



Chinese State-Owned Enterprises and  
Infrastructure Development in Cambodia:

# The Tatay River Hydropower Dam Project

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Image from <https://www.shutterstock.com/image-photo/traditional-boat-jungle-hut-on-tatai-1587740221>

## Introduction

The Tatay River Hydropower dam is a 246-megawatt (MW) hydropower dam located in the Thma Bang District of Cambodia's western Koh Kong Province.<sup>1</sup> The dam was built from 2010 to 2015 under a 42-year Build-Operate-Transfer (BOT) agreement between the Cambodian government and Cambodian Tatay Hydropower Ltd. (CTHL),<sup>2</sup> a Cambodian subsidiary of a joint venture between three Chinese companies that was established solely for this project.<sup>3,4</sup> Financed under a USD \$540 million loan from the China Export–Import Bank (EXIM Bank),<sup>5</sup> the dam was inaugurated in a December 2015 ceremony attended by both Prime Minister Hun Sen and Chinese Ambassador to Cambodia Bu Jianguo.<sup>6</sup> The project required the excavation of 7 million m<sup>3</sup> of earth and 900,000 m<sup>3</sup> of stone,<sup>7</sup> for an active

- 1 China Gezhouba Group Co., Ltd., "CGGC-constructed Tatay River Hydropower Station Begins Impoundment," *China Daily*, November 19, 2013, [http://www.chinadaily.com.cn/m/gezhouba/2013-11/19/content\\_17179646.htm](http://www.chinadaily.com.cn/m/gezhouba/2013-11/19/content_17179646.htm).
- 2 Sok Chan, "Cambodia's Energy Rising with New Hydro Plant: Officials," *KhmerTimes*, December 23, 2015, <https://www.khmertimeskh.com/33923/cambodias-energy-rising-with-new-hydro-plant-officials/>.
- 3 SINOMACH, "Construction Commenced for the Largest Chinese Investment Project in Cambodia," News, July 13, 2009, [http://www.sinomach.com.cn/en/MediaCenter/News/201412/t20141209\\_21765.html](http://www.sinomach.com.cn/en/MediaCenter/News/201412/t20141209_21765.html).
- 4 Inclusive Development International, *Safeguarding People and the Environment in Chinese Investments: A Reference Guide for Advocates*, 2nd Edition (Ashville, NC: Inclusive Development International, 2019), [https://www.inclusivedevelopment.net/wp-content/uploads/2020/01/2019\\_idi\\_china-safeguards-guide-final.pdf](https://www.inclusivedevelopment.net/wp-content/uploads/2020/01/2019_idi_china-safeguards-guide-final.pdf).
- 5 A. Dreher, A. Fuchs, B. C. Parks, A. M. Strange, and M. J. Tierney, *Aid, China, and Growth: Evidence from a New Global Development Finance Dataset*, AidData Working Paper #46 (Williamsburg, VA: AidData, 2017), <https://china.aiddata.org/projects/32192>.
- 6 China Gezhouba Group Co., Ltd., "Cambodian Tatay Hydropower Station Put into Operation for Power Generation," *China Daily*, December 23, 2015, [https://www.chinadaily.com.cn/m/gezhouba/2015-12/23/content\\_23473917.htm](https://www.chinadaily.com.cn/m/gezhouba/2015-12/23/content_23473917.htm).
- 7 China Gezhouba Group Co., Ltd., "Cambodian Tatay Hydropower Station Put into Operation for Power Generation."

water storage capacity estimated at 322 m<sup>3</sup> and an overall reservoir capacity of 439 million m<sup>3</sup>.<sup>8</sup> The main features of the project are two adjacent concrete face rockfill dams, a gated overflow spillway equipped with a chute and flip-bucket, and a 11 km long 8 m diameter headrace tunnel.<sup>9</sup> A power generation system sits on the left bank, adjacent to a three-hole spillway,<sup>10</sup> and connects to the national grid via a 63 km transmission line,<sup>11</sup> spanning bridges built into the adjacent Cardamom Mountains,<sup>12</sup> allowing electricity to be sold at a rate of 7.45 cents per kilowatt-hour to the Cambodian state-owned Electricité du Cambodge (EDC).<sup>13</sup> Since operationalization, the dam's three generators have had an average annual production capacity of 849 GW\*h<sup>14</sup> that, in 2020, represented almost 24 percent of Cambodia's total hydropower generation (3,493 GW\*h) and 10 percent of Cambodia's total domestic electricity production (8,513 GW\*h).<sup>15</sup>

Owing to its increasingly close relationship with China, Cambodia has received significant attention as a recipient of Belt and Road Initiative (BRI) funding. Over the last ten years, Beijing went from being a relatively minor financial actor in the kingdom (far behind its largest post-Paris Peace Agreements donor, Japan) to the leading source of aid, portfolio investment, and foreign direct investment. While Cambodia—together with other less developed countries—has confronted and continues to confront a significant hard infrastructure funding gap that pushes the government to seek out external funders, China's approach to infrastructure development is widely viewed as inconsistent with that of other donor states and OECD Development Assistance Committee best practice guidelines as set out in the Paris and Busan Declarations. This paper seeks to shed new light on the realities of BRI in Cambodia through a case study of the Chinese-funded, -constructed, and -managed Tatay River Hydropower Dam Project (hereafter, "Tatay project"). In addition to a thorough examination of the firms involved and their relationships, this paper focuses (as set out in detail in the attached appendix) on the questions of project transparency, environmental impacts, and socio-economic effects.

8 Pöyry, "Stung Tatay Hydropower Project, Cambodia," accessed November 29, 2016.

9 Pöyry, "Stung Tatay Hydropower Project, Cambodia."

10 China Gezhouba Group Co., Ltd. "Cambodian Tatay Hydropower Ltd Highly Praises CGGC's Work," *China Daily*, June 19, 2011, [http://www.chinadaily.com.cn/m/gezhouba/2011-06/19/content\\_17176668.htm](http://www.chinadaily.com.cn/m/gezhouba/2011-06/19/content_17176668.htm).

11 China National Machinery Industry Corporation, "R&D and Manufacture Project Contracting Trade and Services," *SINOMACH Today*, 29(3), 2014: 25–30.

12 Ananth Baliga and Kong Meta, "Cardamoms in Power's Path," *Phnom Penh Post*, February 20, 2017, <https://www.phnompenhpost.com/national/cardamoms-powers-path>.

13 Chan, "Cambodia's Energy Rising with New Hydro Plant: Officials."

14 Electricity Authority of Cambodia. 2015. *Report on Power Sector of the Kingdom of Cambodia 2015 Edition*. Phnom Penh, Cambodia: Electricity Authority of Cambodia. <https://eac.gov.kh/site/annualreport?lang=en>; Electricity Authority of Cambodia. 2016. *Report on Power Sector of the Kingdom of Cambodia 2016 Edition*. Phnom Penh, Cambodia: Electricity Authority of Cambodia. <https://eac.gov.kh/site/annualreport?lang=en>; Electricity Authority of Cambodia. 2017. *Report on Power Sector of the Kingdom of Cambodia 2017 Edition*. Phnom Penh, Cambodia: Electricity Authority of Cambodia. <https://eac.gov.kh/site/annualreport?lang=en>; Electricity Authority of Cambodia. 2018. *Report on Power Sector of the Kingdom of Cambodia 2018 Edition*. Phnom Penh, Cambodia: Electricity Authority of Cambodia. <https://eac.gov.kh/site/annualreport?lang=en>; Electricity Authority of Cambodia. 2019. *Report on Power Sector of the Kingdom of Cambodia 2019 Edition*. Phnom Penh, Cambodia: Electricity Authority of Cambodia. <https://eac.gov.kh/site/annualreport?lang=en>; Electricity Authority of Cambodia. 2020. *Report on Power Sector of the Kingdom of Cambodia 2020 Edition*. Phnom Penh, Cambodia: Electricity Authority of Cambodia. <https://eac.gov.kh/site/annualreport?lang=en>.

15 Chea Vannak, "Cambodia's Energy Demand Drops in H1 of 2020," *Khmer Times* via Agence Kampuchea Presse, August 20, 2020, <https://www.khmertimeskh.com/755733/cambodias-energy-demand-drops-in-h1-of-2020/#:~:text=According%20to%20a%20report%20from,year%20on%20year%20increase>; Electricity Authority of Cambodia, *Report on Power Sector of the Kingdom of Cambodia 2020 Edition* (Phnom Penh, Cambodia: Electricity Authority of Cambodia, 2020), [https://eac.gov.kh/site/viewfile?param=annual\\_report%2Fenglish%2FAnnual-Report-2019-en.pdf&lang=en](https://eac.gov.kh/site/viewfile?param=annual_report%2Fenglish%2FAnnual-Report-2019-en.pdf&lang=en).

## Classification and Methodology

Determining which Chinese-invested projects can be classified as part of BRI is complicated by the absence of any definitive list of BRI projects from Beijing. Since BRI developed into a signature initiative of President Xi Jinping, thousands of Chinese-funded initiatives have claimed or been designated with the BRI moniker. While the Chinese government's January 2021 white paper on the future of Chinese aid policy has begun to clarify the situation, no list of BRI projects was appended to that document.<sup>16</sup>

Although the Tatay project was conceived before the official launch of BRI in 2013, it has been described as a BRI project. In December 2015, *Cambodia Daily* reported on the dam's inauguration ceremony, attended by Cambodian Prime Minister Hun Sen and Chinese Ambassador to Cambodia Bu Jianguo.<sup>17</sup> At the ceremony, Ambassador Bu applauded the dam as yet another example of the friendly and productive Sino-Cambodian relationship under BRI—providing the project's first official *imprimatur* from the Chinese Ministry of Foreign Affairs.<sup>18</sup> Moreover, in a speech at the 2017 Asia-Pacific Regional Conference, Cambodian Commerce Minister Pan Sorasak used the Tatay project as an example of successful cooperation between China and Cambodia under BRI.<sup>19</sup> In light of these official statements, the Tatay project can be classified as a BRI project.

The Tatay project was selected for this case study on the methodological guidelines provided by IDEAS, which stipulate choosing the largest state-owned enterprise (SOE) infrastructure project in the country. While this precludes generalization of the conclusions developed herein to BRI programming in general, the Tatay project—owing to its sheer scale and early development—can be considered a “critical case,” the analysis of which can shed light on how BRI projects have been operationalized in the Cambodian context.

As of 2018, Chinese-funded electricity generation infrastructure projects accounted for 75 percent of Cambodia's domestic production.<sup>20</sup> Upon its inauguration, the Tatay project became the sixth Chinese-financed hydropower dam operating in Cambodia, closely following the completion of the 388-megawatt Russei Chrum dam in the same province just weeks earlier.<sup>21</sup> By 2016, China had invested more than USD \$1.6 billion in Cambodian hydropower, with a net capacity of 928 megawatts.<sup>22</sup> As of 2021, all hydropower projects in Cambodia have been financed by China,<sup>23</sup> although several additional dam

16 Huaxia, ed., “Full Text: China's International Development Cooperation in the New Era,” Xinhua News Agency, January 10, 2021, [http://www.xinhuanet.com/english/2021-01/10/c\\_139655400.htm](http://www.xinhuanet.com/english/2021-01/10/c_139655400.htm).

