BRI MONITOR

CAMBODIA'S NATIONAL ROAD 1:
CASE STUDY OF JICA'S NATIONAL ROAD 1 PROJECT

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Future Forum is an independent think tank based in Phnom Penh, Cambodia. Founded by Cambodian human rights leader Ou Virak in 2015, Future Forum an evidence-based think tank that focuses on research, analysis, and public policy and represents a dynamic response to an identified "policy gap" in Cambodia. We seek to stimulate a new type of thinking to enable Cambodian society to make better decisions and to achieve better outcomes, with young people coming to the fore of such types of contributions. Future Forum's vision is of a just, democratic, dynamic, and prosperous Cambodia shaped by the needs of its people rather than its rulers. To make that vision a reality, our mission is to nurture a community of young thinkers, develop positive policy solutions and engender critical debate, molding the future of Cambodia.

Introduction

Over the course of the case studies that Future Forum has conducted, it has been possible to gain a relatively clear picture of Belt and Road Initiative (BRI) programming in Cambodia through the examination of multiple Chinese-funded projects. However, that analysis—on its own—is limited in the conclusions that it can draw. To better grasp the Chinese government's BRI programming, a comparative case is used to explore any differences that may exist between the approaches of China and other donor states to Cambodian aid.

Significant debate exists as to whether BRI projects and their subsequent issues are due to the donor state's (China's) approach and policy framework or the recipient countries' (Cambodia) problems of state or aid absorption capacity. From a comparative political economy perspective, Japan's programming in Cambodia provides something of a natural field experiment to test the claim that the problems with BRI programming stem from recipient state capacity rather than Beijing's approach to foreign aid. Japan was the leading donor to Cambodia until the late 2010s and was a major provider of support for infrastructure development in the Kingdom. This paper examines Japan's National Road 1 (NR 1) Project, an initiative that began before BRI was established and during a period when Cambodian state capacity was considerably weaker. The centrality of road construction (as discussed below) and the similarities to China's National Road 6 (NR 6) Project allow for numerous variables to be held constant and ultimately falsify the hypothesis that "aid failures" in BRI programming are due to state capacity or other issues in the recipient state.

This paper examines JICA's NR 1 Project and highlights areas where significant differences exist, specifically in terms of transparency, access to data, the provision of environmental impact studies, and approaches to the project's negative externalities. Although the JICA Project began earlier than China's NR 6 Project, Japan outperformed China in all areas, casting significant doubt on the contention that BRI's problems are due to recipient states' capacities.

Background

Cambodia's national development strategy—"Rectangle Development Strategy: Phase II"—saw the rehabilitation and construction of physical infrastructure as "the locomotive of Cambodia's economic development," facilitating regional and global economic integration.[1] In 2008, Cambodia's Prime Minister Hun Sen announced the implementation of Phase II. To achieve its broader development objectives, the government needed to prioritize the continued rehabilitation of its national roads, provincial roads, and ports.[2] Cambodia's Ministry of Public Works and Transport (MPWT), in cooperation with the Infrastructure and Regional Integration Technical Working Group (IRITWG), formulated a Road Development Policy in 2004 (later updated in 2009) that identified NR 1 as one of the six roads of focus in the primary strategic plan.[3]

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1. Office of the Council of Ministers, "Address by Samdech Akka Moha Sen Padei Techo Hun Sen Prime Minister of the Kingdom of Cambodia on Rectangle Strategy for Growth, Employment, Equity and Efficiency: Phase II At the first Cabinet Meeting of the Fourth Legislature of the National Assembly," 2017 https://pressocm.gov.kh/en/archives/1224; Lorkrem Law, "'Rectangle Strategy' for Growth, Employment, Equity and Efficiency: Phase II At the first Cabinet Meeting of the Fourth Legislature of the National Assembly," 2008 https://lorkremlaw.files.wordpress.com/2014/09/e19e99e19ebbe19e91e19f92e19e92e19e9fe19eb6e19e9fe19f92e19e8fe19f92e19e9ae19e85e19e8fe19ebbe19e80e19f84e19e8e-e19e8ae19f86e19e8ee19eb61.pdf

2. Office of the Council of Ministers, 2017; Lorkrem Law, 2008"

3. Open Development Cambodia, "Overview of the Transport Infrastructure Sector in the Kingdom of Cambodia (5th Edition)," written by the Ministry of Public Works and Transport, Open Development Cambodia, 2015 https://data.opendevelopmentcambodia.net/library_record/overview-of-the-transport-infrastructure-sector-in-the-kingdom-of-cambodia

Taking these issues into consideration, Cambodia requested financial assistance from Japan's government to rehabilitate NR 1 Phnom Penh-Neak Loeung. The request was eventually approved, and the Japanese International Cooperation Association (JICA), Japan's leading foreign development agency, funded the rehabilitation of NR 1's Phnom Penh-Neak Loeung section from 2005 to 2018.[4]

NR 1 connects three cities of mainland Southeast Asia—Bangkok, Ho Chi Minh, and Phnom Penh—to form the Southern Economic Corridor (SEC), boosting trade activities in the region. NR 1 runs 167 km from the capital Phnom Penh to Bavet City in Svay Rieng Province along the Vietnamese border.[5] Together with National Road 5 (NR 5), which runs from Phnom Penh to Poipet City along the Thai border, NR 1 serves to connect Vietnam to Thailand through Cambodia.[6]

Figure 1: National Road 1, National Road 5, and Asian Highway 1

Source: BRI Monitor

[4] *Council for the Development of Cambodia (CDC), "The Project for Improvement of the National Road No.1 (Phase-1): project Summary Report," CDC's ODA Database, updated November 24, 2009 http://www.odacambodia.com/reports/Individual_project_summary_report2008.asp?Record_Id=JP%2D2006%2DSVIM5746&DonorName=Japan;*
; CDC, "The Project for the Improvement of National Road No.1 (Phase-2): Project Summary," CDC's ODA Database, updated February 22, 2011 http://www.odacambodia.com/reports/Individual_project_summary_report2008.asp?Record_Id=JP%2D2006%2DSVIM5768&DonorName=Japan#none; CDC, "The Project for the Improvement of the National Road No.1 (Stage 3): Project Summary Report," CDC's ODA Database, updated February 13, 2014 http://www.odacambodia.com/reports/Individual_project_summary_report2008.asp?Record_Id=Japan%2D2009%2DDE280&DonorName=Japan
; CDC, "The Project for Improvement of the National Road No. 1 (Phase IV): Project Summary Report," CDC's ODA Database, updated August 20, 2018 http://www.odacambodia.com/reports/Individual_project_summary_report2008.asp?Record_Id=Japan%2D2007%2DWE481&DonorName=Japan; CDC,"The Project for Improvement of the National Road No1 Urban Section: Project Summary Report," CDC's ODA Database, updated February 25, 2021k http://www.odacambodia.com/reports/Individual_project_summary_report2008.asp?Record_Id=Japan%2D2007%2DWE498&DonorName=Japan

[5] *Cambodian Moments, "The Cambodian Ministry of Public Works and Transport – A Tidy Map of the National and Provincial Roads of Cambodia: Photo of a Map by Ministry of Public Works and Transport, Kingdom of Cambodia," Pinterest, accessed June 16, 2021 https://www.pinterest.com/pin/836191855788853772l ; Cambodia Property Report, មកស្គាល់ផ្លូវជាតិលេខ១ដល់លេខ១០, accessed December 23, 2021, https://cambodiapropertyreport.com/article/4678*

[6] *Cambodian Moments, 2021; Cambodia Property Report, 2021*

JICA, like China's BRI, is focused on regional transport connectivity and corridors, but it is also more concentrated on intra-ASEAN connectivity. Where Chinese projects tend to focus on building north-south connectivity and linking economic corridors to China, Tokyo focuses more on east-west connectivity, linking the states of mainland Southeast Asia and the Greater Mekong Subregion to deepen economic integration. JICA launched a project rehabilitating NR 5 in 2013 with a planned completion date of October 2029, making its financial assistance to NR 1 a crucial part of the SEC and ASEAN Highway Network.[7]

Given issues with current disrepair and the planned role of the national highways in regional trade, Cambodian authorities and external consultants have prioritized expanding NR 1. Furthermore, when JICA and Katahira & Engineers International (KEI), a civil engineering consultant based in Tokyo, were contracted by the MPWT in 2013 to perform a study on road network planning and strengthening the SEC, they identified rehabilitating NR 1 and NR 5 as priority projects.[8] The completed project will be four lanes and is expected to significantly increase the economic integration of the SEC.[9] The 2013 study indicated NR 1 was at its midway point of five stages through the 2005-2018 improvement project.[10]

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7. *CDC, "The Project for Improving Drainage System of National Road No.5 in Battambang Province: Project Summary Report," CDC's ODA Database, updated August 12, 2015 http://www.odacambodia.com/reports/Individual_project_summary_report2008.asp?Record_Id=Japan%2D2007%2DWE816&DonorName=Japan#none; CDC, "National Road No.5 Improvement Project (Battambang - Sri Sophorn Section): Project Summary Report," CDC's ODA Database, updated February 24, 2021a http://www.odacambodia.com/reports/Individual_project_summary_report2008.asp?Record_Id=Japan%2D2007%2DWE815&DonorName=Japan#none; CDC, "National Road No. 5 Improvement Project (Battambang - Sri Sophorn Section) II: Project Summary Report," CDC's ODA Database, updated March 3, 2021b http://www.odacambodia.com/reports/Individual_project_summary_report2008.asp?Record_Id=Japan%2D2007%2DWE815&DonorName=Japan#none; CDC, "National Road No.5 Improvement Project (Thlea Ma'am - Battambang and Sri Sophorn - Poipet Section) (I): Project Summary Report," CDC's ODA Database, updated February 24, 2021c http://www.odacambodia.com/reports/Individual_project_summary_report2008.asp?Record_Id=Japan%2D2007%2DWE816&DonorName=Japan#none; CDC, "The National Road No.5 Improvement Project (Thlea Ma am-Battambang and Sri Sophorm - Poipet Section) II: Project Summary Report," CDC's ODA Database, updated April 12, 2021d http://www.odacambodia.com/reports/Individual_project_summary_report2008.asp?Record_Id=Japan%2D2007%2DWE816&DonorName=Japan#none; CDC "National Road No.5 Improvement Project (Prek Kdam - Thlea Ma'am Section) (I Project Summary Report," CDC's ODA Database, updated February 24, 2021e http://www.odacambodia.com/reports/Individual_project_summary_report2008.asp?Record_Id=Japan%2D2007%2DWE815&DonorName=Japan#none; CDC, "National Road No.5 Improvement Project (Prek Kdam - Thlea Ma'am Section) (II Project Summary Report," CDC's ODA Database, updated February 24, 2021f http://www.odacambodia.com/reports/Individual_project_summary_report2008.asp?Record_Id=Japan%2D2007%2DWE815&DonorName=Japan#none; CDC, "The National Road No.5 Improvement Project (Prek Kdam-Thlea Ma am Section) (III Project Summary Report," CDC's ODA Database, updated April 12, 2021g http://www.odacambodia.com/reports/Individual_project_summary_report2008.asp?Record_Id=Japan%2D2007%2DWE815&DonorName=Japan#none; CDC, "Project for Improvement of Road Traffic Safety on Truck Road Project Summary Report," CDC's ODA Database, updated April 7, 2021i http://www.odacambodia.com/reports/Individual_project_summary_report2008.asp?Record_Id=Japan%2D2007%2DWE816&DonorName=Japan#none; Ministry of Public Works and Transport, "Chapter 5 High Priority Road Project and Expressway Plan," in Data Collection Survey on the Trunk Road Network Planning for Strengthening of Connectivity through the Southern Economic Corridor, conducted by Japanese International Cooperation Agency (JICA) and Katahira & Engineers International (KEI), March 2013 https://openjicareport.jica.go.jp/pdf/12111787_01.pdf*

