans-boundary river basin context", as large-scale hydropower projects often appear to have a very significant impact not just on the country where they are located, but also on downstream neighbours. Although the researchers mostly focus on European rivers, this tenet proves to be relevant for the GMS as well.

Although SEA in Lao PDR is currently at a more advanced development stage than Cambodia, its hydropower-related reports have not fully taken into consideration all major trans-boundary issues. Here, the case of the Don Sahong dam currently being constructed in Laos just 2 km upstream the Cambodian border appears to be one of the most vivid examples (Figure 4).



Figure 4: Don Sahong construction site viewed from the Mekong river

Source: flickr

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Although the country possesses an SEA implementation scheme, the Don Sahong hydropower project was not subject to it. Instead, a 'Cumulative Impact Assessment' – a form of EIA – was prepared by the National Consulting Company (2013). However, according to WWF (2014), while having conducted some consultations with neighbouring Cambodian communities, the representatives of the National Consulting Company failed to prepare the report in a more comprehensive way that would consider all key environmental impacts. The EIA document was found to incorporate "inappropriate methodologies with recommendations not supported by scientific evidence" (ibid). As a result, instead of the reported minor risks for fisheries and endangered species, the fully-functioning Lao project will most likely severely affect downstream Cambodian communities and wildlife.

In particular, as the WWF estimates, among other negative consequences, the operating Don Sahong dam would block the only suitable fish migration channel, lessen the flow of important sediments and hasten the extinction of the remaining population of the endangered Irrawaddy dolphin. In the opinion of Baird (2011, p.211), the project would not only disturb biodiversity, but also "negatively affect the nutrition of hundreds of thousands or even millions of people". While the fishing sector of Cambodia is likely to be the most affected, the dam is assumed to also make rice growing less successful through preventing nutrients from being carried downstream (ibid). Thus, although the report technically included trans-boundary issues in its agenda, it failed to thoroughly identify and evaluate its key challenges.

This, however, was potentially not the failure of the EIA, as it was the strategic nature of SEA that was actually required. Nevertheless, though SEA provisions were included in the Lao Environmental Protection Law of 2012, no SEA report was produced for this major infrastructure project, with only the EIA document being published a year later. Though this definitely demonstrates the advantages of SEA over EIA, following the argument of Arce and Gullon (2000), such cases also highlight the main shortcoming of SEA itself – its consultative and non-binding nature which significantly undermines its efficiency and thus substantive nature. Thus, as seen from the example of the Don Sahong project, despite the presence of political will and even concrete legislative initiatives and documents, SEA still represents more an advisory tool rather than a strictly-followed manual. That is why, in the case of Cambodia, though much effort has already been put to streamline the SEA process, its ultimate efficiency still seems to be greatly subject to the human factor.

4. Conclusion

Although EIA still represents one of the most popular tools for the evaluation of environmental impacts, the advantages of SEA are quite clear. Specifically, in addition to its strategic rather than tactical perspective, it takes place before a project, policy or programme has been implemented. Nevertheless, despite the obvious benefits, most countries have yet to develop and implement their own well-functioning SEA systems. While not being the world's leader in terms of SEA implementation, Cambodia has nevertheless started to take important steps.

This paper provided historical insights into the development of the SEA process in Cambodia. It mentioned key documents that shaped the environmental initiatives in the country from the mid-1990s until the present. Although a fully-fledged SEA framework has not been created yet, the low substantive efficiency of Cambodian initiatives could potentially be improved in the future, as SEA provisions have already been included in the draft of the ENRC. Transactive features of SEA have also been seen, as the draft was subject to open consultations with the general public.

This article described the SEA organization process in Cambodia, mentioning the key bodies and governmental institutions responsible for developing and implementing the concept. As this process appears to be similar in other countries, the paper also compared Cambodian progress in terms of SEA development with other countries of the GMS. Although Cambodia does not possess extensive financial assets, it does not appear to significantly lag behind all its neighbours. While possessing a level similar to that of Myanmar, it surprisingly overtakes' Thailand, giving the priority space to China, Laos, and Vietnam.