17 China Gezhouba Group Co., Ltd., “Cambodian Tatay Hydropower Station Put into Operation for Power Generation.”

18 China Gezhouba Group Co., Ltd., “Cambodian Tatay Hydropower Station Put into Operation for Power Generation.”

19 Xinhua News Agency, “Cambodia Sees Belt and Road Initiative as Key Development Strategy for Trade, Investment,” *China Daily*, November 6, 2017, [https://www.chinadaily.com.cn/business/2017-11/06/content\\_34179176.htm](https://www.chinadaily.com.cn/business/2017-11/06/content_34179176.htm).

20 Inclusive Development International. 2020. “Briefing Paper: Reassessing China's Investment Footprint in Cambodia.” Inclusive Development International. Accessed March 22, 2021. [https://www.inclusivedevelopment.net/wp-content/uploads/2020/08/2020\\_IDI\\_Briefing-on-Chinas-Footprint-in-Cambodia-Update.pdf](https://www.inclusivedevelopment.net/wp-content/uploads/2020/08/2020_IDI_Briefing-on-Chinas-Footprint-in-Cambodia-Update.pdf).

21 Chan, “Cambodia's Energy Rising with New Hydro Plant: Officials”; Michael Harris, “Ceremony Marks Completion of Cambodia's 338-MW Russei Chrum Krom Hydropower Plant,” *HydroReview*, December 1, 2015, <https://www.hydroreview.com/world-regions/ceremony-marks-completion-of-cambodia-s-338-mw-russei-chrum-krom-hydropower-plant/>.

22 Xinhua News Agency, “6th China-built Hydropower Dam in Cambodia Starts Operation,” *China Daily*, August 14, 2014, [https://www.chinadaily.com.cn/business/2014-08/14/content\\_18311616.htm](https://www.chinadaily.com.cn/business/2014-08/14/content_18311616.htm).

23 Chea Piseth and Chea Sophearin, “Assessment of Power Trade Benefits from Hydropower Projects in Lower Mekong River Basin,” chapter in *Energy Market Integration in East Asia: Energy Trade, Cross Border Electricity, and Price Mechanism*, Han, P. and F. Kimura, eds., ERIA Research Project Report FY2013, No. 29: 193–239 (Jakarta: ERIA, 2014). [https://www.eria.org/RPR\\_FY2013\\_No.29\\_Chapter\\_8.pdf](https://www.eria.org/RPR_FY2013_No.29_Chapter_8.pdf).

projects financed by other foreign partners, such as Korea, Russia, Vietnam, and Thailand, are currently under MoU study.<sup>24</sup> The Lower Sesan Dam 2, operational as of 2018, serves as something of an anomaly in light of its origins as a joint partnership between the Vietnamese state-owned Electricity Vietnam International (ENVI) and Cambodia's largest development conglomerate, Royal Group.<sup>25</sup> However, after completing the initial feasibility and environmental impact studies, ENVI pulled out of the project, citing economic restructuring within the Vietnamese state.<sup>26</sup> ENVI was replaced by China's Hydrolancang International Energy, a subsidiary of the Chinese Huaneng Group.<sup>27</sup> While this dam had a larger overall cost than the Tatay project, in light of its original link to Vietnam rather than China, it was not selected for analysis.

## The Electricity Environment in Cambodia

Before 2011, around 90 percent of Cambodia's electricity came from diesel and heavy fuel oil generators. However, to meet growing energy demand, numerous hydro and coal power projects have been inaugurated in Cambodia in the past decade. Today, hydropower represents a significant portion of Cambodia's energy sector, accounting for 41 percent of domestic energy generation in 2020.<sup>28</sup> To meet the rising demand for electricity in light of growing industrialization and urbanization, power generation capacity in Cambodia has increased twelvefold and electricity delivery tenfold in the last fifteen years.<sup>29</sup>

In 2010, when construction on the project started, hydropower only made up 3.3 percent of Cambodia's total 968 million kW\*h power generation.<sup>30</sup> By 2014, when the project began operation, Cambodia's power generation had increased by 215 percent, of which hydro made up 60.5 percent.<sup>31</sup> The Tatay dam, which generated 104 GW\*h in its inaugural year of 2014, and the Lower Russei Chrum dam are credited with increasing Cambodia's hydropower generation from 1,016 million kW\*h in 2013 to 1,852 million kW\*h in 2014.<sup>32</sup> By 2015, the project began commercial operation, producing 736 GW\*h, and Cambodia's power generation had increased by another 47 percent to 4,489 million kW\*h, of which

24 Ministry of Mines and Energy, "Hydroelectricity Department," General Department of Energy, PowerPoint presentation, <https://www.mrcmekong.org/assets/Uploads/1.-Hydropower-plan-Cambodia.pdf>.

25 Ministry of Mines and Energy, "Hydroelectricity Department."

26 Dene-Hern Chen and Kuch Naren, "Electricity Vietnam No Longer Involved in Lower Sesan 2 Dam," *Cambodia Daily*, November 28, 2012, <https://english.cambodiadaily.com/news/electricity-vietnam-no-longer-involved-in-lower-sesan-2-dam-6363/>.

27 Associated Press, "Cambodia's Biggest Hydropower Dam Now Producing Electricity," *Bangkok Post*, December 17, 2018, <https://www.bangkokpost.com/world/1595762/cambodias-biggest-hydropower-dam-now-producing-electricity>; International Hydropower Association, "Our Members: HydroLancang," <https://www.hydropower.org/our-members/hydrolancang>.

28 Electricity Authority of Cambodia, *Salient Features of Power Development in the Kingdom of Cambodia Until December 2020: Consolidated Report for the Year 2020*, Salient Feature of Power Sector 2020 (Phnom Penh, Cambodia: Electricity Authority of Cambodia, 2021), [https://eac.gov.kh/uploads/salient\\_feature/english/salient\\_feature\\_2020\\_en.pdf](https://eac.gov.kh/uploads/salient_feature/english/salient_feature_2020_en.pdf).

29 Electricity Authority of Cambodia, *Salient Features of Power Development in the Kingdom of Cambodia Until December 2020*.

30 Electricity Authority of Cambodia, *Report on Power Sector of the Kingdom of Cambodia 2011 Edition* (Phnom Penh, Cambodia: Electricity Authority of Cambodia, 2011), [https://eac.gov.kh/site/viewfile?param=annual\\_report%2Fenglish%2FAnnual-Report-2010-en.pdf&lang=en](https://eac.gov.kh/site/viewfile?param=annual_report%2Fenglish%2FAnnual-Report-2010-en.pdf&lang=en).

31 Electricity Authority of Cambodia, *Report on Power Sector of the Kingdom of Cambodia 2015 Edition* (Phnom Penh, Cambodia: Electricity Authority of Cambodia, 2015), [https://eac.gov.kh/site/viewfile?param=annual\\_report%2Fenglish%2FAnnual-Report-2014-en.pdf&lang=en](https://eac.gov.kh/site/viewfile?param=annual_report%2Fenglish%2FAnnual-Report-2014-en.pdf&lang=en).

32 *Electricité du Cambodge, Annual Report 2017*, [https://www.edc.com.kh/images/Annual%20Report%202017%20\(English\)\\_.pdf](https://www.edc.com.kh/images/Annual%20Report%202017%20(English)_.pdf); Electricity Authority of Cambodia, *Report on Power Sector of the Kingdom of Cambodia 2015 Edition*.

hydro made up 47 percent.<sup>33</sup> By 2016, the Tatay dam had reached its full generation capacity of 859 GW\*h, surpassing capacity expectations.<sup>34</sup> Despite a 93 percent increase in kW\*h generated in the kingdom between 2015 and 2019, hydropower still constitutes 46 percent of the total 8,675 GW\*h, largely due to addition of the Lower Sesan Dam 2.<sup>35</sup>

## The Tatay Project: Agreement, Financing, and Key Entities

The 246-megawatt Tatay River Hydropower Dam is located in Thma Bang District, Koh Kong Province in western Cambodia.<sup>36</sup> The project is wholly owned by Cambodian Tatay Hydropower Limited (CTHL), which also operates the project under a Build-Operate-Transfer (BOT) agreement with the Cambodian government;<sup>37</sup> after a period of 42 years, ownership will transfer to the Cambodian government.<sup>38</sup> The BOT agreement designated the first 5 years for construction and the next 37 for operation. CTHL contracted China Gezhouba Group Corporation—in the firm’s own words, a “core member” of the state-owned China Energy Engineering Group—to perform the bulk of the construction.<sup>39</sup> A map of the firms involved in the project is provided in Figure 1 below.

When the BOT agreement was signed in 2008, construction was projected to begin in 2009 and commercial operation to commence by 2013 at a projected cost of USD \$505 million.<sup>40</sup> At the time, it was the largest investment project by a Chinese state-owned enterprise in Cambodia.<sup>41</sup> Construction officially began in March 2010, financed by a USD \$540 million loan from EXIM Bank.<sup>42</sup> EXIM Bank is the primary lender for BRI projects; its lending decisions are guided by the PRC Ministry of Commerce.

Under the BOT agreement, China National Heavy Machinery Corporation (CHMC), the majority shareholder of project owner and operator CTHL’s parent company, will sell electricity at 7.45 cents per kilowatt-hour to the Cambodian state-owned Electricité du Cambodge (EDC).<sup>43</sup> It is difficult to discern whether or not this is a normal rate, as many other projects selling electricity to EDC do not disclose their rates. Media reports indicate that the Russie Chrum, a dam finished a year before the Tatay, sells electricity to EDC at the slightly lower rate of 7.35 cents/kW\*h.<sup>44</sup> A new dam upstream of the

33 Electricité du Cambodge, *Annual Report 2017*; Electricity Authority of Cambodia, *Report on Power Sector of the Kingdom of Cambodia 2016 Edition* (Phnom Penh, Cambodia: Electricity Authority of Cambodia, 2016), [https://eac.gov.kh/site/viewfile?param=annual\\_report%2Fenglish%2FAnnual-Report-2015-en.pdf&lang=en](https://eac.gov.kh/site/viewfile?param=annual_report%2Fenglish%2FAnnual-Report-2015-en.pdf&lang=en).

34 Electricité du Cambodge, *Annual Report 2017*.

35 Electricity Authority of Cambodia, *Report on Power Sector of the Kingdom of Cambodia 2020 Edition*.

36 China Gezhouba Group Co., Ltd., “CGGC-constructed Tatay River Hydropower Station Begins Impoundment.”

37 Chan, “Cambodia’s Energy Rising with New Hydro Plant: Officials.”

38 Chan, “Cambodia’s Energy Rising with New Hydro Plant: Officials.”

39 Dreher et al., *Aid, China, and Growth*; Devex, “China Gezhouba Group Co., Ltd. (CGGC),” <https://www.devex.com/organizations/china-gezhouba-group-co-ltd-cggc-70680>.