8. *Ministry of Public Works and Transport, 2013*

9. *Ministry of Public Works and Transport, 2013*

10. *Ministry of Public Works and Transport, 2013*

Japan's Involvement in Cambodia's Development

Since 1993, Japan has provided extensive assistance to development projects in Cambodia, primarily through Official Development Assistance (ODA).[11] ODA, as defined by the OECD Development Assistance Committee (DAC), is government aid intended to promote and target developing countries' economic development and welfare. It provides concessional funding (i.e., grants and soft loans) by official agencies, including state and local governments. Cambodia's Council for the Development of Cambodia (CDC) has the same definition.[12] According to the CDC, ODA refers to "grants" or "loans" to countries and territories on Part I of the DAC's list of aid recipients in developing countries. This assistance comes from the official sector and is intended to promote economic development and welfare in concessional financial terms with a grant element of at least 25 percent.[13] The "Term of Assistance" is divided into three types in the Cambodian CDC's ODA database: grant, concessional, and non-concessional. However, as no non-concessional loan projects were reported as of November 19, 2021, there are two types of assistance terms in Cambodia's ODA's practice: "grants" and "concessional loans."[14]

Based on the ODA database's Glossary of Terms, a "concessional loan" refers to the provision of funds by a donor as a loan that consists of a minimum 25 percent grant element, commonly known as a soft loan. "Grant" is the support of cash, goods, or services that require no repayment from the recipient country. [15] Regardless of the terms of assistance, any aid with a military purpose is excluded.[16]

By 2019, Japan's total assistance to Cambodia topped USD $2.9 billion, including nearly USD $700 million in road construction and USD $250 million in bridge construction, funding more than 1,000 km of roads and three major bridges.[17] Prior to 2007, Japan was Cambodia's largest development partner, although it has since been passed by China.[18] In 2010, Japan upgraded its relations with Cambodia to the level of Comprehensive Strategic Partnership, apparently aimed at counterbalancing China's influence in Cambodia. This new policy increased Tokyo's annual average assistance from USD $61 million in 2000 to around USD $175 million in 2020.[19] At the same time, China's assistance to Cambodia has also increased, jumping from USD $2.6 million in 2000 to USD $154 million in 2010 and further increasing to USD $421 million in 2020.[20]

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11. Voun Dara, "Japan Gifts Road Machinery," The Phnom Penh Post, October 13, 2020 https://www.phnompenhpost.com/national/japan-gifts-road-machinery; Takayuki, Tsuchida; Chankosal, Tauch; Vaddhanak, Nou; Phalla, Chhim; Vuthea, Pin; Novida, Prok; and Akira Yamashita, "JICA's Right of Way Management Project in Cambodia (CESCoR)," Ministry of Public Works and Transport, accessed June 27, 2021 https://www.jica.go.jp/project/cambodia/024/materials/ku57pq00003s6mf0-att/material_01.pdf

12. OECD, "Official Development Assistance (ODA)," accessed November 29, 2021 https://www.oecd.org/dac/financing-sustainable-development/development-finance-standards/official-development-assistance.htm

13. CDC, "ODA's Database: Annex, Glossary Terms," 2021 http://odacambodia.com/documents/annex.asp

14. CDC, "ODA's Database: Term of Assistance," 2021 http://odacambodia.com/reports/reports_by_TermOA.asp

15. Council for the Development of Cambodia, 2021, "ODA's Database: Annex"

16. Council for the Development of Cambodia, 2021, "ODA's Database: Annex"

17. Luo Jing Jing and Kheang Un, "Japan Passes China in the Sprint to Win Cambodian Hearts and Minds," Yushof Ishak Institute, ISEAS Perspective 59, April 30, 2021 https://www.iseas.edu.sg/articles-commentaries/iseas-perspective/2021-59-japan-passes-china-in-the-sprint-to-win-cambodian-hearts-and-minds-by-luo-jing-jing-and-kheang-un/; Dara, 2020

18. Jing and Un, 2021; Dara, 2020; although China only surpassed Japan in the provision of development assistance in 2018

19. Jing and Un, 2021; CDC, "Own Disbursement () (All Projects) 2018-2020, Bilateral Donor: Japan," CDC's ODA Database, accessed June 27, 2021h http://www.odacambodia.com/Reports/reports_by_updated.asp?status=0

20. Jing and Un, 2021

In 2016, Japan's Prime Minister Shinzo Abe announced the Free and Open Indo-Pacific (FOIP) Strategy, which promises USD $100 billion to construct transport infrastructure in Southeast Asia and the Pacific and is seen as a direct response to BRI.[21] Some researchers view Japan as more successful in countering China's influence in Cambodia than the United States or EU in part because its loans and grants do not have conditionalities related to the promotion of human rights and democracy.[22] However, Japan has also been criticized on this front. For example, it provided USD $7.5 million for ballot boxes for Cambodia's 2018 election, which was largely perceived as biased, and, in 2020, provided USD $2.9 million in financial support to Cambodia's police force, which Human Rights Watch has called "abusive."[23] With an objective to increase regional connectivity, specifically along the SEC, Japan's support for NR 1 is very similar in concept and purpose to China's support for roads in Cambodia, including that of the JICA-funded Ang Kroeung-Thal Kaeng section of NR 6, which we detailed in a similar research report.[24]

Project Overview

JICA's rehabilitation of NR 1 consisted of five stages conducted between 2005 and 2018. The first three stages improved two bridges and a road between Neak Loueng ferry port and Niroth Pagoda.[25] Stage 4 expanded the first four km of NR 1 within the heavily trafficked Phnom Penh City to four lanes to reduce transport congestion.[26] The last stages, dubbed the "National Road 1 Urban Section" in a JICA press release, were created during the detailed design study for Stage 4. A change in the design of the Asphalt Concrete (AC) for 450 m of Stage 4's four km-stretch raised construction costs by about USD $2 million and required the signing of a new grant agreement, thus creating a fifth stage.[27]

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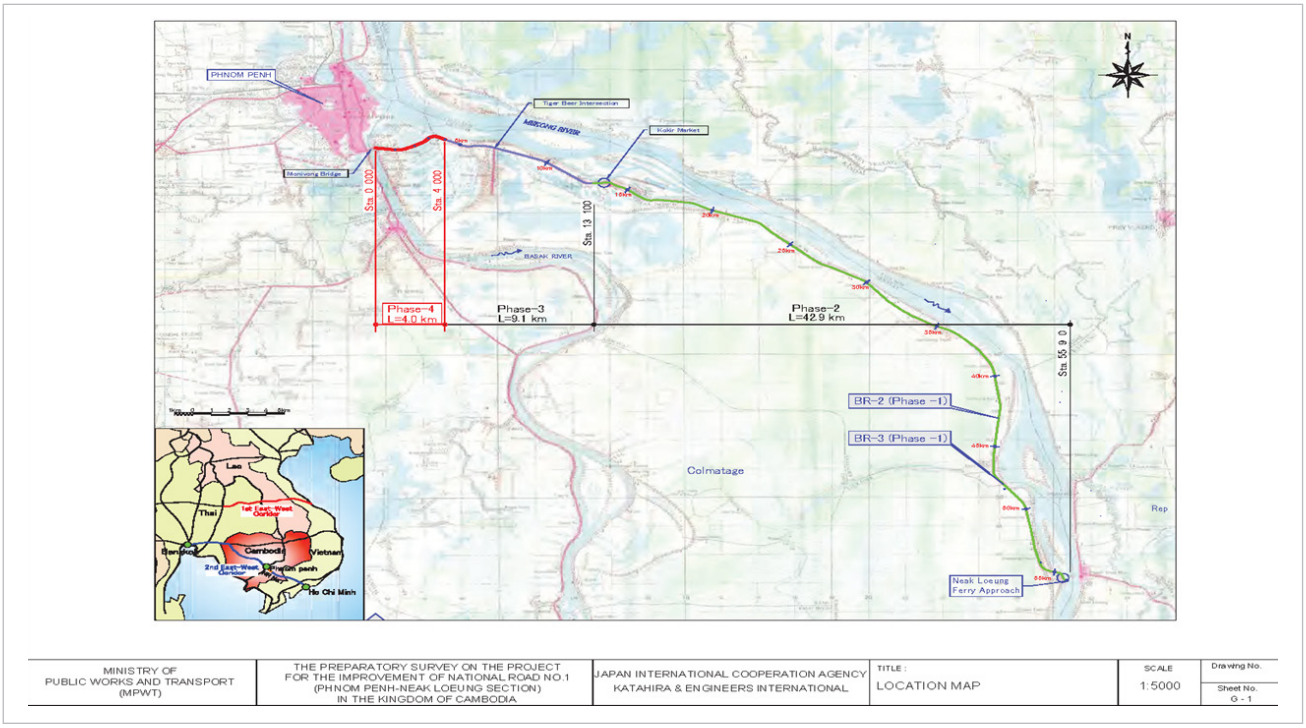
21. *Jing and Un, 2021*
22. *Jing and Un, 2021*
23. *Nyshka Chandran, "The Japan-China rivalry is playing out in Cambodia's election," CNBC, July 19, 2018 https://www.cnbc.com/2018/07/18/japan-and-china-compete-for-influence-incambodia.html; Human Rights Watch, "Japan: End Assistance for Cambodia's Abusive Police," December 11, 2020 https://www.hrw.org/news/2020/12/11/japan-end-assistance-cambodias-abusive-police*
24. *Ministry of Public Works and Transport, 2013; Japan International Cooperation Agency (JICA), "Gaining Ground: CAMBODIA—Dream Takes Wing as ASEAN Steps Forward," JICA's World, April 2017 https://www.jica.go.jp/english/publications/j-world/1704.html; BRI Monitor, "Chinese Public Procurement and Infrastructure Development in Cambodia: National Road 6 (case study)," 2021 https://www.brimonitor.org/?cmp_bypass=ff754d93098aca9977718b7b298c51b6*
25. *Council for the Development of Cambodia, 2014*
26. *Council for the Development of Cambodia, 2018; JICA, "Preparatory Survey Report on the Project for Improvement of National Road No. 1 (Phnom Penh-Neak Loeung Section)," February 2012*
27. *Council for the Development of Cambodia, 2021k; JICA, "JICA Signs Grant Aid Agreement for The Project for Improvement of National Road No.1 Urban Section: Press Release," December 8, 2014a https://www.jica.go.jp/cambodia/english/office/topics/press141208.html*