Finally, having admitted benefits that establishing a well-functioning SEA system may bring to Cambodia, the paper raised important questions with respect to its deficiencies. In particular, viewing trans-boundary impacts as the ones of critical importance in many cases, the paper demonstrated that, even in the countries where SEA systems are already at an advanced level these procedures do not necessarily always take place. In the end, this draws the reader's attention to a major SEA's limitation found in most cases – its indefinite non-binding nature.

References

ADB (2008) Strategic Environmental Assessment of the Tourism Sector in Cambodia [Online]. Available from: https://www.mekongtourism.org/strengthening-sustainable-tourism-strategic-environmental-assessment-of-the-tourism-sector-in-cambodia/ (Accessed: 11 August 2018).

ADB (2015) Strategic Environmental Assessment in the Greater Mekong Subregion [Online]. Available from: https://www.adb.org/publications/strategic-environmental-assessment-gms (Accessed: 18 June 2018).

Albrecht, E. (2008) 'Transboundary consultations in strategic environmental assessment', Impact Assessment and Project Appraisal, 26 (4), pp. 289-298.

Alshuwaikhat, H.M. (2005) 'Strategic environmental assessment can help solve environmental impact assessment failures in developing countries', Environmental Impact Assessment Review, 25 (4), pp. 307-317.

Arce, R. and Gullon, N. (2000) 'The application of strategic environmental assessment to sustainability assessment of infrastructure development', Environmental Impact Assessment Review, 20 (3), pp. 393-402.

Baird, I.G. (2011) 'The Don Sahong Dam: Potential impacts on regional fish migrations, livelihoods, and human health', Critical Asian Studies, 43 (2), pp. 211-235.

Burton, I. & Munn, R.E. (1981) 'Environmental impact assessment: National approaches and international needs', Environmental Monitoring and Assessment, 3 (2), pp. 133-150.

CDC (2018) Ministries [Online]. Available from: http://www.cdc-crdb.gov.kh/cdc/other_link/ ministry.htm (Accessed: 16 August 2018).

Dusik, J. and Xie, J. (2009) Strategic environmental assessment in East and Southeast Asia: A progress review and comparison of country systems and cases. Washington, DC: World Bank.

Ear, S. (2007) 'The political economy of aid and governance in Cambodia', Asian Journal of Political Science, 15 (1), pp. 68-96.

FAO (2015) Law on Environmental Protection of the Socialist Republic of Vietnam [Online]. Available from: http://extwprlegs1.fao.org/docs/pdf/vie168513.pdf (Accessed: 20 June 2018).

GMS Information Portal (2013) Environmental Protection Law of the Lao People's Democratic Republic [Online]. Available from: http://portal.gms-eoc.org/uploads/resources/951/attach-ment/Lao_Law_on_Environmental_Protection_RevisedVersion_18_Dec_2012_En.pdf (Accessed: 20 June 2018).

Granit, J.J., King, R.M., and Noel, R. (2011) 'Strategic environmental assessment as a tool to develop power in transboundary water basin settings', International Journal of Social Ecology and Sustainable, 2 (4), pp. 1-11.

ILO (1996) Law on Environmental Protection and Natural Resource Management of Cambodia [Online]. Available from: http://ilo.org/dyn/natlex/docs/ELECTRONIC/93402/109144/ F367799135/KHM93402%20Eng.pdf (Accessed: 10 August 2018).

IMF (2018) World Economic Outlook Database [Online]. Available from: http:// www.imf.org/external/pubs/ft/weo/2018/01/weodata/weorept.aspx?pr.x=72&pr. y=9&sy=2016&ey=2023&scsm=1&ssd=1&sort=country&ds=.&br=1&c=548%2C518%2C516% 2C522%2C924%2C566%2C576%2C534%2C578%2C536%2C158%2C542%2C111%2C544% 2C582&s=NGDPD%2CPPPGDP%2CNGDPDPC%2CPPPPC%2CLP&grp=0&a= (Accessed: 14 June 2018).