40 SINOMACH, “Construction Commenced for the Largest Chinese Investment Project in Cambodia.”

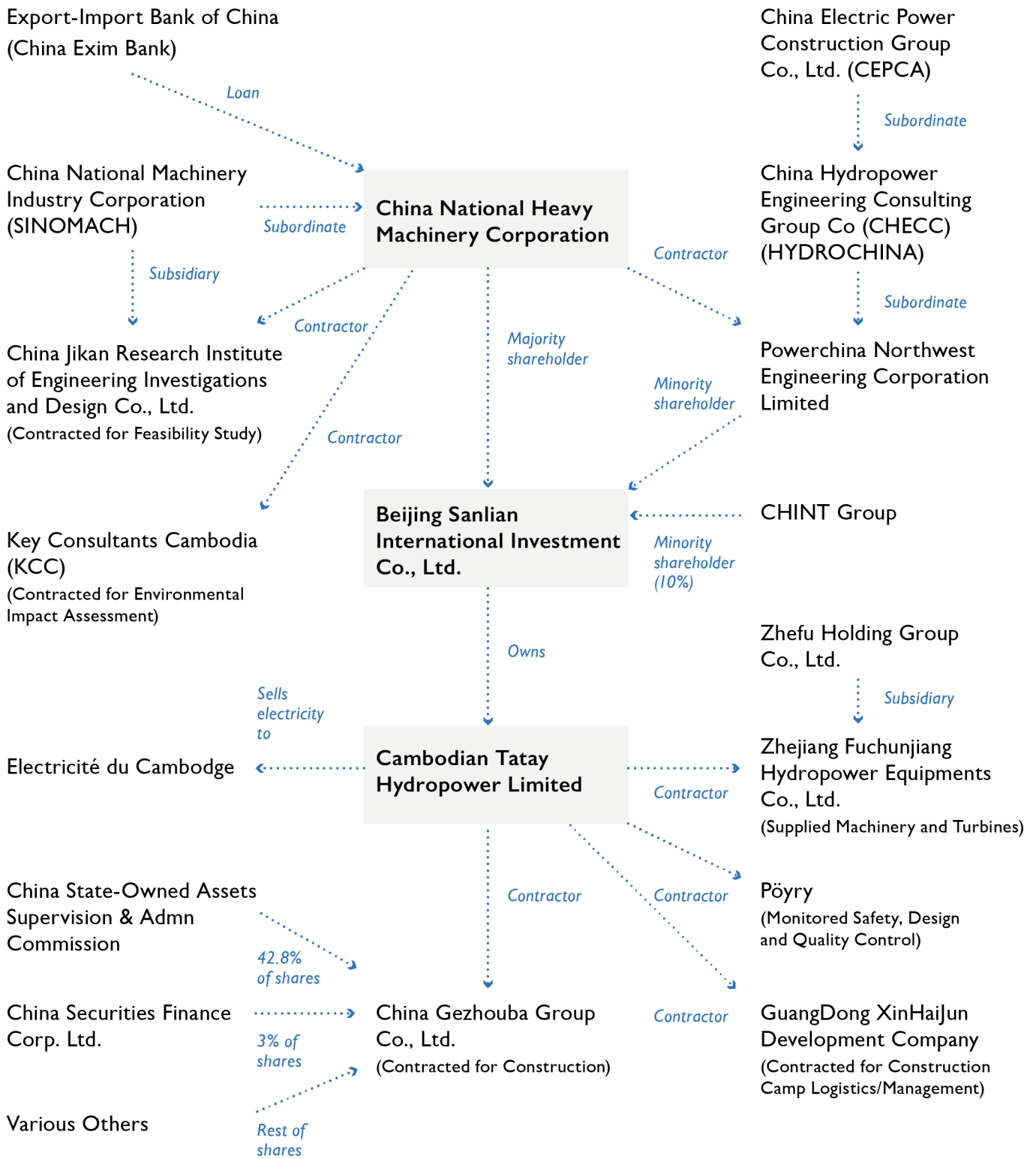
41 Tingjun Liu, “Constructing the Classical Project of BOT and Building the First-Class Brand of CHMC,” *SINOMACH Today*, 29(3): 25–30 (Beijing, China: China National Machinery Industry Corporation, 2014).

42 Liu, “Constructing the Classical Project of BOT and Building the First-Class Brand of CHMC”; Dreher et al., *Aid, China, and Growth*.

43 Dreher et al., *Aid, China, and Growth*; Chan, “Cambodia’s Energy Rising with New Hydro Plant: Officials.”

44 Harris, “Ceremony Marks Completion of Cambodia’s 338-MW Russei Chrum Krom Hydropower Plant.”

Figure 1: Contractors, Subcontractors, and Firm Relationships





Tatay project, approved in October 2020, is projected to sell electricity to EDC at 7.92 cents/kW\*h.<sup>45</sup> However, without any public information about the reasoning behind these rates and no public record of other projects' rates, it is not possible to assess whether the increasing rate of hydropower over time is due to market dynamics or some other factor. Additionally, there is no way to discern whether these rates are fixed by contract or if they can rise and fall based on demand.

A 2009 press release from SINOMACH (the Chinese state-owned conglomerate that owns CHMC) describes how, to expedite the investment process, CHMC joined with two other Chinese companies, PowerChina Northwest Engineering Corporation Limited of China Hydropower Engineering Consulting Group Co. (CHECC, a subsidiary of China Electric Power Construction Group Co., Ltd. or CEPCA)<sup>46</sup> and CHINT Company Limited, to create the joint venture Beijing Sanlian International Investment Co., Ltd.<sup>47</sup> However, current Chinese corporate records describe CHMC and CHINT Group as the sole shareholders of Beijing Sanlian International Investment Co., Ltd., at 93.13 and 6.88 percent respectively.<sup>48</sup> CTHL was subsequently established as sole recipient of Beijing Sanlian International Investment Co., Ltd. investments.<sup>49</sup> CTHL stands as the sole owner of the Tatay dam under the BOT agreement and was established specifically for this project.<sup>50</sup>

The Tatay project was the first CHMC investment in a foreign BOT project. The project began with a feasibility study agreement between CHMC and the Cambodian Ministry of Mines and Energy (MME) on January 18, 2007.<sup>51</sup> The feasibility report, completed in June 2007, was conducted by two Chinese firms: China Jikan Research Institute of Engineering Investigations and Design Co., Ltd. and Powerchina Northwest Engineering Corporation Limited.<sup>52</sup> The feasibility report was reviewed in September 2007 by a group of experts organized by CHECC and again in February 2008 by the Cambodian MME.<sup>53</sup> The execution agreement, power purchase agreement, and BOT land lease agreement were signed in June 2008 by CHMC, the Cambodian Ministry of Economy and Finance, MME, and EDC.<sup>54</sup> In August 2009,

45 Cambodia Constructors Association, "Government Approves Another 150-megawatt Hydropower Dam in Koh Kong," *Construction & Property*, October 23, 2020, <https://construction-property.com/government-approves-another-150-megawatt-hydropower-dam-in-koh-kong/>; Chea Vannak, "Another 150-megawatt Hydro Power Project Proposed Upstream of Tatay River," *Khmer Times* via Agence Kampuchea Presse, June 27, 2020, <https://www.khmertimeskh.com/738749/another-150-megawatt-hydro-power-project-proposed-upstream-of-tatay-river/>.

46 China Chamber of Commerce for Import and Export of Machinery and Electronic Products (CCCME), "Company Profile: China Hydropower Engineering Consulting Group Co.," <http://www.cccme.org.cn/shop/cccme9679/introduction.aspx>.

47 SINOMACH, "Construction Commenced for the Largest Chinese Investment Project in Cambodia"; Inclusive Development International, *Safeguarding People and the Environment in Chinese Investments*; CHINT Group, "Cambodia: CHINT Invested as Partner for Hydro-power BOT Project," Company News, January 6, 2009.

48 Qixin.com, "Beijing Sanlian International Investment Co., Ltd.," <https://www.qixin.com/company/14d27e7f-5d2a-4932-9add-f6811e4f9dc0>.

49 SINOMACH, "Construction Commenced for the Largest Chinese Investment Project in Cambodia."

50 SINOMACH, "Construction Commenced for the Largest Chinese Investment Project in Cambodia."

51 Liu, "Constructing the Classical Project of BOT and Building the First-Class Brand of CHMC."

52 China National Heavy Machinery Corporation, "[Feasibility Study Report of Tatay Hydropower Station Completed] 达岱河水电站可研报告完成," November 5, 2007, <http://www.chmc.cc/contents/103/39951.html>. Some sources refer to the two firms involved in the feasibility report as the "Machinery Industry Survey Design and Research Institute" and "Northwest Survey Design and Research Institute" (e.g., Liu, "Constructing the Classical Project of BOT and Building the First-Class Brand of CHMC"). These names appear to correspond to alternative translations for the China Jikan Research Institute of Engineering Investigations and Design Co., Ltd. (机械工业勘察设计研究院有限公司) and Powerchina Northwest Engineering Corporation Limited (中国电建集团西北勘测设计研究院有限公司, formerly China Power Construction Group Northwest Survey, Design and Research Institute Co., Ltd.), which are used in this report.

53 Liu, "Constructing the Classical Project of BOT and Building the First-Class Brand of CHMC."

54 Liu, "Constructing the Classical Project of BOT and Building the First-Class Brand of CHMC."

China's National Development and Reform Commission approved CHMC's investment in the Tatay project, enabling EXIM Bank to grant credit support to the project.<sup>55</sup> In June 2009, preliminary results from the environmental impact assessment (EIA), conducted by Key Consultants Cambodia (KCC) on behalf of CTHL, were released at a public forum.<sup>56</sup> The full EIA was completed in September 2010.<sup>57</sup> However, currently the only publicly available EIA is a draft EIA via the Open Development Cambodia database.<sup>58</sup> It is unclear whether a full official EIA was ever released to the public.

In February 2010, it was announced that China Gezhouba Group Co., Ltd. had won the construction contract bid as posted by CTHL.<sup>59</sup> The on-site opening ceremony of the project was held on March 29, 2010.<sup>60</sup> In November 2010, the president of EXIM Bank, Li Ruogu, visited Tatay dam for an "after-loan investigation."<sup>61</sup> He was accompanied by the president of CHMC and Beijing Sanlian International Investment Ltd (the owner of CTHL), Lu Wenjun;<sup>62</sup> the vice president of CHMC and president of CTHL, Zhu Xu; and the board chairman of CTHL.<sup>63</sup>

The main dam was finished before the 2011 rainy season, and the auxiliary dam and spillway capacity were completed one year later.<sup>64</sup> In 2012, the European consulting firm Pöyry accepted a two-year contract with CTHL to provide monitoring of dam engineering, design, construction, quality, materials, and safety until 2014.<sup>65</sup> As of February 8, 2012, construction was reportedly 20 percent complete, per a provincial investment report.<sup>66</sup> The access tunnel was completed in February 2013, and the diversion tunnels for both dams were finished in November. Bridges were built into the mountains to establish the 63 km transmission line. On June 23, 2013, Cambodia experienced 50-year monsoonal rains, flooding the project and suspending much of the construction. CHMC quickly deployed rescue workers to move construction equipment and build dikes. By the next day, the flood was under control and the damage contained. By the fall of 2013, the dam passed the gate-closing requirements as determined by a Chinese team of experts and reviewed by Pöyry. After approval, the gate was closed and water storage officially began on November 16, 2013.<sup>67</sup> In May 2014, an affiliate of China Ocean Aviation Group Inc., GuangDong XinHaiJun Development Company (XinHaiJun), won the bid

55 Liu, "Constructing the Classical Project of BOT and Building the First-Class Brand of CHMC."

56 Sebastian Strangio and Sam Rith, "Koh Kong Forum Highlights Benefits, Pitfalls of Hydro Dams," *Phnom Penh Post*, June 16, 2009, <https://www.phnompenhpost.com/national/koh-kong-forum-highlights-benefits-pitfalls-hydro-dams>.

57 Open Development Cambodia, *Draft Environmental and Social Impact Assessment: Tatay Hydroelectric Project in Koh Kong Province, Cambodia* (Cambodian Tatay Hydropower Limited: Phnom Penh, Cambodia, 2010), <https://data.opendevdevelopmentcambodia.net/en/agreement/environmental-and-social-impact-assessment-tatay-hydroelectric-project-in-koh-kong-province>.