Figure 2: Map of JICA Rehabilitation of National Road 1



Source: Various[28]

Table 1 provides details on the timelines and budgets of each stage as described by the CDC's ODA database.

Table 1: JICA National Road 1 Projects

Project Name	Project Purpose	Grant from Japan	Approval Date	Start Date	Completion Date
National Road 1 (Stage 1)	Improve two bridges between Neak Loeung & Phnom Penh	USD $7 million ($6,681,000) (786,000,000 JPY, using the December 2005 conversion rate of 0.0085 per 1 JPY)	June 10, 2005	Nov 20, 2005	March 15, 2007
National Road 1 (Stage 2)	Rehabilitate the road from Kokir Market to Neak Loueng Ferry Port (~43 km)	USD $40 million ($39,866,400) (4,746,000,000 JPY, using the December 2006 conversion rate of 0.0084 per 1 JPY)	June 12, 2006	Nov 27, 2006	March 15, 2009
National Road 1 (Stage 3)	Rehabilitate the road from Niroth Pagoda to Kokir Market	USD $22 million ($22,055,000) (2,005,000,000 JPY, using the December 2009 conversion rate of 0.011 per 1 JPY)	July 31, 2009	July 31, 2009	Dec 31, 2012
National Road 1 (Stage 4)	Improve the remaining 4 km of NR 1	USD $13 million ($13,223,433.1) (1,585,000,000 JPY, using the December 2014 conversion rate of 0.0083 per 1 JPY)	Jan 15, 2014	Jan 15, 2014	Nov 30th, 2017
National Road 1 (Urban Section)	Eliminate traffic issues and improve road environment by altering construction design (450 m)	USD $2 million ($2,094,093) (251,000,000 JPY, using the December 2014 conversion rate of 0.0083 per 1 JPY)	Dec 8, 2014	Jan 8, 2015	Jan 31, 2018

[28] *JICA, "Preparatory Survey Report on the Project for Improvement of National Road No. 1 (Phnom Penh-Neak Loeung Section)," June 2009b, https://libopac.jica.go.jp/top/index.do?method=change&langMode=ENG; Japan International Cooperation Agency (JICA), 2012 Stage 5 is a 450 m road within Stage 4 section.*

JICA's NR 1 projects provided USD $84 million in grant support to rehabilitate the first 56 km of NR 1 from Phnom Penh to Neak Loueng as shown in Figure 1.[29] The project as a whole widened 52 km of the road to two lanes and 4 km of the road to four lanes and also raised most of the section's elevation above the year 2000's flood levels.[30] The project also widened the road shoulder in 68 locations to ease traffic around markets, schools, hospitals, and bus stops; installed two truck scales to enforce overloading provisions; and rehabilitated or constructed 8 culverts and 14 km of drainage pipes and ditches.[31] Multiple measures were also taken to strengthen the road's foundation and prevent erosion, and guard rails, road signs, and guideposts were added along the stretch.[32]

The remaining 107 km section of NR 1 from Neak Loeung to Bavet City on the Vietnamese border was improved from 1999 to 2006 under a USD $50.7 million budget, financed with a USD $40 million loan from the Asian Development Bank (ADB) and USD $10.7 million from the Royal Government of Cambodia (RGC).[33]

Project Timeline and Details

This section will describe the details of the project timeline and each stage of development. On December 6, 2005, the groundbreaking ceremony for Stage 1 was attended by Cambodia's Prime Minister Hun Sen and Japanese Ambassador to Cambodia Takahashi Fumiaki.[34,35] At the ceremony, Hun Sen described that NR 1 was damaged by a flood in 2005, and Cambodia requested Japan conduct repairs in 2002.[36] According to his remarks, Stage 1 consisted of repairs to a 103 m bridge in Kokir Thum Commune and a 68 m bridge in Samraong Thum Commune.[37] At that time, the project entailed three stages with a total cost of USD $130 million, with Stage 1 covering bridge repairs, Stage 2 covering road repairs and widening the road between Kokir Thum Commune and Leuk Dake District, and Stage 3 covering the improvement of 13 km of road from Preah Monivong (a central boulevard in Phnom Penh) to Kokir Thum.[38] This generally matches what is described in the documents from CDC's ODA database and

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[29] *Japan International Cooperation Agency (JICA), 2012*
[30] *Japan International Cooperation Agency (JICA), 2012*
[31] *Japan International Cooperation Agency (JICA), 2012*
[32] *Japan International Cooperation Agency (JICA), 2012*
[33] *Asian Development Bank, "Report and Recommendation of the President to the Board of Directors on Proposed Loans to the Kingdom of Cambodia and to the Socialist Republic of Vietnam for the Greater Mekong Subregion: Phnom Penh to Ho Chi Minh City Highway Project," ADB: RRP: Cam 30513/ Vie 30316, November 1998 https://www.adb.org/sites/default/files/project-document/72139/rrp-r08390.pdf; Asian Development Bank, "Kingdom of Cambodia and Socialist Republic of Viet Nam: Greater Mekong Subregion: Phnom Penh to Ho Chi Minh City Highway Project," ADB: Completion Report, Project Numbers: 30513/30316, Loan Numbers: 1659(SF) and 1660(SF), December 2007 https://www.adb.org/sites/default/files/project-document/65385/30316-vie-pcr.pdf*
[34] *Cambodia New Vision (CNV), "Selected Comments at the Groundbreaking Ceremony of Two Bridges on the National Road 1 between Phnom Penh and Neak Loeung: Speeches and Comments," CNV, June 12, 2005b http://cnv.org.kh/selected-comments-at-the-groundbreaking-ceremony-of-two-bridges-on-the-national-road-1-between-phnom-penh-and-neak-loeung/*
[35] *The ceremony's date almost exactly matches the approval date of Stage 1, as listed in the CDC's ODA Database, although the same document did not cite construction initiation until November 20, 2005. The construction date of November 2005 is also confirmed by the JICA's 2012 preparatory study for Stage 4.*
[36] *Cambodia New Vision, 2005b*
[37] *Cambodia New Vision, 2005b*
[38] *Cambodia New Vision, 2005b*

JICA's preparatory survey reports.[39,40]

The only discrepancies between the two documents are the initial budget offer by the Japanese government and the actual budget, and Niroth Pagoda's endpoint in Stage 3. The estimated total budget of USD $130 million ended up totaling only USD $84 million. The CDC's ODA database also indicates the Stage 3 section extends from Kokir Market to the nearby area of the Niroth Pagoda, which does not match JICA's preparatory survey report. JICA's report records the section being between the Kokir Market and endpoint of Stage 4, which is 4 km from the Preah Monivong Bridge; the distance from Preah Monivong Bridge to Niroth Pagoda is only around 2 km.

While there were some minor discrepancies between the CDC's and JICA's information, most information differs only slightly or reflects a variation between the estimated and actual budget. While this large budget gap casts doubt on the validity of JICA's estimates, JICA adjusted estimates throughout the project's process by conducting an assessment (Implement Review Study Report) at each stage and estimating future stages accordingly. This provides a level of flexibility and ongoing accountability that could make this practice a good model for other implementing agencies or donors.

This report also found variances in stage completion dates between the CDC's ODA database and JICA's project study report. This comparison is available only for the first three stages due to limitations in JICA's e-library data (the most recent NR 1 preparatory survey report the library holds is from 2012; see Table 2).

Table 2: Project timeline between CDC's ODA database and JICA's Preparatory Survey Report

JICA NR 1's Development Stages	CDC's ODA database		JICA's Preparatory Survey Report 2012	
	Start Date	Completion Date	Start Date	Completion Date
Stage 1	November 2005	March 2007	November 2005	January 2007
Stage 2	November 2006	March 2009	November 2006	February 2009
Stage 3	July 2009	December 2012	July 2009	June 2011
Stage 4	January 2014	November 2017	N/A	N/A
Stage 5	January 2015	January 2018	N/A	N/A

Source: Various[41]

[39] *Council for the Development of Cambodia, 2009; 2011; 2014*

[40] *According to JICA's Preparatory Survey Report 2012, Stage 3 was later split. As mentioned above, Stage 3 initially covered a section from Kokir Market to Monivong Bridge. After the first two stages of completion, KEI and JICA conducted the implementation review study in 2007 for the Stage 3 section. The report found some significant issues requiring revising project work, such as redesigning the road to match the ongoing new Monivong Bridge and pending Right of Way (ROW) designation from Monivong Bridge to Niroth Pagoda. Regarding these issues, Stage 3 shortened its scope of work from Niroth Pagoda to Kokir Market by excluding the section between Niroth Pagoda to Monivong Bridge. In 2008, the RGC decided to expand the ROW width from 15 m to 20m between Monivong Bridge and Niroth Pagoda. In addition, Water Supply Authority also proposed water supply pipes, Niroth Production Facility, which lay along NR 1 that was supposed to interfere with this project section. Thus, these developments urged the Stage 3 section to be divided into two stages, new Stage 3 and Stage 4. Stage 3 lies from the Kokir Market to the endpoint of stage 4, stretching 4 km long from Monivong Bridge to the west. This 4 km section is categorized as Stage 4, in which Monivong Bridge is the starting point. It is possible that the CDC's ODA has not followed these changes by keeping Niroth Pagoda as one of the project's point,s or they refer some area near the pagoda. Urban sections (Stage 5) have been developed for 450 m long within Stage 4 due to the change of pavement (this section contains highly populated areas). This project section would facilitate traffic flow and economic development.*

[41] *Council for the Development of Cambodia, 2009; 2011; 2014; 2018; 2021k; Open Development Cambodia, 2015; Japan International Cooperation Agency (JICA), 2012*

Overall, the official government documents (CDC's ODA database) and JICA's study report (Preparatory Survey Study) found a two-month difference between the completion date for Stage 1, one month for Stage 2, and six months for Stage 3. Although the discrepancies should be explained, they are not a serious concern to project implementation because the completion dates are not drastically different.