Kjörven, O. and Lindhjem, H. (2002) Strategic environmental assessment in World Bank operations: Experience to date – Future potential. Oslo: ECON Centre for Economic Analysis.

Lee, N. and Walsh, F. (1992) 'Strategic environmental assessment: An overview', Project Appraisal, 7 (3), pp. 126-136.

Myanmar Centre for Responsible Business (2015) Myanmar Tourism Sector-Wide Impact Assessment: Executive Summary and Recommendations [Online]. Available from: http://www. myanmar-responsiblebusiness.org/pdf/SWIA/Tourism/Executive-Summary-and-Recommendations.pdf (Accessed: 16 August 2018).

National Consulting Company (2013) Don Sahong Hydropower Project, Lao PDR: Cumulative Impact Assessment [Online]. Available from: http://www.mrcmekong.org/assets/Other-Documents/Don-Sahong/DSHPP-CIA-FINAL-2013.pdf (Accessed: 25 August 2018).

NCSD (2015) NCSD structure [Online]. Available from: http://www.camclimate.org.kh/en/policies/ncsd-structure.html (Accessed: 12 August 2018).

Nilsson, M. and Dalkmann, H. (2001) 'Decision making and strategic environmental assessment', Journal of Environmental Assessment Policy and Management, 3 (3), pp. 305-327.

Office of the Prime Minister of Thailand (2017) The twelfth national economic and social development plan (2017-2021) [Online]. Available from: http://www.nesdb.go.th/nesdb_en/ewt_w3c/ewt_dl_link.php?nid=4345 (Accessed: 18 June 2018).

ODC (2018) Strategic environmental assessment in Cambodia [Online]. Available from: https:// opendevelopmentcambodia.net/strategic-environmental-assessment-in-cambodia/ (Accessed: 10 August 2018). Patonia (2018) Don Sahong construction site: View from the Mekong river. Unpublished photograph.

Raitzer, D.A., Samson, J.N., and Nam, K.Y. (2015) 'Achieving environmental sustainability in Myanmar', ADB Economics Working Paper Series, 467 (1), pp. 1-37.

Verheem. R.A.A. and Tonk, J.A.M.N. (2000) 'Strategic environmental assessment: One concept, multiple forms', Impact Assessment and Project Appraisal, 18 (3), pp. 177-182.

Vishnu Law Group (2018) Environment and Natural Resources Code of Cambodia [Online]. Available from: http://www.vishnulawgroup.com/attachments/article/74/Draft%2010%20 -%20ENR%20Code%20EN%2019-Feb-18.pdf (Accessed: 11 August 2018).

Wood, C. and Dejeddour, M. (1992) 'Strategic environmental assessment: EA of policies, plans, and programmes', Impact Assessment, 10 (1), pp. 3-22.

World Bank (2009) SEA in East and Southeast Asia: A progress Review and Comparison of Country Systems and Cases [Online]. Available from: http://documents.worldbank.org/curat-ed/en/385961468247268166/pdf/487500revised010review0in0EAP0FINAL.pdf (Accessed: 10 August 2018).

WWF (2014) Don Sahong Dam Brief [Online]. Available from: http://awsassets.panda.org/ downloads/don_sahong_brief___final_05feb.pdf (Accessed: 25 August 2018).

Yanhua, Z., Song, H., Hongyan, L., and Beibei, N. (2011) 'Global environmental impact assessment research trends (1973-2009)', Procedia Environmental Sciences, 11 (1), pp. 1499-1507.

Zhu, D. and Ru, J. (2008) 'Strategic environmental assessment in China: Motivations, politics, and effectiveness', Journal of Environmental Management, 88 (1), pp. 615-626.



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