58 Open Development Cambodia, *Draft Environmental and Social Impact Assessment*.

59 Vedmundr, "CGGC Won the Bidding for Tatay River Hydropower Station in Cambodia and Signed a Contract Worth RMB1.8 Billion," *Every China: Facts*, May 20, 2011, [http://news.everychina.com/wz4022ef/cggc\\_won\\_the\\_bidding\\_for\\_tatay\\_river\\_hydropower\\_station\\_in\\_cambodia\\_and\\_signed\\_a\\_contract\\_worth\\_rmb1\\_8\\_billion.html](http://news.everychina.com/wz4022ef/cggc_won_the_bidding_for_tatay_river_hydropower_station_in_cambodia_and_signed_a_contract_worth_rmb1_8_billion.html).

60 Liu, "Constructing the Classical Project of BOT and Building the First-Class Brand of CHMC."

61 CHMC, "China EXIM Bank Site Inspection on Stung Tatay Hydroelectric Project in Cambodia," December 16, 2010, <http://en.chmc.cc/contents/45/41443.html>.

62 CHMC, "CHMC President Mr. Lu Wenjun Inspected the BOT Project Site," Home: News, November 24<sup>th</sup>, 2012. <http://en.chmc.cc/contents/45/41420.html>.

63 CHMC, "China EXIM Bank Site Inspection on Stung Tatay Hydroelectric Project in Cambodia."

64 Liu, "Constructing the Classical Project of BOT and Building the First-Class Brand of CHMC."

65 Pöyry, "Stung Tatay Hydropower Project, Cambodia."

66 Council for the Development of Cambodia (CDC). 2012. "Koh Kong Investment Report." Koh Kong Province. Published February 8th. <http://www.cambodiainvestment.gov.kh/koh-kong-province.html>.

67 Liu, "Constructing the Classical Project of BOT and Building the First-Class Brand of CHMC."

to manage the project camp, including standardizing and coordinating office work, lodging, meals, and other logistics pertaining to the camp's workers.<sup>68</sup>

On August 13, 2014, the first of the dam's three 82-megawatt generators began to produce electricity; by December 2015, all three generators were active and the dam was fully operational.<sup>69</sup> Since operationalization, the dam's three generators, supplied by Zhejiang Fuchunjiang Hydropower Equipment Co., Ltd., a subsidiary of Zhefu Holding Group Ltd.,<sup>70</sup> have had an average annual production capacity of 849 GW\*h between 2015 and 2020.<sup>71</sup> In 2020, this represented almost 24 percent of Cambodia's total hydropower generation (3,493 GW\*h) and 10 percent of Cambodia's total domestic electricity production (8,513 GW\*h).<sup>72</sup> The MME lauded the Tatay Dam as it became operational, claiming that it had created new jobs and boosted the annual tax revenue by USD \$12 million with minimal social or environmental impacts.<sup>73</sup> Investing companies, such as CHINT, which holds 6.88 percent of CTHL's parent company's shares,<sup>74</sup> also commended the project for lowering electricity fees and spurring economic development.<sup>75</sup> CHMC, the majority shareholder of CTHL's parent company, highlighted the project's contribution to Cambodia's industrial, agricultural, and service development and its influence encouraging social and economic advancement. SINOMACH, the parent company of CHMC (see Figure 1) also praised the project, proclaiming it "will provide convenience for agricultural, industrial, and service development in Cambodia, vigorously promote the local economic and social development, and positively affect the promotion of pragmatic cooperation between China and Cambodia in the energy field."<sup>76</sup> The Cambodian government applauded the project for the local jobs and economic advancement it provided in addition to flood protection, energy security, affordability, and reliability, concluding that the project contributes significantly to Cambodia's poverty alleviation and economic development.<sup>77</sup>

68 SINOMACH, "XinHaiJun Wins Bid for Cambodia Tatay Hydropower Station Camp Management Project," Media Center: News, May 14, 2014, [http://www.sinomach.com.cn/en/MediaCenter/News/201412/t20141209\\_22093.html](http://www.sinomach.com.cn/en/MediaCenter/News/201412/t20141209_22093.html).

69 Xinhua News Agency, "6th China-built Hydropower Dam in Cambodia Starts Operation."

70 UNFCCC, "Project Design Document Form (Version 11.0)," Project: 8761 Stung Tatay Hydroelectric Project - Crediting Period Renewal Request, June 5, 2020, <https://cdm.unfccc.int/Projects/DB/BVQI1355457198.66/view>; Zhefu Holding Group Ltd., "Introduction: About Us," <http://www.zhefu.cn/en/about.aspx>.

71 Electricity Authority of Cambodia. 2015. *Report on Power Sector of the Kingdom of Cambodia 2015 Edition*. Phnom Penh, Cambodia: Electricity Authority of Cambodia. <https://eac.gov.kh/site/annualreport?lang=en>; Electricity Authority of Cambodia. 2016. *Report on Power Sector of the Kingdom of Cambodia 2016 Edition*. Phnom Penh, Cambodia: Electricity Authority of Cambodia. <https://eac.gov.kh/site/annualreport?lang=en>; Electricity Authority of Cambodia. 2017. *Report on Power Sector of the Kingdom of Cambodia 2017 Edition*. Phnom Penh, Cambodia: Electricity Authority of Cambodia. <https://eac.gov.kh/site/annualreport?lang=en>; Electricity Authority of Cambodia. 2018. *Report on Power Sector of the Kingdom of Cambodia 2018 Edition*. Phnom Penh, Cambodia: Electricity Authority of Cambodia. <https://eac.gov.kh/site/annualreport?lang=en>; Electricity Authority of Cambodia. 2019. *Report on Power Sector of the Kingdom of Cambodia 2019 Edition*. Phnom Penh, Cambodia: Electricity Authority of Cambodia. <https://eac.gov.kh/site/annualreport?lang=en>; Electricity Authority of Cambodia. 2020. *Report on Power Sector of the Kingdom of Cambodia 2020 Edition*. Phnom Penh, Cambodia: Electricity Authority of Cambodia. <https://eac.gov.kh/site/annualreport?lang=en>.

72 China Gezhouba Group Co., Ltd., "CGGC-constructed Tatay River Hydropower Station Begins Impoundment"; Chea, Vannak, 2020b "Cambodia's Energy Demand Drops in H1 of 2020," *Khmer Times*, August 20, 2020, <https://www.khmertimeskh.com/755733/cambodias-energy-demand-drops-in-h1-of-2020/#:~:text=According%20to%20a%20report%20from,year%2Don%2Dyear%20increase>; Electricity Authority of Cambodia, *Salient Features of Power Development in the Kingdom of Cambodia Until December 2020*.

73 Chan, "Cambodia's Energy Rising with New Hydro Plant: Officials."

74 Qixin.com, "Beijing Sanlian International Investment Co., Ltd."

75 CHINT Group, "Cambodia: CHINT Invested as Partner for Hydro-power BOT Project," Company News, January 6, 2009.

76 Liu, "Constructing the Classical Project of BOT and Building the First-Class Brand of CHMC."

77 China National Machinery Industry Corporation, "R&D and Manufacture Project Contracting Trade and Services."

## Project Issues and Controversies

### i. Legislative Gaps

The company that conducted the feasibility study, China Jikan Research Institute of Engineering Investigations and Design Co., Ltd., a wholly-owned subsidiary of China Machinery Engineering Corporation (CMEC), has the same ultimate parent company (SINOMACH) as the majority shareholder (CHMC) of the project owner, CTHL (see Figure 1).<sup>78</sup> The other company contracted for the feasibility study, Powerchina Northwest Engineering Corporation Limited, was a minority shareholder in CTHL at the time of its establishment,<sup>79</sup> but is no longer listed as a shareholder (see Figure 1).<sup>80</sup> Contractors on the project thus have the same parent company or some other related interest to the project. This overlap is further illuminated by the leadership of the companies involved. Lu Wenjun, the president of CHMC, is also the president of Beijing Sanlian International Investment Ltd, an entity that not only owns CTHL, but that CHMC is a major shareholder of.<sup>81</sup> Meanwhile, Zhu Xu, the president of CTHL, is also the vice president of CHMC, and CHMC is a major shareholder of the owner of CHTL.<sup>82</sup> Under the *Standard Operating Procedures on Procurement for All Externally Financed Projects/Programs*, such shared interest of ownership and leadership disqualifies contractors or subcontractors in Public Procurement projects.<sup>83</sup> However, it is explicitly stated that this does not apply to public-private partnerships (PPP) or private sector projects.<sup>84</sup> It would be great if such legislation could be extended to all foreign investment in Cambodia to comprehensively prevent conflicts of interest.

In fact, as it currently stands, there are no laws specifically governing projects conducted by foreign SOEs. Currently, such projects fall under the broad 2007 Law on Concessions and 1994 Law on Investment. They are primarily governed and overseen via ad-hoc mechanisms within related ministries.<sup>85</sup> This same general framework also governs PPP projects in Cambodia, although a PPP-specific law is expected to be released by the end of 2021.<sup>86</sup> However, it remains unclear whether such legislation would also govern foreign SOEs conducting projects or investing in Cambodia. Many, including the authors, hoped

78 Qixin.com, "Beijing Sanlian International Investment Co., Ltd."; Inclusive Development International, *Safeguarding People and the Environment in Chinese Investments*.

79 SINOMACH, "Construction Commenced for the Largest Chinese Investment Project in Cambodia."

80 Qixin.com, "Beijing Sanlian International Investment Co., Ltd."

81 CHMC, "CHMC President Mr. Lu Wenjun Inspected the BOT Project Site," Home: News, November 24<sup>th</sup>, 2012. <http://en.chmc.cc/contents/45/41420.html>.

82 CHMC, "China EXIM Bank Site Inspection on Stung Tatay Hydroelectric Project in Cambodia," December 16, 2010, <http://en.chmc.cc/contents/45/41443.html>.

83 Article 4.3, Royal Government of Cambodia, *Standard Operating Procedures on Procurement for All Externally Financed Projects/Programs in Cambodia Volume II* (Phnom Penh: Ministry of Economy and Finance, December 2, 2019), <https://gdicdm.mef.gov.kh/en/2020/10/05/10176.html>.

84 Article 1.2.2, Royal Government of Cambodia, *Standard Operating Procedures on Procurement for All Externally Financed Projects/Programs in Cambodia Volume I* (Phnom Penh: Ministry of Economy and Finance, December 2, 2019), <https://gdicdm.mef.gov.kh/en/2020/07/22/10172.html>.

85 Council for the Development of Cambodia (CDC)/Cambodian Investment Board (CIB), *Law on Concessions* (unofficial translation), Legal Affairs Department, August 26, 2007, [http://www.cambodiainvestment.gov.kh/wp-content/uploads/2011/09/Law-on-Concessions-Full-Text\\_071019.pdf](http://www.cambodiainvestment.gov.kh/wp-content/uploads/2011/09/Law-on-Concessions-Full-Text_071019.pdf); Bun Eang Sar, Meyka Chea, and Chanpisey Ung, "Public-Private Partnerships in Cambodia: Issues and Solution," *Open Journal of Business and Management* January 2020, 8(3):1216–1225, [https://www.researchgate.net/publication/341545169\\_Public-Private\\_Partnerships\\_in\\_Cambodia\\_Issues\\_and\\_Solution](https://www.researchgate.net/publication/341545169_Public-Private_Partnerships_in_Cambodia_Issues_and_Solution).