Despite the lack of a Preparatory Survey Report for Stages 4 and 5, JICA's press release notes that the representative of JICA and Cambodia signed a Grant Aid Agreement for Stage 4 on January 15, 2014. It directly matches the approval date listed in the CDC's ODA Database.[42] Meanwhile, the inauguration ceremony for Stage 4 was held on March 13, 2018, once again presided by Prime Minister Hun Sen and Japan's ambassador to Cambodia.[43] Statements at the ceremony described Stage 4 as a high-quality and heavy-duty road that will greatly improve ASEAN connectivity through the Southern Corridor.[44] In the same year, another JICA press release confirmed that Stage 5, the Urban Section, was created due to the change in design of AC pavement, and both parties represented signed the grant agreement for this stage on December 8, 2018.[45]

Overall, the whole project took 13 years to complete, from 2005 to 2018 (see Table 3).

Table 3: JICA NR 1 Timeline

Date	Milestone
2002	Formal request made to Japan by Cambodia for repairs to National Road (NR) 1
2003	Feasibility Study Report conducted by JICA, Pacific Consultants International, and Katahira & Engineers International (KEI) Preparatory study conducted by Japan Overseas Consultants Co., Ltd., which aimed to investigate the resettlement of residents in the improvement of NR 1
2004	Ministry of Public Works and Transport (MPWT) formulated a Road Development Policy that identified NR 1 as one of the six roads of focus in Cambodia's primary strategic plan
June 11, 2005	Approval date for Stage 1; groundbreaking ceremony held the following day and attended by Prime Minister Hun Sen and Japanese Ambassador to Cambodia Takahashi Fumiaki
November 20, 2005	Start date for Stage 1
June 12, 2006	Approval date for Stage 2
November 27, 2006	Start date for Stage 2
March 15, 2007	Completion of Stage 1, which included repairs to a 103 m bridge in Kokir Thum Commune and a 68 m bridge in Samraong Thum Commune
March 15, 2009	Completion of Stage 2, which included road repairs and widening the road between Kokir Thum Commune and Leuk Dak District
2009	Preparatory Survey Report conducted, which included pavement studies, field tests, laboratory capacity bearing tests, traffic volume estimates, ground hardness, and stability assessments to improve road design life and ensure less maintenance
July 31, 2009	Approval and start date for Stage 3
February 2012	KEI conducted a preparatory study to assess changing development plans and their potential impacts on Stage 4 construction and project costs
December 31, 2012	Completion of Stage 3, which included the improvement of 13 km of road from Preah Monivong to Kokir Thum
January 15, 2014	Approval and start date for Stage 4

42. *Japan International Cooperation Agency (JICA), "JICA Signs Grant Aid Agreement for 'The Project for Improvement of National Road No.1 Phnom Penh – Neak Loeung Section (Stage 4): Press Release," January 14, 2014b https://www.jica.go.jp/cambodia/english/office/topics/press140114.html; Council for the Development of Cambodia, 2018*
43. *Cambodia New Vision (CNV), "Selected Off-the-Cuff Speech at the Inauguration of the Last 4 Km-Road Segment of National Road 1 between Chbar Ampeo and Kdey Takoy [Unofficial Translation]: Speeches and Comments," March 13, 2018 http://cnv.org.kh/last-4-km-road-segment-national-road-11/*
44. *Cambodia New Vision, 2018*
45. *Japan International Cooperation Agency (JICA), 2014a*

Date	Milestone
December 8, 2014	Approval date for Urban Section
January 8, 2015	Start date for Urban Section
2016	Japan's Prime Minister Shinzo Abe announced the Free and Open Indo-Pacific (FOIP) Strategy, which promised USD $100 billion to construct transport infrastructure in Southeast Asia and the Pacific
November 30, 2017	Completion of Stage 4, which widened the road to four lanes
January 31, 2018	Completion of Urban Section, which added 450 m to accommodate traffic in highly populated areas

Project Budget and Grant Details

The funding for all five stages of NR 1 rehabilitation was provided via a grant from the government of Japan.[46] It remains unclear which financial institution provided the grant. Because the funds were provided as a grant, Cambodia has no requirement to pay back the assistance (unlike the Chinese cases examined that involved concessionary or non-concessionary lending). Meanwhile, the financial support for Stages 1, 2, and 3 are listed as "fully tied" in the ODA database reports.[47] While it is not explicitly explained what "fully tied" entails in this case, it is assumed to fall under OECD's definition of the term, which states that procurement is limited to donor country companies.[48] Conversely, the financial support for Stage 4 and the Urban Section is listed as untied.[49] This would be consistent with the overall development of JICA policy, which has gradually shifted away from tied aid.

While the CDC's ODA database reports categorize the project as supporting the public sector, the annual budget listed was not shared with the RGC nor was a three-year draft plan shared with relevant Cambodian counterparts for Stages 1, 2, 3, and the Urban Section.[50] The budgets and plans were only shared for Stage 4.[51] Meanwhile, all five stages of the project did not use the government's procurement system or financial management system (including the budgeting execution system, financial reporting system, or auditing system).[52]

Project Transparency

The CDC and JICA have been transparent on NR 1 project details. JICA's work plays a crucial role as an accountable donor in the Kingdom's development, although its transparency efforts could be strengthened. In general, JICA's transparency on the NR 1 project is more robust than the BRI projects examined in this series of case studies.

46. *Council for the Development of Cambodia, 2009; 2011; 2014; 2018; 2021k*
47. *Council for the Development of Cambodia, 2009; 2011; 2014*
48. *OECD, 2021*
49. *Council for the Development of Cambodia, 2018; 2021k*
50. *Council for the Development of Cambodia, 2009; 2011; 2014; 2021k*
51. *Council for the Development of Cambodia, 2018*
52. *Council for the Development of Cambodia, 2009; 2011; 2014; 2018; 2021*

CDC, "Project Listing by Date of Last Updated; Development Partner: Japan; From 1/1/1969 to 12/31/2020,"

Like other ODA projects in Cambodia, the research team could find dates, budgets, and grant details using the CDC's ODA database.[53] JICA also has an ODA database, although it contained no documents regarding NR 1.[54] Only 27 Cambodia-Japan ODA projects from 1969-2020 are listed in the JICA database, compared to 512 from 2008-2020 in CDC's database.[55] It is unclear why only a small portion of JICA's ODA projects in Cambodia are listed. JICA also has a database for evaluation reports of its projects, but while the database had evaluation reports dating to 2005 (the year the first phase of NR 1 was approved), there are also no reports for NR 1.[56]

JCIA's website does, however, provide more information than its database. The website's Cambodia page provides links to all JICA press releases regarding Cambodia arranged by date, where the signing of grant agreements for the two most recent sections of NR 1—Stage 4 and the Urban Section—were reported in both English and Khmer.[57] However, the press releases are only dated from 2012 onward, so the website does not include information on the first three stages of the project, which were approved prior to 2012.[58] JICA also published the project's feasibility study, the preparatory study, the implementation review, and other documents in its e-library, which can be found on the JICA website.[59] Although JICA's transparency efforts are significantly stronger than that of the BRI projects examined in this series of case studies, more detailed and centralized transparency could alleviate possible confusion.

Even if JICA's publicly available material did not contain specific information, the office was willing to provide some details upon request. The research team could not find any reports providing details of the construction contractors and reached out to the JICA office. The office then provided a list of construction companies involved in each stage, though it did not provide tender documents and contracts, which were described as confidential information.[60]

Assessments on the project's environmental impact were also completed. The project only conducted an Initial Environmental Impact Assessment (IEIA), as it was not required to conduct an Environmental Impact Assessment (EIA). (According to Cambodia's Sub-decree No. 72 on the Environmental Impact Assessment Process, an EIA is required only when a road's length is equal to or greater than 100 km.)[61] The IEIA was performed by MPWT in accordance with Cambodia's environmental rules and regulations and JICA's

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53. CDC's ODA Databases, accessed June 28, 2021j http://www.odacambodia.com/projectlist/project_list_updated.asp?OtherDonor=46 &status=0&UpdateFrom=1%2F1%2F1969&UpdateTo=11%2F20%2F2020&hiddenSortDirection=&hiddenInitPage=\1&hiddenSortColumn=OfficialTitle

54. Japan International Cooperation Agency (JICA), "ODA Loan Project DATA, Our Work: Types of Assistance: Official Development Assistance Loans)," Accessed June 28, 2021a https://www2.jica.go.jp/en/yen_loan/index.php/module/search?ankenname=&area1=0&area2=0&area3=0&country1=26&country2=0&country3=0&section1=0&section2=0&section3=0&industry1=0&industry2=0&industry3=0&anken_kubun=0&chotatsukubun=0&from_year=&to_year=&currency=jpy&submit=Search

55. Japan International Cooperation Agency (JICA), 2021a; Council for the Development of Cambodia, 2021j

56. Japan International Cooperation Agency (JICA), "Search Page for Evaluation Reports, Our Work: Evaluations," accessed June 28, 2021c https://www2.jica.go.jp/en/evaluation/index.php

57. Japan International Cooperation Agency (JICA), "Press Release," Countries & Regions: Asia: Cambodia, accessed June 28, 2021b https://www.jica.go.jp/cambodia/english/office/topics/press.html; Japan International Cooperation Agency (JICA), 2014a; 2014b

58. Japan International Cooperation Agency (JICA), 2021b; Council for the Development of Cambodia, 2009; 2011; 2014

59. Japan International Cooperation Agency (JICA), "Library," December 22, 2021. https://www.jica.go.jp/english/about/organization/library/index.html

60. Email correspondence with JICA

61. Sithi.org, "Sub-decree on Environmental Impact Assessment Process, No. 72 ANRK.BK," Adopted by the Royal Government of Cambodia August 11, 1999, accessed December 15, 2020 https://sithi.org/admin/upload/law/72%20on%20the%20Environmental%20Impact%20Assessment%20Process%20(1999).ENG.pdf

environmental guidelines and was submitted to the Ministry of Environment (MoE) in 2002, which then issued an approval letter for the project. At the time of research, however, the study team did not find the official IEIA reports; instead, the feasibility and preparatory studies released by JICA served as the main resources to assess the environmental impact of the project.

Environmental Impact

NR 1's project study reports concluded that the project would not result in any significant adverse environmental impacts because the project is not located in a conservation area or an area with significant biodiversity, and the project plans include mitigation measures for any environmental impacts during the implementation phase. According to the feasibility study conducted by KEI and Pacific Consultants, a Japanese privately-owned construction company, there are various plant species growing along NR 1, including trees important for commerce, such as jackfruit, mango, coconut, tamarind, and bamboo.[62] There are also 14 plants that the local community used as fuelwood. The project site seems not to have affected wildlife species, given that it is a minor wildlife habitat.[63] The study reported more than 70 bird species and fish inhabiting the area.[64] The project also does not impose on any historical areas, land with Angkorean or Pre-Angkorean remains, or protected areas.[65] NR 1 is largely built in areas occupied by residential villages or agricultural land in Kandal Province and a small part of Phnom Penh. The CDC document also stated that Kandal Province is an agricultural area and contains no forestry.[66]

The feasibility report also stated that excavation would erode topsoil and slope. However, under the project plans, the project will keep the topsoil and refill after excavation, and the access roads to quarry and borrow sites will be constructed along the existing farm tracks to avoid losses to agricultural lands.[67] However, the construction of bridges and culverts would affect the direction of water flow and its volume in the colmatage area. However, JICA claimed that the locations of bridges and culverts were selected to reduce the risk of floods and minimize adverse impacts to the existing land use.[68] The spread of insect-borne diseases such as malaria, dengue fever, and schistosomes were also local concerns. The project study encouraged the introduction of a disease prevention program.[69]

Negative externalities, such as gas, dust pollution, water pollution, noise, and waste, were anticipated to be generated from the construction. All construction materials were supposed to be reused, recycled, or otherwise disposed of properly. To deal with these issues, the study proposed that the vehicles and machinery be regularly maintained and water sprayed during the construction period to alleviate dust pollution. It was also recommended that delivery vehicles be covered to avoid spills and steps taken to reduce any excess noise or odor.[70] There are no media reports either about the implementation of this plan or any negative environmental effects resulting from the road construction.

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62. *Japan International Cooperation Agency (JICA), "The Feasibility Study Report on the Project for Improvement of National Road No. 1 (Phnom Penh-Neak Loeung Section)," March 2003a https://libopac.jica.go.jp/top/index.do?method=change&langMode=ENG*
63. *Japan International Cooperation Agency (JICA), 2003a*
64. *Japan International Cooperation Agency (JICA), 2003a*
65. *Japan International Cooperation Agency (JICA), 2003a*
66. *Council for the Development of Cambodia, "Municipality and Province Investment information: Kandal Province," accessed November 29, 2021, http://www.cambodiainvestment.gov.kh/wp-content/uploads/2014/03/Kandal-Province_eng.pdf*
67. *Japan International Cooperation Agency (JICA), 2003a*
68. *Japan International Cooperation Agency (JICA), 2003a*
69. *Japan International Cooperation Agency (JICA), 2003a*
70. *Japan International Cooperation Agency (JICA), 2003a*

In conclusion, feasibility studies found no substantial or irreversible adverse environmental and social impacts arising from the project, and recommended its implementation, stating that IEIA had a similar conclusion.[71] However, this IEIA does not seem to be publicly available, and there do not seem to be any other independent assessments of the project's projected or actual environmental impacts.

Companies and Stakeholders Involved

Information regarding construction contractors was not readily and publicly available but was later identified through archived speeches regarding the project and communication with JICA. All construction contractors were Japan-based, limiting the immediate economic benefits to Cambodia. However, each of the construction firms have a long track record of undertaking complex construction projects. Most of the companies were involved in construction within Cambodia that established their ability to provide high-quality projects in the country. It is thus reasonable to assume that the selection of construction contractors was based on the company's expertise rather than other interests/concerns. No single company was contracted to construct all stages within this project, reducing the potential for corruption and reliance on a single contractor.

Since the project started in the early 2000s when Cambodia was in its early stages of country development, there is limited information, though JICA's office was proactive in providing resources. Based on the archived speech of Prime Minister Hun Sen, the study team found two construction companies that implemented Stages 1 and 2, Obayashi and Daiho Corporation, respectively, while the others remained unknown.

The JICA office in Cambodia informed Future Forum's study team by email that the project was contracted to Obayashi Corporation for the first two stages; Daiho Corporation for the third stage; and Hazama Ando Corporation for the last stage.

KEI and Pacific consultants served as the feasibility study contractors, according to the study report.[72] KEI is a Japanese, privately-owned project design, supervision, and construction company registered in Tokyo, operating independently since 1987.[73] KEI has implemented numerous projects under the sponsorship and supervision of JICA.[74]

Obayashi Corporation, responsible for the construction of Stage 1 and Stage 2, is a construction, civil engineering, and real estate development company founded in 1892.[75] The corporation has completed at least 579 projects globally and is one of Japan's top construction firms, according to NIKKEI Asia.[76] In Cambodia, Obayashi repaired the Cambodia-Japanese Friendship Chroy Changvar Bridge, rehabilitated National Roads 6 and 7 in 1999, constructed the Yazaki Cambodia New Factory in 2012, and worked on the ongoing NR 5 Project, categorized as ASEAN Highway No. 1.[77]

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71. *Japan International Cooperation Agency (JICA), 2003a*
72. *Japan International Cooperation Agency, 2003a*
73. *Katahira and Engineers International, "About Us," accessed August 2, 2021a https://kei-globe.com/about-us/; Devex, "Katahira and Engineers International: Organizations," accessed July 20, 2021 https://www.devex.com/organizations/katahira-and-engineers-international-27510*
74. *Devex, 2021*
75. *Future Forum and JICA's conversation by email, 2021; Obayashi Corporation, "History," accessed August 2021a https://www.obayashi.co.jp/en/company/history.html*
76. *Kentaro Tsutsumi, "How to spend it:Taisei juggles $1bn in stashed cash," Nikkei Asia, December 19, 2019 https://asia.nikkei.com/Spotlight/Tokyo-2020-Olympics/How-to-spend-it-Taisei-juggles-1bn-in-stashed-cash2;Obayashi Corporation, "Projects," accessedAugust 2021b https://www.obayashi.co.jp/mt/mt-estraier.cgi?offset=1&limit=20&blog_id=9&lang=en&suffix=html&no_query=1&searchtype=works&works_year=02020,02021,02022,02023,02024,02025,02026,02027,02028,02029*
77. *Cambodia Constructors Association, "Construction Deal for National Road No. 5 Signed," Construction Property, January 24, 2019 https://construction-property.com/construction-deal-for-national-road-no-5-signed/; Obayashi Corporation, 2021*

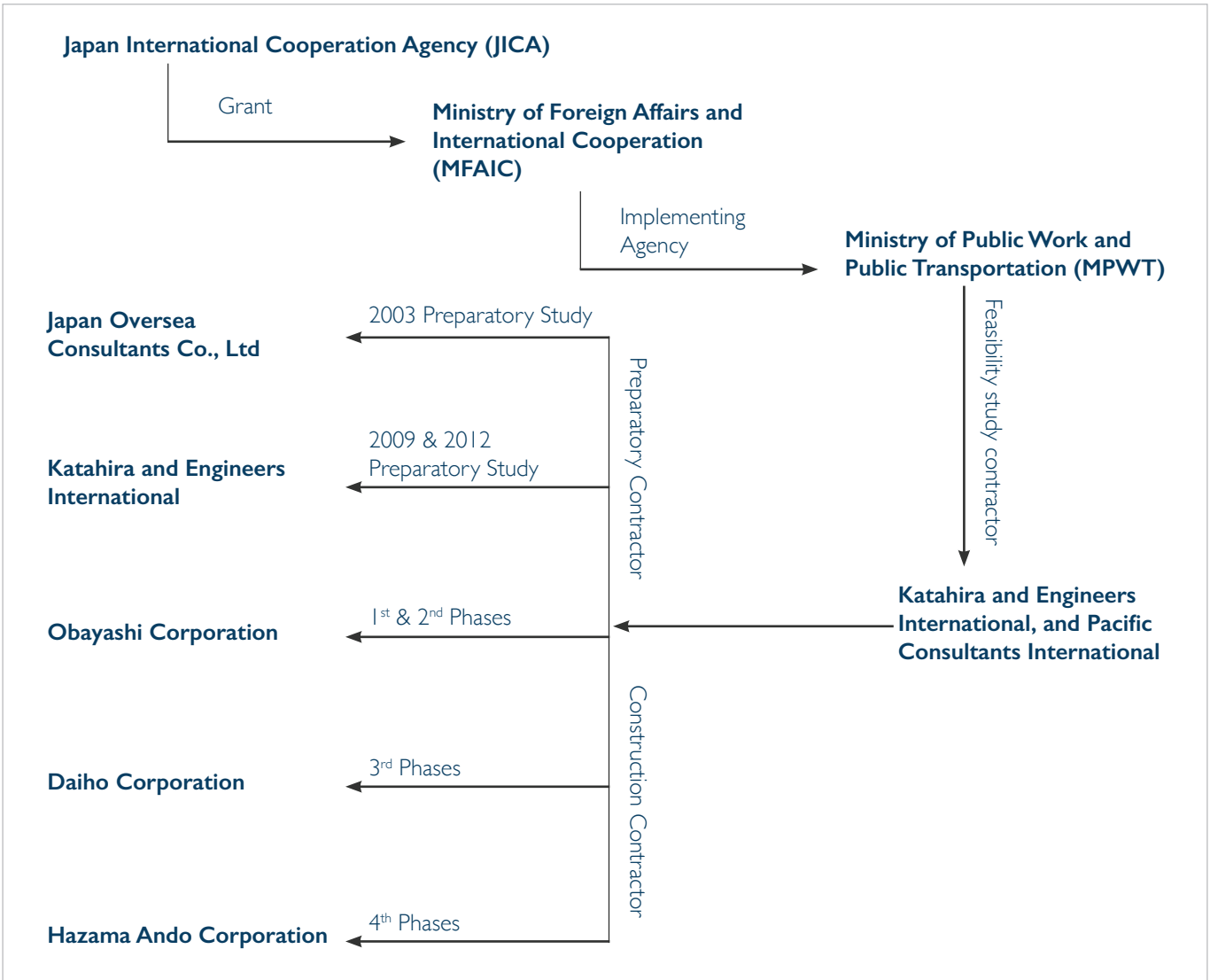
Daiho Corporation, responsible for the construction of Stage 3, has extensive experience in construction, building hydroelectric dams, expressways, harbors, subways, and various foundation works for large structures.[78] In addition to the NR 1 improvement project, Daiho also implemented the Sihanoukville Port Special Economic Zone in 2012, National Expressway No. 6 Siem-Reap Section in 2002, the Marunix Factory in Phnom Penh Special Economic Zone, and constructed a primary school in Phnom Penh (Phase 3) in 2011.[79]