86 Vuthika Hang, "Cambodia: Current PPP Development," presentation, Ministry of Economy and Finance, Fourth Meeting of the Infrastructure Financing and Public-Private Partnership Network of Asia and the Pacific, October 15, 2020, [https://www.unescap.org/sites/default/files/Cambodia%20PPP%20Development\\_Mr.%20Vuthika%20Hang.pdf](https://www.unescap.org/sites/default/files/Cambodia%20PPP%20Development_Mr.%20Vuthika%20Hang.pdf).

that such PPP-specific legislation will cover foreign SOE direct investment as well. As it stands, it is difficult to delineate PPP from SOE procurement,<sup>87</sup> especially when looking at Chinese companies and the recent explosion of SOE subsidiaries with public stocks under the mixed-ownership model encouraged by China's 2013 SOE reforms.<sup>88</sup> On top of that, Chinese SOE subsidiaries often form local subsidiaries of their own when conducting projects in Cambodia, as seen in the creation of CTHL. For these reasons, it is difficult to even identify the type of investment exhibited in this project, never mind what legislation would govern it. This research serves, in part, to advocate for further specificity and clarification of Cambodian investment laws.

## ii. Environmental Impacts: Assessment, Transparency, and Outcomes

The project EIA is not readily available to the public. All information here is summarized from a 2010 draft EIA published on Open Development Cambodia.<sup>89</sup> As noted above, CTHL hired a local consulting firm, KCC, to conduct the EIA, which was finalized in 2010<sup>90</sup> and approved in January 2011.<sup>91</sup> In June 2009, a public forum was held in Koh Kong to discuss the impacts of the Tatay project prior to its approval<sup>92</sup> and to release preliminary findings from the KCC-prepared EIA.<sup>93</sup> While the Cambodian government defended large dams, claiming that their economic benefits outweigh their environmental impacts, local residents raised concerns over the preliminary results.<sup>94</sup> A feasibility study conducted in 2007 predicted that more than two thousand hectares of forest would be inundated by the dam's reservoir, leading to decreases in water and fish stock quality, and resulting in serious impacts for the locals who depend on such resources.<sup>95</sup> In addition, while reporting on the forum, *Phnom Penh Post* journalists highlighted the official mention of preliminary consideration of "where and how to remove people from

87 Mira Käkönen and Try Thuon, "Overlapping Zones of Exclusion: Carbon Markets, Corporate Hydropower Enclaves and Timber Extraction in Cambodia," *Journal of Peasant Studies*, July 17, 2018, 46(6): 1192–1218, <https://www.tandfonline.com/doi/full/10.1080/03066150.2018.1474875>.

88 Curtis J. Milhaupt and Wentong Zheng, "Beyond Ownership: State Capitalism and the Chinese Firm," *Georgetown Law Journal*, 2014, 103: 665–722. [https://heinonline.org/HOL/Page?handle=hein.journals/glj103&div=22&g\\_sent=1&casa\\_token=VGfFaXMKT4oAAAAA:cPydrLi-VQUVdt7mR8sKg5S3NcA8mklkqO5EuznNPwiRY2ydOTnNHPusx6QR2yubSj4CuU&collection=journals](https://heinonline.org/HOL/Page?handle=hein.journals/glj103&div=22&g_sent=1&casa_token=VGfFaXMKT4oAAAAA:cPydrLi-VQUVdt7mR8sKg5S3NcA8mklkqO5EuznNPwiRY2ydOTnNHPusx6QR2yubSj4CuU&collection=journals); Mark Grimsditch, "Chinese Energy Investment in Cambodia: Fuelling Industrialization or Undermining Development Goals?" *The People's Pulse: The People's Map of Global China*, May 6, 2021, <https://thepeoplesmap.net/2021/05/06/chinese-energy-investment-in-cambodia-fuelling-industrialisation-or-undermining-development-goals/>.

89 Open Development Cambodia. 2010. *Draft Environmental and Social Impact Assessment: Tatay hydroelectric project in Koh Kong province, Cambodia*. Phnom Penh, Cambodia: Cambodian Tatay Hydropower Limited. Accessed February 18th, 2021 through Open Development Cambodia at: [Draft] Environmental and social impact assessment: Tatay hydroelectric project in Koh Kong province, Cambodia - Agreements - OD Mekong Datahub ([opendevelopmentcambodia.net](http://opendevelopmentcambodia.net)).

90 Open Development Cambodia. 2010. *Draft Environmental and Social Impact Assessment: Tatay hydroelectric project in Koh Kong province, Cambodia*. Phnom Penh, Cambodia: Cambodian Tatay Hydropower Limited. Accessed February 18th, 2021 through Open Development Cambodia at: [Draft] Environmental and social impact assessment: Tatay hydroelectric project in Koh Kong province, Cambodia - Agreements - OD Mekong Datahub ([opendevelopmentcambodia.net](http://opendevelopmentcambodia.net)).

91 Ame Trandum, "CDM: Form for Submission of a 'Letter to The Board,'" United Nations Framework Convention on Climate Change, Version 01.2, February 8, 2012, [https://cdm.unfccc.int/stakeholder/submissions/2013/0215\\_ir\\_req.pdf](https://cdm.unfccc.int/stakeholder/submissions/2013/0215_ir_req.pdf).

92 Strangio and Rith, "Koh Kong Forum Highlights Benefits, Pitfalls of Hydro Dams."

93 Strangio and Rith, "Koh Kong Forum Highlights Benefits, Pitfalls of Hydro Dams."

94 AFP, "Hun Sen Defends Chinese Mega-dams," *Bangkok Post*, January 12, 2015, <https://www.bangkokpost.com/world/456309/cambodia-pm-defends-china-funded-mega-dams-at-plant-launch>; Strangio and Rith, "Koh Kong Forum Highlights Benefits, Pitfalls of Hydro Dams."

95 Strangio and Rith, "Koh Kong Forum Highlights Benefits, Pitfalls of Hydro Dams."

the impacted area.”<sup>96</sup> However, other documents, including the EIA itself and a 2009 Japan International Cooperation Agency (JICA) study on proposed hydropower projects in Cambodia, reported that the project required no relocation of local households.<sup>97</sup> Moreover, the lack of transparency and public disclosure of official documents pertaining to project specifics leaves it unclear whether relocation and/or displacement actually occurred or not. Such inconsistency raises doubts over whether relocation was truly unnecessary or if it was simply glossed over for the sake of project optics.

The EIA states that the reservoir created by the project will flood 2,949 hectares permanently and 182 hectares temporarily.<sup>98</sup> Other documents offer different estimates: a 2009 JICA report contended that the project would flood a projected 4,600 hectares, while a UNFCCC Clean Development Mechanism Project Description report claimed flooding of a 1,600-hectare area.<sup>99</sup> The flooded area consists mostly of pristine Cardamom forest, which is home to a wide variety of wildlife, including endangered elephants, sun bears, wild boars, dragonfish, and critically threatened Siamese crocodiles, among others.<sup>100</sup> The Ministry of Agriculture’s Wildlife Protection Department noted that every development affects wildlife and that a balance needs to be reached between the goals of developers and conservationists.<sup>101</sup> Environmental NGOs expressed concern over the project border’s proximity to the Central Cardamoms Protected Forest area.<sup>102</sup> Wildlife Alliance worried about the impact of the five access roads and the three to four thousand workers required for the five-year construction process, as well as the dam’s disruption to the river’s hydrologic flow patterns.<sup>103</sup>

The EIA noted that such flooding would also affect the livelihoods of locals who depend on the forest and its resources to make a living.<sup>104</sup> A 2009 master plan study of Cambodian hydropower development conducted by JICA at the request of the Cambodian government pointed out that 21 villages were located in a 40 km radius of the dam’s planned power station, consisting of 1,654 families and 6,229 total residents according to a 2003 rural census survey.<sup>105</sup> The EIA provided different estimates, claiming that the project would impact the livelihoods of 1,549 families who rely on the forest and its resources.<sup>106</sup> Given the saltiness of the land, very little agricultural cultivation was pursued in the area, and JICA categorized that the land to be flooded as consisting of 84 percent forest, 3 percent agriculture, and 13

96 Strangio and Rith, “Koh Kong Forum Highlights Benefits, Pitfalls of Hydro Dams.”

97 Strangio and Rith, “Koh Kong Forum Highlights Benefits, Pitfalls of Hydro Dams”; Open Development Cambodia, *Draft Environmental and Social Impact Assessment*; JICA, Chapter 3: “The Power Sector” and Chapter 4: “Review of 29 Candidate Projects” in *JICA Master Plan Study of Hydropower Development in Cambodia* (JICA: January 2009), 4–8, [https://openjicareport.jica.go.jp/pdf/11925773\\_02.pdf](https://openjicareport.jica.go.jp/pdf/11925773_02.pdf).

98 Open Development Cambodia, *Draft Environmental and Social Impact Assessment*.

99 JICA, Chapter 3: “The Power Sector” and Chapter 4: “Review of 29 Candidate Projects”; UNFCCC, “Project Design Document Form (Version 1.1.0),” UNFCCC, “Project Design Document Form (Version 4.0).”

100 Open Development Cambodia, *Draft Environmental and Social Impact Assessment*; Paul Vrieze, “Adverse Environmental Impact from Planned Dam, Report Says,” *Cambodia Daily*, June 13, 2009, <https://english.cambodiadaily.com/news/adverse-environmental-impact-from-planned-dam-report-says-71968/>.

101 Vrieze, “Adverse Environmental Impact from Planned Dam, Report Says.”

102 Carl Middleton and Sam Chanthy, *Cambodia’s Hydropower Development and China’s Involvement* (Phnom Penh, Cambodia: International Rivers and Rivers Coalition in Cambodia, 2008), <https://www.understandchinaenergy.org/cambodias-hydropower-development-and-chinas-involvement/>.

103 JICA, Chapter 3: “The Power Sector” and Chapter 4: “Review of 29 Candidate Projects”; Vrieze, “Adverse Environmental Impact from Planned Dam, Report Says.”

104 Open Development Cambodia, *Draft Environmental and Social Impact Assessment*.

105 JICA, Chapter 3: “The Power Sector” and Chapter 4: “Review of 29 Candidate Projects.”

106 Open Development Cambodia, *Draft Environmental and Social Impact Assessment*.

percent other uses.<sup>107</sup> While the EIA described an anticipated budget for a forest conservation program, an agricultural support program, a small business loan scheme, and healthcare services available to both construction workers and the local population, there is no reporting on the implementation, progress, or success of such programs and their mitigation of project negative externalities on local livelihoods.<sup>108</sup> Whether these follow-up initiatives were completed or even initiated remains unclear.

The EIA further mentioned diminished air and water quality during construction and some years after project completion. To mitigate these issues, CTHL outlined plans to cooperate with the forestry administration and relevant ministries to establish a forest committee. This committee would be charged with forest clearance management and monitoring and detection of any illegal activities in and around the project site. The company proposed using high-quality machines and following Ministry of Environment standards to reduce air and noise pollution during construction. CTHL also described plans to effectively tackle waste management, tree planting, and healthcare services. Finally, as the project area is situated in what was one of the last refuges of the Khmer Rouge army, it holds a vast number of landmines, which presented risks of injury or death to construction workers. CTHL outlined its intentions to collaborate with the Cambodian Mine Action Center to clear mines from the project area and ensure the safety of employees.<sup>109</sup> Once again, there is no public reporting on the implementation of these proposed initiatives, and it is unclear whether they achieved their proposed mitigation goals.