The last phase (Stage IV) was handed over to Hazama Ando Corporation, a construction planning, design, and urban development consulting services company that has been in operations for over 120 years.[80] In Cambodia, Hazama Ando completed the improvement of Siem Reap's water supply system in 2006.[81]

Despite their working experience, Obayashi and Hazama Ando had instances of corruption in recent years. Obayashi was fined USD $1.83 million for colluding with two other major contractors to rig the bids for the Tokyo-Osak Maglev Train Project in 2018, which violated Japanese anti-monopoly law.[82] Following the fine, Japan's Transport Ministry also ordered the company to suspend part of their business operations in early 2019 and prohibited new bidding of construction projects for 120 days.[83] Hazama Ando also faced a scandal due to under-reporting income by around USD $2.3 million from March 2013 to March 2018.[84] However, the study team did not find any serious controversies involving these contractors on JICA's NR 1 Project.

78. *Daiho Corporation, "Home page," accessed August 2021 https://www.daiho.co.jp/english/index.html*
79. *Daiho Corporation, 2021*
80. *Future Forum and JICA's conversation by email, 2021; Hazama Ando Corporation, "Home page," accessed August 2021a http://www.ad-hzm.us.com/images/html/about_eng.htm*
81. *Hazama Ando Corporation, "Work," accessed August 2021c http://www.ad-hzm.us.com/images/html/about_eng.htm*
82. *The Japan Times, "Two contractors for Tokyo-Osaka maglev rail project ordered to partly halt business over bid-rigging," The Japan Times, January 18, 2019 https://www.japantimes.co.jp/news/2019/01/18/business/corporate-business/two-contractors-tokyo-osaka-maglev-rail-project-ordered-partly-halt-business-bid-rigging/*
83. *The Japan Times, 2019*
84. *Reuters, "Japan's Hazama Ando found to have under-reported income: report," Reuters, November 23, 2019 https://www.reuters.com/article/us-hazama-ando-probe-idUSKBN1XX04Q*

Table 4 : Project Organization



Source: Various[85]

JICA and Other Donors' Usage of Cambodia's ODA System

Because Cambodia currently has no specific laws for development assistance or aid projects, JICA's non-disclosure of budgets, three-year plans, and non-use of government procurement and financial management systems for most stages of the NR 1 project do not violate any regulations. Moreover, abstaining from using the government's procurement systems is not abnormal and not unique to NR 1's stages or JICA in general. Table 5 shows the results of a review conducted by the Future Forum research team of ODA projects between 2005 and 2020 for nine of Cambodia's most prominent ODA partners, including Japan.

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[85] *Future Forum and JICA's conversation by email; Japan International Cooperation Agency (JICA), 2003a; Japan International Cooperation Agency (JICA), "Preparatory Survey Report on the Project for Improvement of National Road No. 1 (Phnom Penh-Neak Loeung Section)," December 2003b https://libopac.jica.go.jp/top/index.do?method=change&langMode=ENG ; Japan International Cooperation Agency (JICA), "Preparatory Survey Report on the Project for Improvement of National Road No. 1 (Phnom Penh-Neak Loeung Section)," June 2009b https://libopac.jica.go.jp/top/index.do?method=change&langMode=ENG; 2012*

Table 5: Procurement Process Comparison Across Cambodian ODA Partners, 2005-2020[86]

Development Partner	Reporting of Financial Indicators			% Projects Managed Using Government Financial Management System			% Projects that Used State Procurement System	Aid Status		
	# ODA Projects	# Fully Reported	% Fully Reported	Budget Execution System	Financial Reporting System	Auditing System		% Fully Tied	% Partially Tied	% Untied
China	70	70	100%	56%	56%	56%	0%	100%	0%	0%
Japan	554	550	99%	2.5%	2.5%	2.5%	2.4%	18%	0.4%	82%
South Korea	420	231	55%	3.7%	3%	3%	1.9%	67%	12%	21%
USA	156	155	99%	0%	0%	0%	1.3%	0%	86%	14%
EU	277	260	94%	2.3%	1.9%	2.3%	2.7%	1.5%	21%	78%
France	62	60	97%	21%	21%	21%	18%	0%	0%	100%
ADB	87	87	100%	86%	86%	86%	84%	0%	20%	80%
UNDP	66	65	98%	11%	11%	7.5%	9%	0%	1.5%	98%
World Bank	70	68	97%	22%	4.4%	2.9%	31%	0%	0%	100%

The ADB is the only institution that has consistently used the government's procurement system for projects in the last fifteen years. The World Bank comes in second at 31 percent usage, while the remaining partners, including Japan, rarely use the government's procurement system. However, it is unclear what the government's procurement system entails in practice, making it difficult to discern the reasoning or impacts of ODA partners not using the system. In general, the formal rules of the procurement system for ODA projects in Cambodia remain unclear. Nevertheless, established donors and multilateral financial institutions—including JICA—often have well-established internal procurement processes, so it is unclear whether their failure to use Cambodia's procurement system can be considered an issue of concern.[87]

As Cambodia has no laws regulating development assistance or aid projects, such development projects are managed by the Committee for Rehabilitation and Development of Cambodia under the CDC.[88] Every four years, the CDC releases the Development Cooperation and Partnerships Strategy (DCPS), which serves as a national framework to strategically guide development to meet Cambodia's Millennium and Sustainable Development Goals (MDGs and SDGs), and the Rectangular Strategy, Cambodia's national overarching framework for social, economic, and political development.[89] Now in Phase IV (2018-2023), the Rectangular

86. *Council for the Development of Cambodia (CDC), "2005-2020 Design Your Own Report," CDC's ODA Database, accessed June 28th, 2021m, http://www.odacambodia.com/OwnReport/make_own_report.asp#none*
87. *Japan International Cooperation Agency (JICA), 2009a*
88. *Open Development Cambodia, "Aid and Development," updated December 28, 2016 https://opendevelopmentcambodia.net/km/topics/aid-and-development/*
89. *Royal Government of Cambodia (RGC), "Introduction," in Development Cooperation and Partnerships Strategy (2014-18), the Cambodian Rehabilitation and Development Board (CRDB) of Council for the Development of Cambodia (CDC), June 10, 2014 https://web.archive.org/web/20191029070427/http://www.cdc-crdb.gov.kh/cdc/documents/Sector_Strategy/14_Partnership_Harmonization/Final_DCPS_2014_2018_EN.pdf*

Strategy has five main objectives for aid partnerships: (i) to strengthen development partnerships and ensure Royal Government of Cambodia (RGC) ownership; (ii) to implement the quadrennial DCPS and progress towards Cambodia's SDGs; (iii) to include all development actors in policy dialogues; (iv) to plan and progress towards Least Developed Country (LDC) graduation; and (v) to utilize global and regional mechanisms for development effectiveness and partnerships.[90] Some progress has been made on these objectives, with the prevalence of development partners using Cambodia's procurement system almost doubling from 32 percent in 2013 to 61 percent in 2017.[91]

Additionally, there are no specific logistics or duties under fully or partially tied aid in Cambodia. Therefore, it is not clear what fully tied entails regarding the grants for Stages 1, 2, and 3.[92] Meanwhile, the switch to untied grants for Stage 4 and the Urban Section may have to do with the commitments Japan made to reduce tied aid at Busan's 2011 Fourth High Level Forum on Aid Effectiveness.[93] NR 1 stands out as slightly unique in its tied grants for Stages 1, 2, and 3, which only occurred in 18 percent of Japanese ODA projects between 2005 and 2020.

There seems to be no general rule or standard of applying the country's procurement systems for ODA projects. This irregular implementation is even implicit in the country's regulation: according to Article 3 of Cambodia's 2012 Law on Procurement, the development partner could either abide by this law or follow the agreement of the respective parties. The "term of assistance" (i.e., grant or loan) was not identified in this clause.[94] 81 percent of Japanese ODA projects is untied aid, which is supposed to give more freedom to recipient states to procure services and products. Instead, only 2.4 percent were reported to use the system.

Given the ambiguous documents outlining Cambodia's procurement system and how it may work in practice, no general conclusion can be confidently reached regarding its effectiveness at advancing the goals of the Rectangular Strategy.