While local residents were initially promised benefits from the project, such as cheap electricity, the initial EIA results made clear that the electricity would instead go towards the national grid, the majority of it supplied to Pursat province.<sup>110</sup> This raised questions about the fairness of the project: while the majority of the dam's impact would be felt in the Cardamom Forest and surrounding areas and their residents, it would primarily benefit other areas.<sup>111</sup> The 2009 JICA study compares the impacts and benefits of the Tatay project to other proposed hydropower projects. It is evident from that report (set out in Figure 2) that while the Tatay Project presents fewer harmful impacts relative to other projects, it yields almost no local benefit.<sup>112</sup>

In addition to the environmental impacts of the dam, there are further externalities associated with the project's supporting infrastructure. During the plant's construction, CHMC had to cut through mountains to build 63 km of a 230 kV transmission line to the Ou Saom Substation in Pursat province.<sup>113</sup> In 2012, an article in the *Cambodia Daily* highlighted the prevalence of illegal logging surrounding the Tatay dam and transmission line constructions sites.<sup>114</sup> Later, in February 2017, a USD \$139 million construction project began on another 230 kV transmission line to connect the Tatay dam to the Bek Chan power station in Kandal province, linking the hydropower project to the national grid and sending power to Pursat, Koh Kong, and Phnom Penh. While the province's environment department director,

107 Open Development Cambodia, *Draft Environmental and Social Impact Assessment*; JICA, Chapter 3: "The Power Sector" and Chapter 4: "Review of 29 Candidate Projects."

108 Open Development Cambodia, *Draft Environmental and Social Impact Assessment*.

109 Open Development Cambodia, *Draft Environmental and Social Impact Assessment*.

110 Strangio and Rith, "Koh Kong Forum Highlights Benefits, Pitfalls of Hydro Dams."

111 Strangio and Rith, "Koh Kong Forum Highlights Benefits, Pitfalls of Hydro Dams."

112 JICA, Chapter 3: "The Power Sector" and Chapter 4: "Review of 29 Candidate Projects."

113 Electricity Authority of Cambodia, *Report on Power Sector of the Kingdom of Cambodia 2015 Edition*; China National Machinery Industry Corporation, "R&D and Manufacture Project Contracting Trade and Services"; Open Development Cambodia, "Profiles: Substations," July 18, 2016, <https://opendevelopmentcambodia.net/profiles/substations/>.

114 Open Development Cambodia, "Opposition Party Highlights Illegal Logging Near Dam Site," *Cambodia Daily*, February 28, 2012, <https://opendevelopmentcambodia.net/news/opposition-party-highlights-illegal-logging-near-dam-site/>.

Figure 2: Socio-Economic Impact Assessment (JICA Study). Source: JICA, Chapter 3: “The Power Sector” and Chapter 4: “Review of 29 Candidate Projects.”

Table 4.6.9 Initial Assessment of Socio-Economic Impacts

		Number of households for re-settlement	Potential number of households for electrification	Minorities maintaining traditional style of life	Historical remains and cultural heritages	Potential of irrigated agriculture	Potential of fishery	Potential of commerce and industry
2	Prek Chhlong II	C	B	B	A	B	D	B
3	Prek Ter III	B	A	B	A	A	C	B
4	Prek Ter II	A	C	A	A	B	D	C
5	Sre Pok IV	A	E	C	A	C	D	C
6	Prek Por I	A	D	C	A	C	C	A
7	Lower Sre Pok II + Lower Se San II	E	B	E	B	C	E	C
10	Se Kong	D	C	E	B	D	E	C
11	Lower Se San III	E	B	E	C	C	C	C
12	Prek Liang I	A	E	D	A	C	D	D
13	Prek Liang IA	A	D	D	B	C	D	C
14	Prek Liang II	A	E	D	A	D	D	D
15	Lower Sre Pok III	D	B	D	A	B	C	A
16	Middle St. Russey Chrum	A	C	A	A	A	B	A
17	Stung Chhay Areng	C	D	B	A	B	B	B
18	Stung Tatay	A	E	B	A	A	B	A
19	Stung Metoek I	A	D	A	A	B	D	A
20	Stung Metoek II	B	E	A	A	A	C	A
21	Stung Metoek III	A	E	A	A	B	B	A
22	Stung Kep II	A	C	A	B	A	B	A
23	Upper St. Russey Chrum	A	E	A	A	D	D	A
24	Stung Pursat I	A	B	A	B	B	C	B
25	Stung Pursat II	A	A	A	B	A	C	A
26	Stung Sen	E	B	C	E	D	C	C
27	Stung Battambang II	A	C	B	D	A	C	B
28	Stung Battambang I	D	A	B	D	C	B	B
29	Bokor Plateau	A	A	A	A	B	C	A

Note: A = superior, B = good, C = medium, D = poor, E = poorest

Source: Study Team



Morn Phalla, stated that an EIA was drafted and construction would aim to cut down as few trees as possible, environmental NGOs such as Mother Nature expressed concerns over how the thirty-meter-wide transmission lines would impact the pristine forest of the Southern Cardamom Mountains. They questioned whether such construction would have consequences observed in similar projects—for example, roads built to support construction may also provide illegal loggers and poachers with access to these undisturbed areas, exacerbating the project’s negative environmental impacts.<sup>115</sup>

In sum, as researchers such as Mira Käkönen and Try Thuon have noted, the EIA only covered the direct and obvious impacts of the dam while downplaying secondary impacts, such as those on local livelihoods and downstream fishing stocks. Käkönen and Thuon also suggest that the absence of any major displacements of villagers (at least covered in the EIA) greatly reduced opposition to the dams from community, human rights, and environmental groups. They conjecture that if the full impacts of the dam were properly covered in the EIA, there would have been much more outcry and opposition to dam construction.<sup>116</sup>

### iii. Emissions Certification: Seal of Approval?

Cambodia has the second-largest number of registered Clean Development Mechanism (CDM) hydropower dams of any less-developed country and the Tatay project is one of the largest in terms of carbon credits.<sup>117</sup> The Tatay project qualified for Certified Emission Reduction (CER) credits via the CDM under the UNFCCC as a renewable power source.<sup>118</sup> The CDM credit system projected the dam would provide an annual greenhouse gas emission reduction of 393,329 tons of CO<sub>2</sub> equivalents.<sup>119</sup> The CER credits guaranteed by the project were then sold to the Netherlands via Gazprom Marketing & Trading Singapore between September 2013 and 2020.<sup>120</sup> The project was recently recertified by Shenzhen CTI International Certification to allow the same credits to be sold to the Netherlands for the next seven years between September 2020 to August 2027.<sup>121</sup>

Although the Tatay project was given CDM status based on its ability to displace fossil fuel-generated power on the national grid with hydropower, there is much debate as to whether CDM projects actually replace fossil fuels with clean energy projects or just allow for projects that would have happened regardless to claim benefits.<sup>122</sup> While projects are required to demonstrate that CDM benefits were a necessity for their conception, such proof is highly subjective, and experts doubt the credibility of

115 Baliga and Meta, “Cardamoms in Power’s Path.”

116 Käkönen and Thuon, “Overlapping Zones of Exclusion.”

117 Käkönen and Thuon, “Overlapping Zones of Exclusion.”

118 International Rivers, “Hydro CDM Hall of Shame,” Programs and Campaigns, May 17, 2012, <https://archive.internationalrivers.org/resources/hydro-cdm-hall-of-shame-7465>; UNFCCC, “Project Design Document Form (Version 11.0).”

119 UNFCCC, “Project Design Document Form (Version 11.0).”

120 UNFCCC, “Project Design Document Form (Version 11.0).”

121 UNFCCC, “Validation Opinion: Validation Report Form for Renewal of Crediting Period for CDM Project Activities (Version 03.0),” Project: 8761 StungTatayHydroelectricProject - CreditingPeriodRenewalRequest, June 12, 2020, [https://cdm.unfccc.int/filestorage/0/W/8/0W8LXZEQ15AUFT2BH4OG7JNYD6ISCM/Validation%20report.pdf?t=OHR8cW5IN2ZIfDAfQU3AlBey\\_3Rpm6CZd0sX](https://cdm.unfccc.int/filestorage/0/W/8/0W8LXZEQ15AUFT2BH4OG7JNYD6ISCM/Validation%20report.pdf?t=OHR8cW5IN2ZIfDAfQU3AlBey_3Rpm6CZd0sX).

122 UNFCCC, “Validation Opinion: Validation Report Form for Renewal of Crediting Period for CDM Project Activities (Version 03.0);” Patrick McCully, “Emissions Trading: Discredited Strategy,” *The Guardian*, May 20, 2008, <https://www.theguardian.com/environment/2008/may/21/environment.carbontrading?gusrc=rss&feed=society>; Käkönen and Thuon, “Overlapping Zones of Exclusion.”

carbon trading firms claims that serve to benefit their clients.<sup>123</sup> Such doubts are amplified when CDM credits are claimed retroactive to the project conception date, as is true for the Tatay project, which, as noted above, was conceived before 2007 (the feasibility study started on January 17, 2007<sup>124</sup>) but received CDM approval only in 2013.<sup>125</sup> The land lease agreement, power purchase agreement, and BOT project execution agreement were signed on June 20, 2008. Meanwhile, Cambodia did not seek CDM approval until 2012,<sup>126</sup> and official CDM certification came in 2013.<sup>127</sup> Therefore, both project conception and official approval occurred prior to the Tatay project's CDM certification. Such retroactivity raises suspicion as to whether CDM credits were crucial for the Tatay project's conception and approval, or whether the project would have occurred regardless and carbon credits are just an added benefit, which defeats the CDM's purpose.<sup>128</sup>

In 2012, during the CDM consideration period for the project, the Southeast Asia program director of International Rivers, Ame Trandem, sent a letter to request that the CDM executive board review the issues concerning report validity and project document design—specifically its inaccuracy, violations of Cambodian law, insufficient community consultation, and omissions of impacts on local biodiversity and the protected Central Cardamom Mountains.<sup>129</sup> The letter stated that while the CDM Validation Report for the Tatay project reported that the construction contract was signed in May 2010, a SINOMACH press release describes a groundbreaking ceremony and project initiation two months earlier on March 29, 2010. Because of this discrepancy, International Rivers questioned the accuracy of the Validation Report and whether the research used to complete it had been rigorous enough. Moreover, given that the project was approved in 2009 but the EIA was approved only in January of 2011, the letter protested that the project had violated Article 6 of Cambodia's Law on Environmental Protection and Natural Resource Management (1996), which mandates that EIA approval must take place before a project is submitted for government approval. It also raised concerns that the project was violating Cambodia's Protected Areas Law, as a letter from the SRP Party to the Cambodian government described illegal logging and poaching taking place in the adjacent Central Cardamoms Protected Forest area, which has seen increased access via the roads built for the project's construction. The letter also lamented insufficient community consultation, as required by CDM protocols. Trandem alleges that the community assessment was lacking in size and took place before the EIA was released, while locals were unaware of the scale of the project's effects. The letter also raised concerns over the lack of consideration for the project's effects on wildlife, especially given that the area is recognized as one of 34 biodiversity hotspots in the world, and the ethics of UNFCCC supporting such a project.<sup>130</sup> The UNFCCC's response to International Rivers notes that comments not taken into account through the available channels of

123 Martin Cames, Ralph O. Harthan, Jürg Füssler, Michael Lazarus, Carrie M. Lee, Pete Erickson (SEI), and Randall Spalding-Fecher, "3.1 Prior Consideration," in *How Additional is the Clean Development Mechanism? Analysis of the Application of Current Tools and Proposed Alternatives*, Berlin, Germany: Directorate-General for Climate Action, March 2016, [https://www.verifavia.com/uploads/files/clean\\_dev\\_mechanism\\_en.pdf](https://www.verifavia.com/uploads/files/clean_dev_mechanism_en.pdf); McCully, "Emissions Trading: Discredited Strategy."

124 Liu, "Constructing the Classical Project of BOT and Building the First-Class Brand of CHMC."

125 McCully, "Emissions Trading: Discredited Strategy"; International Rivers, "Hydro CDM Hall of Shame"; Ministry of Mines and Energy, "Hydropower Development in Cambodia," presented by Tung Sereyvuth, Deputy Director of Energy Development to the Mekong River Commission Hydropower Programme Regional Stakeholder Meeting September 25–26, 2008, Vientiane, Laos PDR, [http://archive.iwlearn.net/mrcmekong.org/download/Presentations/regional-hydro/2.1%20Cambodia-PresentationMRC\\_Jao\\_Final.pdf](http://archive.iwlearn.net/mrcmekong.org/download/Presentations/regional-hydro/2.1%20Cambodia-PresentationMRC_Jao_Final.pdf).

126 Ministry of Environment, "Letter of Approval Stung Tatay Hydroelectric Project," January 16, 2012, [https://ncsd.moe.gov.kh/sites/default/files/2019-06/Ref8761\\_DNA\\_approval\\_Tatay\\_-KH.pdf](https://ncsd.moe.gov.kh/sites/default/files/2019-06/Ref8761_DNA_approval_Tatay_-KH.pdf).

127 UNFCCC, "Project Design Document Form (Version 11.0)."

128 McCully, "Emissions Trading: Discredited Strategy."

129 Ame Trandem, "CDM: Form for Submission of a 'Letter to The Board,'" United Nations Framework Convention on Climate Change, Version 01.2, February 8, 2012, [https://cdm.unfccc.int/stakeholder/submissions/2013/0215\\_ir\\_req.pdf](https://cdm.unfccc.int/stakeholder/submissions/2013/0215_ir_req.pdf).

130 Trandem, "CDM: Form for Submission of a 'Letter to The Board.'"

local and global stakeholder consultation before project's submission for registration can be brought to the host country designated national authority,<sup>131</sup> Cambodia's Ministry of Environment (MoE),<sup>132</sup> but emphasizes that only the host country authorities can assess and enforce compliance with national laws. Information on whether or not International Rivers sought reconciliation through MoE was not found.

#### iv. Project Transparency

Several questions present themselves when considering the transparency of this project. There is still no public disclosure of the procurement bidding or other related documents, the feasibility study, the budget, the MoU, or the EIA. The bulk of the data compiled herein on these aspects came from press releases and reports published on the websites of the involved companies: SINOMACH, CHMC, and China Gezhouba Group. Other information was gathered from reports from international NGOs, e.g., International Rivers and Inclusive Development International, and from databases including the World Bank's Private Participation in Infrastructure database and China Aid Data.org at the University of William & Mary.

This lack of transparency presents hurdles to examining the project and its adherence to legislation. Although the letter from International Rivers to the UNFCCC alleged that Article 6 of Cambodia's Law on Environmental Protection and Natural Resource Management (1996) had been violated given the approval of the project in 2009 before the EIA's release in 2011, at the time of this review, we were not able to access either the original project approval document or the EIA.<sup>133</sup> Additionally, under the Law on Concessions, the current legislation that regulates SOE procurement in Cambodia, sub-decree 11 on BOT projects mandates that concessionaire ownership be capped at 30 years, although this can be extended by contract specifics.<sup>134</sup> We assume that the Tatay project contract must have listed a necessity for ownership extension, given that CTHL owns the dam for 42 years, far beyond the 30-year cap, although we are unable to assess this given that the contract has not been publicly disclosed.

The relative absence of transparency during project planning and operationalization continues to present challenges for stakeholders and development partners in determining the impacts of the project. For example, a 2008 report by International Rivers and the River Coalition of Cambodia, a 2013 study by the Royal University Phnom Penh (RUPP), as well as the 2009 JICA report all list the project budget at USD \$215 million.<sup>135</sup> Moreover, a 2012 project design document for the UNFCCC's Clean Development

131 United Nations Climate Change Secretariat, "Re.: Request for the CDM Executive Board to Review the Project 8761: Stung Tatay Hydroelectric Project (Cambodia)," March 28, 2013, [https://cdm.unfccc.int/stakeholder/submissions/2013/0215\\_ir\\_res.pdf](https://cdm.unfccc.int/stakeholder/submissions/2013/0215_ir_res.pdf).

132 Ministry of Environment, "Letter of Approval Stung Tatay Hydroelectric Project," January 16, 2012, [https://ncsd.moe.gov.kh/sites/default/files/2019-06/Ref8761\\_DNA\\_approval\\_Tatay\\_KH.pdf](https://ncsd.moe.gov.kh/sites/default/files/2019-06/Ref8761_DNA_approval_Tatay_KH.pdf).

133 Trandem, "CDM: Form for Submission of a 'Letter to The Board.'"

134 Council for the Development of Cambodia (CDC)/Cambodian Investment Board (CIB), *Law on Concessions*; Royal Government of Cambodia, *Sub-decree No. 11 on Build-Operate-Transfer BOT*, No. 11/ANK/BK, Mekong River Commission, February 13, 1998, [https://portal.mrcmekong.org/assets/v1/documents/Cambodian-Law/-Sub-decree-NO-2011-on-Build-Operate-Transfer-\(BOT\)-Contract-\(1997\).pdf](https://portal.mrcmekong.org/assets/v1/documents/Cambodian-Law/-Sub-decree-NO-2011-on-Build-Operate-Transfer-(BOT)-Contract-(1997).pdf).

135 Middleton and Chanthy, *Cambodia's Hydropower Development and China's Involvement*; Ham Kimkong, Hay Samchan, Sok Thea, Sim Vichet, and Lor Rasmey, *Improving Hydropower Project Decision Making Processes in Mekong Basin: Case Studies of Lower Sesan 2 and Kamchay Hydropower Projects, Cambodia* (Royal University of Phnom Penh (RUPP) Department of Environmental Science, December 2013), <https://wle-mekong.cgiar.org/download/mk8-improving-hydropower-decision-making-processes-in-the-mekong/Final%20report%20of%20MK8%20research%20project%20report%20RUPP.doc>; JICA, Chapter 3: "The Power Sector" and Chapter 4: "Review of 29 Candidate Projects."

Mechanism listed the project budget at USD \$482 million, while a 2009 SINOMACH report listed USD \$505 million;<sup>136</sup> the final budget as listed in all other documents located was USD \$540 million.<sup>137</sup> It is unclear whether the budget changed from earlier projections or whether those projections were simply erroneous, but this level of discrepancy between projections is an alarming indicator of how poor project transparency has been.

Confusion also surrounds the project timeline. While a SINOMACH press release reported that a construction initiation ceremony was held in May 2009, the firm engaged to build the dam, China Gezhouba Group Co., Ltd. only announced it had won the bid for construction on February 24, 2010.<sup>138</sup> Meanwhile, a 2014 SINOMACH newsletter stated that construction was initiated on March 29, 2010.<sup>139</sup> Moreover, while the 2009 SINOMACH press release stated that the project would reach commercial operation by 2013, the operation of the first turbine did not commence until 2014 and the project completion ceremony was not held until December 23, 2015.<sup>140</sup> It is unclear whether the original estimates were simply misinformed or if the project experienced delays or took longer than expected and what implications this had on the overall project budget.

## Conclusion

This paper has sought to provide a general overview of the Tatay Dam project utilizing publicly available material in English, Khmer, and Chinese as well as additional background documents and information obtained from sources in Phnom Penh. In addition to the narrative presented above, the appendix attached and the CoST IDS heat map on the BRI monitor website herein provide detailed answers to the questions developed by CIPE and IDEAS concerning the transparency of the initiative.

The largest takeaway from the report is the current lack of legislation regarding foreign SOEs operating and investing in Cambodia.<sup>141</sup> Such legislation may have prevented other regulatory errors, such as the violation of Cambodia's Law on Environmental Protection and Natural Resource Management in approving the project before the release of the EIA,<sup>142</sup> or the lack of clarity on the ownership duration

136 UNFCCC, "Project Design Document Form (Version 4.0)," Project: 8761 Stung Tatay Hydroelectric Project - Crediting Period Renewal Request, November 26, 2012, [https://cdm.unfccc.int/filestorage/\\_/n/86VIAHXUCS75ZP3TDWIQN4EMFYBRJ2.pdf/PDD\\_Tatay.pdf?t=ejR8cW9wbml0fDA3OXVMBEBVmD2ruL7kaF3S](https://cdm.unfccc.int/filestorage/_/n/86VIAHXUCS75ZP3TDWIQN4EMFYBRJ2.pdf/PDD_Tatay.pdf?t=ejR8cW9wbml0fDA3OXVMBEBVmD2ruL7kaF3S); SINOMACH, "Construction Commenced for the Largest Chinese Investment Project in Cambodia."

137 Chan, "Cambodia's Energy Rising with New Hydro Plant: Officials."

138 SINOMACH, "Construction Commenced for the Largest Chinese Investment Project in Cambodia"; Vedmundr, "CGGC Won the Bidding for Tatay River Hydropower Station in Cambodia."

139 Liu, "Constructing the Classical Project of BOT and Building the First-Class Brand of CHMC."

140 SINOMACH, "Construction Commenced for the Largest Chinese Investment Project in Cambodia"; May Kunmakara, "China Power Plant Open," *Phnom Penh Post*, August 15, 2014, <https://www.phnompenhpost.com/business/china-power-plant-open>; China Gezhouba Group Co., Ltd., "Cambodian Tatay Hydropower Station Put into Operation for Power Generation."

141 Council for the Development of Cambodia (CDC)/Cambodian Investment Board (CIB), *Law on Concessions*; Bun Eang Sar, Meyka Chea, and Chanpisey Ung, "Public-Private Partnerships in Cambodia: Issues and Solution."

142 Trandem, "CDM: Form for Submission of a 'Letter to The Board.'"

exceeding what is allowed by the law on BOT projects.<sup>143</sup> Moreover, SOE-specific regulation could include mandates to resolve the significant lack of transparency regarding project documents, contracts, Environmental Impact Assessments, and more, which could alleviate confusion over basic details such as construction start dates, project budgets, and project end dates (and reasons for changes to any of them). Additionally, greater transparency surrounding and the release of official loan agreements and budget details would reduce confusion around Chinese investment and loans, especially those related to BRI. Furthermore, in the drafting of SOE laws, there is a valuable opportunity to heighten the sustainability and ethicality of projects by requiring public release of EIAs, greater public consultation with affected residents, utmost transparency around displacement and relocation efforts, and follow up and monitoring of environmental and social impacts and mitigation strategies' effectiveness. As Chinese SOEs often operate in the same manner as private companies when conducting foreign direct investment,<sup>144</sup> it is hoped that the forthcoming public-private partnership (PPP) legislation<sup>145</sup> will include foreign SOEs in its regulatory scope and include the suggestions listed above. Plans for the forthcoming PPP laws outline an intention to standardize management and oversight of PPP projects, including a committee to review feasibility studies and approve a priority project list and institutionalize PPP units across ministries to manage, monitor, and evaluate relevant projects.<sup>146</sup> However, the plans around PPP-specific legislation remain very vague and it is unclear whether the issues posed here will be addressed, never mind what implementing the policies will look like in practice.<sup>147</sup>

In general, there is a huge opportunity to create regulations to increase transparency surrounding investment projects and infrastructure development in Cambodia. Additionally, setting standards that increase the ethicality and sustainability of projects in Cambodia presents a chance to not only reduce social and environmental impacts, but also to change the perception of the kingdom's human rights record on the international stage and attract companies looking to make green and socially responsible investments and products.<sup>148</sup>

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143 Council for the Development of Cambodia (CDC)/Cambodian Investment Board (CIB), *Law on Concessions*; Royal Government of Cambodia, *Sub-decree No. 11 on Build-Operate-Transfer BOT*, No. 11/ANK/BK, Mekong River Commission, February 13, 1998, [https://portal.mrcmekong.org/assets/v1/documents/Cambodian-Law/-Sub-decree-NO-2011-on-Build-Operate-Transfer-\(BOT\)-Contract-\(1997\).pdf](https://portal.mrcmekong.org/assets/v1/documents/Cambodian-Law/-Sub-decree-NO-2011-on-Build-Operate-Transfer-(BOT)-Contract-(1997).pdf).