Budget Discrepancies

The CDC, MPWT, and JICA's documents report different budgets and expenditures for the project, particularly the budgets for Stages 3 and 4, reducing transparency into its actual costs. The discrepancies come from two Cambodian sources: the CDC's ODA database and the 2015 MPWT Overview of the Transportation Sector in Cambodia.[95] The budget figures listed in Table 1 are the Project Budgets/External Commitments listed in the official reports on CDC's ODA database. However, within the same reports, there is also a section labeled "Planned Budget Allocation/Expenditure for Each Year of the Program/Project Duration." This section details

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90. Royal Government of Cambodia (RGC), 2014; RGC, "Rectangular Strategy for Growth, Employment, Equity and Efficiency, Building the Foundation Toward Realizing the Cambodia Vision 2050, Phase IV," Sixth Legislature of the National Assembly, Phnom Penh, September 2018 http://cnv.org.kh/wp-content/uploads/2012/10/Rectangular-Strategy-Phase-IV-of-the-Royal-Government-of-Cambodia-of-the-Sixth-Legislature-of-the-National-Assembly-2018-2023.pdf; RGC, "Development Cooperation and Partnerships Strategy (2019-23)," Cambodian Rehabilitation and Development Board of Council for the Development of Cambodia, Phnom Penh, January 16, 2019 http://cdc-crdb.gov.kh/en/strategy/documents/dcps_2019_2023.pdf

91. Royal Government of Cambodia (RGC), 2019

92. Council for the Development of Cambodia, 2009; 2011; 2014

93. Council for the Development of Cambodia, 2018; 2021k; OECD E-Library, "Chapter 3: Japan's Financing for Development," in OECD Development Co-operation Peer Reviews: Japan 2020, October 12, 2020 https://www.oecd-ilibrary.org/sites/bdf814cd-en/index.html?itemId=/content/component/bdf814cd-en#back-endnotea3z8

94. World Bank, "Law on Public Procurement," January 14, 2012 https://ppp.worldbank.org/public-private-partnership/library/law-public-procurement-khmer-dated-january-14-2012-cambodian

95. Council for the Development of Cambodia, 2021j; Open Development Cambodia, 2015

the money spent each year of the project. However, the total for this section (as in the total amount of money spent for the entire project duration) is less than the total budget listed earlier in the report for Stages 3 and 4 (see Table 3).[96] At the bottom of the report for Stages 3 and 4, there is a note that says "disbursement figures are estimated."[97] While this may explain the discrepancies in budgets and expenditures within the same report, it is unclear what disbursement refers to, so it is impossible to determine which of the two figures is correct and which is estimated. However, it could be that one is the actual spending during the construction, and the other is a budget package (Project Budget/External Commitment) for the whole project section.

Meanwhile, the MPWT also lists budgets for road improvement projects in its review of Cambodia's Transportation Sector, which diverge from the figures listed in the ODA database reports.[98] The discrepancies across these three sources are detailed in Table 6.

Additionally, none of the five stages of NR 1 are listed in JICA's ODA or evaluation report databases.[99] While the press releases regarding the grant agreements for Stage 4 and the Urban Section are available, they list the budget number found under "Total Project Budget" (Section 11) in the CDC's ODA database reports. However, the press release for Stage 4 erroneously converts 1,585,000,000 JPY to approximately USD $16 million (should be approximately USD $13 million using 2014 JPY exchange rates, as shown in Table 6 below).[100] Moreover, the press release for the Urban Section describes the budget as a "maximum" of 251,000,000 JPY, which only further obfuscates what is meant by the figures listed in the ODA database.[101] In effect, the JICA press releases and omission of NR 1 documents from the JICA databases only furthers confusion surrounding the project's budget, creating the possibility for misuse of funds. The inconsistent budget figures lead to questions about the project's transparency.

Table 6: JICA National Road 1 Project Budget Discrepancies[102]

Project Name	CDC's ODA Database Project Report		MPWT Transportation Sector Overview
	Section 11: Total Project Budget/ Total External Commitment	Section 13: Planned budget allocation/ expenditure for each year of the program/ project duration	
National Road 1 (Stage 1)	USD $7 million (USD $6,681,000) (786,000,000 JPY, using the December 2005 conversion rate of 0.0085 per 1 JPY)	Same as section 11	USD $47 million (Combined budget listed for Stages 1 and 2)
National Road 1 (Stage 2)	USD $40 million (USD $39,866,400) (4,746,000,000 JPY, using the December 2006 conversion rate of 0.0084 per 1 JPY)	Same as section 11	
National Road 1 (Stage 3)	USD $22 million (USD $22,055,000) (2,005,000,000 JPY, using the December 2009 conversion rate of 0.011 per 1 JPY)	USD $12 million[103] (USD $12,525,447) (1,138,677,000 JPY, using the 2009 conversion rate of 0.011 per 1 JPY)	USD $11.17 million

96. *Council for the Development of Cambodia, 2009; 2011; 2014; 2018; 2021k*
97. *Council for the Development of Cambodia, 2014; 2018*
98. *Open Development Cambodia, 2015*
99. *Japan International Cooperation Agency (JICA), 2021a; 2021c*
100. *Japan International Cooperation Agency (JICA), 2014b*
101. *Japan International Cooperation Agency (JICA), 2014a*
102. *Council for the Development of Cambodia, 2009; 2011; 2014; 2018; 2021k; Open Development Cambodia, 2015*
103. *The reports for Stage 3 and 4 both have a "remark" at the end which describes: "disbursement figures are estimated." It is unclear what "disbursement figure" refers to; Council for the Development of Cambodia, 2014; 2018*

Project Name	CDC's ODA Database Project Report		MPWT Transportation Sector Overview
	Section 11: Total Project Budget/ Total External Commitment	Section 13: Planned budget allocation/ expenditure for each year of the program/ project duration	
National Road 1 (Stage 4)	USD $13 million (USD $13,223,433.1) (1,585,000,000 JPY, using the December 2014 conversion rate of 0.0083 per 1 JPY)	USD $12 million[104] (USD $12,393,048.21) (1,485,442,672 JPY using the 2014 conversion rate of 0.0083 per 1 JPY)	USD $15 million
National Road 1 Urban Section	USD $2 million (USD $2,094,093) (251,000,000 JPY, using the December 2014 conversion rate of 0.0083 per 1 JPY)	Same as section 11	Not Listed[105]

Project Benefits

A 2015 report on the infrastructure sector in Cambodia notes that the entire length of road from Phnom Penh to Neak Loeung was paved with AC.[106] Concrete (cement concrete), rather than asphalt, is said to be a superior method for road construction in Cambodia given the high volume of precipitation in the country.[107] However, this has yet to be included in Cambodian road standards and is more expensive than asphalt.[108] Given these factors, JICA's use of AC in the project is laudable, especially compared to Chinese companies, which routinely use the cheaper and less suitable asphalt for road paving in Cambodia.[109]

By 2014, the Cambodia Constructors Association reported that the value of the land along NR 1 had risen by 30 percent in some places, which was largely credited to improvements made to the road.[110] In 2016, after most of the 56 km project had finished construction (only the 4 km Stage 4 and 450 m Urban Section were still underway), the *Phnom Penh Post* reported then-land prices had risen significantly along NR 1, and many industrial parks had begun construction along the stretch.[111] Additional reporting in 2017 described that prices had only continued to rise, with many investors purchasing land with plans to develop boreys (suburban neighborhoods) or factories.[112] One landowner reported that the value of his land in Veal Sbov Commune had

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104. The reports for Stage 3 and 4 both have a "remark" at the end which describes: "disbursement figures are estimated." It is unclear what "disbursement figure" refers to; Council for the Development of Cambodia, 2014; 2018

105. The fifth section, Urban Section, was added in December 2014 after a planning study revealed that the desired pavement strategy required an additional USD $2 million. It is possible MPWT's report was prepared before this announcement; Japan International Cooperation Agency (JICA), 2014a

106. Open Development Cambodia, 2015

107. Siv Meng, "National Roads built with Chinese aid under fire," Phnom Penh Post, February 25, 2016a https://www.phnompenhpost.com/real-estate/national-roads-built-chinese-aid-under-fire; Asphalt & Concrete Parking Lot maintenance (ACPLM), "What Are the Effects of Heavy Rain on Asphalt?" ACPLM News, accessed May 23rd, 2021 https://www.acplm.net/rain-on-asphalt/; the article of Phnom Penh Post stated sorely "Concrete"; however, in common speaking in Cambodia, "Concrete" refers to "Cement Concrete." Thus, the article might be mistranslated.

108. Meng, 2016

109. Khmer Times, "Longest Concrete Road Built," Khmer Times, May 9, 2014 https://www.khmertimeskh.com/49152/longest-concrete-road-built/; Robin Spiess, "Cambodia facing a dilemma on plan to give roads a facelift," The Phnom Penh Post, 2017 https://www.phnompenhpost.com/business/cambodia-facing-dilemma-plan-give-roads-facelift; Meng, 2016

110. Cambodia Constructors Association, "Route 1 Land Prices Rise Thanks to New Infrastructure," Construction & Property, December 2015 https://construction-property.com/route-1-land-prices-rise-thanks-to-new-infrastructure/

111. Siv Meng, "National Road 1 quietly develops," The Phnom Penh Post, June 9, 2016b https://www.phnompenhpost.com/real-estate/national-roads-built-chinese-aid-under-firehttps://www.phnompenhpost.com/post-property/national-road-1-quietly-develops

112. Siv Meng, "Land prices along National Road 1 continue to rise," Phnom Penh Post, June 15, 2017 https://www.phnompenhpost.com/post-property/land-prices-along-national-road-1-continue-rise; Sum Manet, "A Road paved with promise," Khmer Times, July 19, 2017 https://www.khmertimeskh.com/73593/road-paved-promise/

increased from USD $50-70/m2 to USD $250-300/m^2.[113] In 2019, Khmer Foundation Appraisal forecasted that within five years, land along NR 1 would be more valuable than any land on the outskirts of Phnom Penh.[114]

The project, as noted previously, is also seen as highly beneficial for regional connectivity. At the inauguration ceremony for Stage 1, Prime Minister Hun Sen emphasized NR 1's importance in both increasing ASEAN integration and decreasing traffic congestion surrounding Phnom Penh.[115]

JICA recently completed a feasibility study for a Phnom Penh-Bavet expressway, which would effectively serve the same transportation purpose as NR 1.[116] The MPWT has urged the private sector to consider financing the expressway, potentially signaling the importance of transport along the corridor.[117] Additionally, plans to further expand NR 1's Phnom Penh to Neak Loeung section (this case study) were announced in February 2020.[118] The MPWT described that such plans were necessary to reduce traffic congestion.[119] The new project's official scope, which has yet to be released by the Ministry, may explain whether this expansion represents an underestimation of capacity needed in recently constructed sections, or whether it will expand stages (such as Stage 2) that have experienced increased demand since they were constructed over a decade ago.