144 Käkönen and Thuon, "Overlapping Zones of Exclusion."

145 Vuthika Hang, "Cambodia: Current PPP Development."

146 Ministry of Economy and Finance, *Policy Paper on Public-Private Partnerships For Public Investment Project Management 2016–2020* (unofficial translation via Open Development Mekong) (Phnom Penh: Royal Government of Cambodia, June 22, 2016), <https://data.opendata.gov/dataset/24146c90-a8bf-4d70-9129-362f75acbe1a/resource/755e938a-fbe8-4d07-84b9-c1cac1f30ad8/download/approved-ppp-policyeng.pdf>.

147 Ministry of Economy and Finance, *Policy Paper on Public-Private Partnerships For Public Investment Project Management 2016–2020*.

148 Hazel Bradford, "Investors Call out Companies over Human Rights Risks," Pensions and Investments, May 10, 2021, <https://www.pionline.com/esg/investors-call-out-companies-over-human-rights-risks>; Grimsditch, "Chinese Energy Investment in Cambodia"; Robert G. Eccles and Svetlana Klimenko, "The Investor Revolution: Stakeholders are Getting Serious About Sustainability," Harvard Business Review (May–June 2019), <https://hbr.org/2019/05/the-investor-revolution>.

Appendix

i. Disclosure of Financial and operating results	
Are the SOEs involved in this project incorporated into a limited liability company?	Yes, the Beijing Sanlian Group is a limited liability corporation.
If you have answered no to the question above, are these SOEs subject to private company law?	Not applicable.
Are the SOEs involved in this project exempt from the application of at least some specific laws and regulations which apply to private firms?	No. The Cambodian government does not maintain a separate regulatory structure for foreign state-owned enterprises. No documents indicate that the firm was given special exemption from the legal framework that governs foreign investment in Cambodia or from Cambodian commercial law.
Are these SOEs exempt from reporting material financial and non-financial information on the enterprise in line with recognised standards of corporate disclosure, and including areas of significant concern for the state as an owner and general public?	No. See previous answer.
ii. Board qualifications, selection process and remuneration	
Do the SOEs involved in this project disclose publicly the governance, ownership and voting structure of the enterprise, including the content of any corporate governance code or policy and implementation process?	<p>Yes. SINOMACH discloses their board of directors and list of top managers: <a href="http://www.sinomach.com.cn/en/AboutUs/Leadership/BoardofDirectors/">http://www.sinomach.com.cn/en/AboutUs/Leadership/BoardofDirectors/</a>  <a href="http://www.sinomach.com.cn/en/AboutUs/Leadership/TopManagers/">http://www.sinomach.com.cn/en/AboutUs/Leadership/TopManagers/</a>                      SINOMACH reports disclose that there are no shareholder meetings, as the company is solely a state-owned enterprise managed by the State-owned Assets Supervision and Administration Commission of the State Council. Reports describe that the board of directors is responsible for making decisions related to corporate governance or function. <a href="http://www.sinomach.com.cn/en/Sustainability/CSRReports/202008/U020200824217162297099.pdf">http://www.sinomach.com.cn/en/Sustainability/CSRReports/202008/U020200824217162297099.pdf</a></p> <p>China National Heavy Machinery Corporation (CHMC): as a SINOMACH subsidiary, it is under the same governance as SINOMACH at large.</p> <p>Beijing Sanlian International Investment Co., Ltd.: Not able to find. Perhaps the same board and governance as CHMC &amp; SINOMACH. We are not able to find a website for this investment company, neither in English nor in Chinese.</p> <p>Cambodian Tatay Hydropower Limited: We found its business registration under the Cambodian government but it only explains the registration process (in Khmer), not the board members or their other company affiliations. However, it is owned by Beijing Sanlian, which is a subordinate of CHMC, which is a subsidiary of SINOMACH, so maybe we can assume it is generally regulated by SINOMACH governance?</p> <p>China Gezhouba Group Co., Ltd:                      Only president disclosed on website: <a href="http://en.gzbgj.ceec.net.cn/col/col23072/index.html">http://en.gzbgj.ceec.net.cn/col/col23072/index.html</a>                      Board members disclosed on wsj.org: <a href="https://www.wsj.com/market-data/quotes/CN/XSHG/600068/company-people">https://www.wsj.com/market-data/quotes/CN/XSHG/600068/company-people</a>                      We were able to find the occasional reports from the board of directors meetings on their website, but only in Chinese from various financial publications.</p> <p>Beijing Sanlian International Investment Company Ltd.'s ownership and directors are listed via various open sources in China (standard company databases). SinoMach also provides regular press releases and data as to board membership, e.g., <a href="http://www.chmc.cc/contents/103/39488.html">http://www.chmc.cc/contents/103/39488.html</a></p>

<p>Do the SOEs involved in this project disclose the board member qualifications, selection process, including board diversity policies, roles on other company boards and whether they are considered as independent by the SOE board?</p>	<p>A 2011 SINOMACH report describes the board member's other roles: all of them are either part of the CPC or an "Outside Director." The report also describes that SINOMACH will constantly improve upon the board of directors, the effectiveness of their governance, and the basis of their decisions in scientific rationality--but does not mention any framework for board member selection, qualifications, or diversity policies. <a href="http://www.gcchina.org.cn/download/1800_1_1359621754.pdf">http://www.gcchina.org.cn/download/1800_1_1359621754.pdf</a> Although such reports claim that the board of directors meets often, it does not disclose meeting schedule, voting structure, or other regulations.</p> <p>However, as SinoMach is publicly traded on the Shanghai Stock Exchange, they file regular, detailed disclosure statements and annual reports, inclusive of articles of association, etc. An exemplar document: <a href="http://www.sse.com.cn/services/information/delisting/c/601268_20200403_2.pdf">http://www.sse.com.cn/services/information/delisting/c/601268_20200403_2.pdf</a>. However, this information was only found in Chinese, limiting its accessibility to Cambodians.</p> <p>We also found disclosure of board member qualification and selection information on SINOMACH's Chinese website and various other Chinese databases, but all of this information is in Chinese and we could not find it in English/Khmer, which limits the accessibility of the information.</p>
<p>Do the SOEs involved in this project disclose board member remunerations?</p>	<p>Yes, SinoMach discloses board member remunerations.</p>
<p><b>iii. Material transactions with the state and other related entities</b></p>	
<p>Do the SOEs involved in this project disclose publicly any material transactions between SOEs and the state or any other related entities? This includes, for example, land swaps and asset disposals, etc.</p>	<p>Data on this topic is not available.</p>

iv. Financial assistance received from the state	
<p>Does the SOE regulatory body in your country provide free access, through an online portal, for all stakeholders, including civil society and the general public, to any financial assistance, including guarantees, received from the state and commitments made on behalf of the SOEs involved in this project, including contractual commitments and liabilities arising from public-private partnerships?</p>	<p>Article 16 of law on concessions states that “The Concessionaire shall finance for the implementation of the Infrastructure Project, at its own cost and risk and without recourse to credits or guarantees made by the Contracting Institutions. In exceptional circumstances, a guarantee can be granted but only in accordance with procedures specified in the related financial management laws and regulation.”  <a href="http://www.cambodiainvestment.gov.kh/wp-content/uploads/2011/09/Law-on-Concessions-Full-Text_071019.pdf">http://www.cambodiainvestment.gov.kh/wp-content/uploads/2011/09/Law-on-Concessions-Full-Text_071019.pdf</a></p> <p>According to this mandate under the law of concessions, and given that we did not encounter anything that could reasonably be considered an “exceptional circumstance” during our extensive research, we are going to assume that the project received no financial assistance from the state.</p> <p>Cambodia does not have a regulatory body that governs foreign SOEs or their subsidiaries operating in the country. Instead such SOEs are subject to the same regulations as foreign private investment and are supervised by the related Ministry overseeing their project. However, there is no formalized process to guarantee and/or report supervision.</p> <p>The Council for Development of Cambodia sometimes posts updates related to foreign investment on their website, while the General Department of Public Procurement posts any information regarding procurement bidding or contracts. However, on both websites, these documents are not organized by type or project sector or company, and instead are just a piled conglomerate by date. One would have to comb through multitudes of files to find any information related to a specific project or a specific company/SOE - if it was even there in the first place. Moreover, almost all of these documents are only available in Khmer.</p>
v. Conflict of interest	
<p>Do political office holders hold executive positions or board appointments within the SOEs involved in this project?</p>	<p>Yes, CPC party officials, including the Chairman, Deputy Secretary and Secretary of the CPC, are listed on the SINOMACH board of directors and list of managers. All firms publicly share and highlight their “Party Work” and “United Front Work.” See: pg. 14, <a href="http://en.gzbgj.ceec.net.cn/col/col23072/index.html">http://en.gzbgj.ceec.net.cn/col/col23072/index.html</a></p> <p>The chairman of the board of directors and deputy manager of China Gezhouba Group Co., Ltd. is a member of the standing committee of the CPC. <a href="https://www.chinadaily.com.cn/m/gezhouba/2016-09/30/content_27010412.htm">https://www.chinadaily.com.cn/m/gezhouba/2016-09/30/content_27010412.htm</a></p> <p>SinoMach and Gezhouba both include sections on Party Work and United Front Work on their respective Chinese-language websites.</p>
<p>If you have answered yes to the question above, are there any mechanisms to reduce conflict of interest?</p>	<p>No data was found in English or Chinese regarding internal procedures related to limiting or reducing conflicts of interest.</p>





## What is BRI Monitor?

BRI Monitor is a collaborative effort by five civil society organizations in Southeast Asia and the Pacific: the Institute for Democracy and Economic Affairs (IDEAS) of Malaysia, Stratbase Albert Del Rosario Institute (ADRI) of the Philippines, Sandhi Governance Institute (SGI) of Myanmar, the Institute of National Affairs (INA) of Papua New Guinea and the Future Forum of Cambodia to promote transparency and accountability in major infrastructure projects funded through the Belt and Road Initiative (BRI) in the region.

These organizations have studied the regulatory environments governing these large infrastructure projects in respective countries, including public procurement, official development assistance, public private partnership (PPP), and more, to identify regulatory gaps. They have each researched a set of case studies to identify implementation gaps and governance gaps. Each case study assesses the level of transparency based on almost 40 data points, from basic project information to the tendering process to project completion. Last but not least, each organization maps out the structure of the projects in question in order to identify domestic and international entities involved in the project and to understand the degree of public financial exposure resulting from each project.

This website is intended to be a platform for the publication of our research outputs and as a knowledge repository. We also hope that the website can be used as a platform for knowledge sharing and a tool to advocate better governance of major infrastructure projects in the region.

BRI Monitor is supported by the Center for International Private Enterprise (CIPE).

**BRI MONITOR**  **R**