Preparatory Studies

A 2003 preparatory study on NR 1 was conducted by Japan Overseas Consultants Co., Ltd.[120] The study aimed to investigate the resettlement of residents during the project to ensure its implementation was transparent and fair. The results of the study, conducted using a randomized sampling method, showed that all residents agreed to the project and claimed compensation. Those residents also agreed to the concept of Right-of-Way (ROW), which means they agreed to follow government guidance if setbacks were needed.[121] Those planning to build new houses and concrete structure buildings were advised to build away from the road, but the specific distance is unknown.[122]

The study found 93 additional affected houses beyond the 1,805 identified in prior studies. Previous studies counted only residents who lived in the tentative ROW, 15 m away from the centerline. Later, the 2003 preparatory study planned to raise the road formation level to make the road suitable to all-weather conditions.

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113. Meng, 2017
114. PA Ravy, "National Road 1 area develops more compare to National Road 4," Property Area, 2019 https://www.cambodiaproperty.news/state/national-road-1-area-develops-more-compare-to-national-road-4/
115. Cambodia Constructors Association, "Pm Inaugurates Opening of National Road 1, Stage 4 Improvement," Construction & Property, March 13, 2018b https://construction-property.com/pm-inaugurates-opening-of-national-road-1-stage-4-improvement/
116. Cambodia Constructors Association, "Cambodia Urges Private Sector to Invest in Pp-bavet Expressway," Construction & Property, February 20, 2018a https://construction-property.com/cambodia-urges-private-sector-to-invest-in-pp-bavet-expressway/
117. Cambodia Constructors Association, 2018a; Manet, 2017
118. Cambodia Constructors Association, "Government to expand NR1 from Phnom Penh to Neak Loeung," Construction & Property, February 24, 2020 https://construction-property.com/government-to-expand-nr1-from-phnom-penh-to-neak-loeung/
119. Cambodia Constructors Association, 2020
120. Japan International Cooperation Agency (JICA), 2003b
121. ROW refers to land for a road that the state claims ownership of. Its width is from 50m to 60m on national roads. The concept has its origins in French colonization and was affirmed by the Prime Minister's declaration No.06 in 1999. According to the project's feasibility report, the typical ROW width would significantly impact nearby residents. Thus, 30m width was chosen as the "Tentative ROW" for this project to mitigate the impact.
122. Japan International Cooperation Agency (JICA), 2003b

The required expansion of the embankment slope resulted in an enlarged ROW boundary. The same report also stressed compensating those in affected households based on a feasibility study report. The Inter-Ministerial Resettlement Committee (IRC) planned to compensate people in houses and those partly housed or with a shop/fence in the tentative ROW, as well as those outside of the tentative ROW but in the embankment slope.[123]

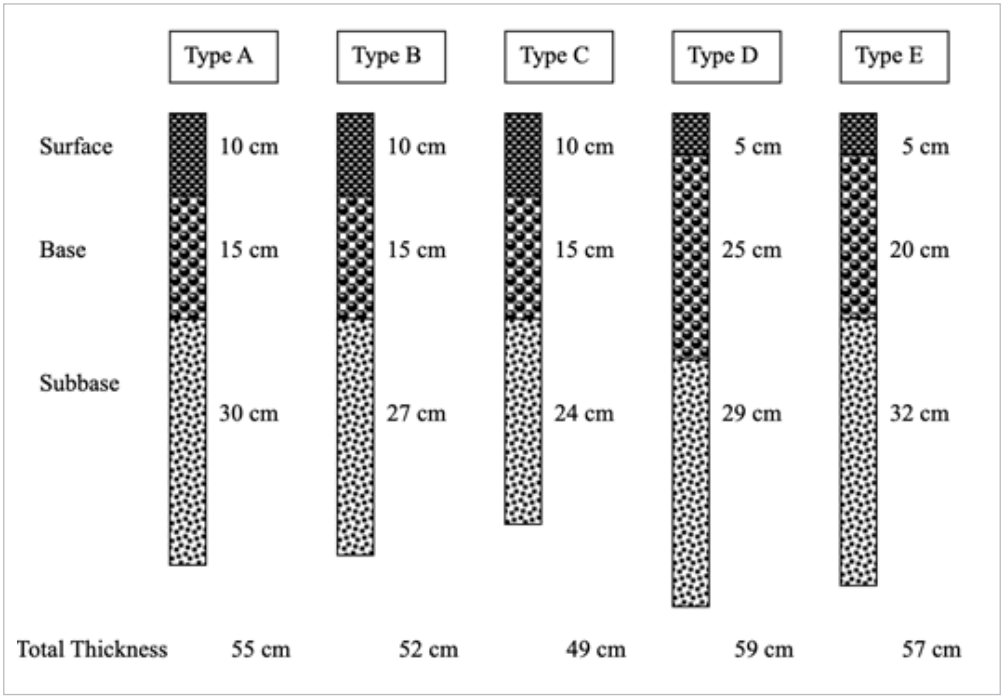
A 2009 preparatory study included the release of a pavement design study for the Phnom Penh–Neak Loeung section of NR 1, which followed the American Association of State Highway and Transportation Officials' (AASHTO) Guide for Design of Pavement Structures.[124] The U.S. Department of Transportation's Federal Highway Administration references AASHTO's Guide as the primary source for designing highway construction and rehabilitation projects.[125] After Cambodian field tests, laboratory capacity bearing tests, traffic volume estimates, ground hardness, and stability assessments, the 2009 pavement study concluded that the section's subgrade needed to be improved before the pavement could be strengthened due to Cambodia's frequent flooding.[126] The study recommended a certain thickness of subbase, base, and surface pavement for each section of the road, as shown in Figure 3 below.[127] The design life for the AC pavement, where maintenance was not required, was estimated at 10 years for a total lifetime, with maintenance, of about 22 years.[128] A serious stability issue was identified by the study, given that the road traverses Mekong marshland, and it was noted that further detailed analysis would be required at a design or execution stage.[129]

Figure 3: Recommended Pavement Structure for NR 1 Phnom Penh to Neak Loeung

Section	1	2	3	4	5
Station	Start - 3.5	3.5 - 7	7-14	14 - 3.6	36 - End
Pk (MPWT)	5.6 - 9.1	9.1 - 12.6	12.6 - 19.6	19.6 - 41.6	41.6 - END
Pavement Type	A	B	C	D	E

Source: Japan International Cooperation Agency (JICA), 2009c

123. *Japan International Cooperation Agency (JICA), 2003b*
124. *Japan International Cooperation Agency (JICA), 2009b*
125. *Federal Highway Administration, "Appendix C: 1993 AASHTO Design Method," in the Geotechnical Aspects of Pavements Reference Manual, the U.S. Department of Transportation's website, updated June 27, 2017 https://www.fhwa.dot.gov/engineering/geotech/pubs/05037/ac.cfm*
126. *Japan International Cooperation Agency (JICA), "Pavement Design for National Road No. 1 (Phnom Penh-Neak Loeung Section)," June 2009c https://openjicareport.jica.go.jp/pdf/11721651_04.pdf*
127. *Japan International Cooperation Agency (JICA), 2009c*
128. *Japan International Cooperation Agency (JICA), 2009c*
129. *Japan International Cooperation Agency (JICA), 2009c*



Source: Japan International Cooperation Agency (JICA), 2009c

A preparatory study for Stage 4 of the Phnom Penh-Neak Loeung section of NR 1, conducted by KEI, was also completed in 2009.[130] The study examined the widening of the first four kilometers of NR 1 to correspond to the newly widened Monivong Bridge leading to the road's start, designed to establish a designation of ROW to improve safety on the first 1.9 km of the road, include an up-to-date topological study, and make adjustments to accommodate new water supply pipes being laid at road kilometer 3.8.[131] The study described that Stage 4 would raise the elevation and improve the drainage of the road to mitigate flooding risks, reduce traffic congestion, increase travel speed along the road, and improve the transport of goods and people in general.[132] Additionally, the study mentioned that Stage 4 would require the resettlement of 530 people, and that relocation would take place before the project began under the purview of the MPWT.[133] The study described that displaced people should agree to or provide consent for the resettlement package, and the RGC would cover all compensation costs.[134] The study recommended that the RGC monitor the environmental effects of the project and confirm proper resettlement of displaced peoples.[135] At the time of publication, the research team could not find any evidence that the RGC implemented such environmental monitoring.

Additionally, the preparatory study specified that construction as well as construction oversight, detailed designs, and tender assistance would be undertaken by Japanese firms per their contracts with the implementing partner, MPWT.[136] It also described that Japanese nationals involved with the project would be exempt from fiscal levies, such as customs duties or internal taxes.[137] However, the study specified that all construction equipment and materials would be procured in Cambodia, excluding a stabilizer machine, impact crusher

130. *Japan International Cooperation Agency (JICA), 2009b*
131. *Japan International Cooperation Agency (JICA), 2009b*
132. *Japan International Cooperation Agency (JICA), 2009b*
133. *Japan International Cooperation Agency (JICA), 2009b*
134. *Japan International Cooperation Agency (JICA), 2009b*
135. *Japan International Cooperation Agency (JICA), 2009b*
136. *Japan International Cooperation Agency (JICA), 2009b*
137. *Japan International Cooperation Agency (JICA), 2009b*

and thermal insulation paint from Japan and cast-iron manholes and steel grating from Thailand.[138] Any maintenance for the project would be the responsibility of the MPWT or its municipal departments and covered by their budgets.[139] The study estimated that Japan would provide 1,290,000,000 yen (USD $11.7 million), while the RGC would provide the remaining 371,000,000 yen (approximately USD $3,807).[140]

In February 2012, KEI conducted a preparatory study for Stage 4 of NR 1 to assess changing development plans, such as a National Ring Road in Phnom Penh as proposed by China and the Niroth Production Facility, to analyze their possible impacts on Stage 4 construction and project costs and to confirm the RGC's implementation of the environmental and social considerations.[141] The study re-surveyed noise pollution, given the new plans to extend the four-lane portion of the road from 2 km to 4 km. With this extension, noise levels were predicted to increase by 9 dB from original assessments to a total of about 70 dB by the roadside.[142] The CDC explained that prolonged exposure to noises over 70 dB can contribute to hearing damage.[143] The study recommended that noise levels be monitored along the four-lane section after project completion.[144] However, no evidence of such monitoring was found.

The study mentioned that a Resettlement Action Plan (RAP) was being prepared for the affected households subject to involuntary resettlement as a result of the construction.[145] A total of 540 households were expected to be affected, with 61 requiring physical relocation.[146] The RAP was prepared by the RGC and slated to be released to the public to provide transparency about the project.[147] The study also noted the requirement of establishing a Grievance Redress Program in Phnom Penh Capital Hall, as established in Kandal Province for the previous three stages, which is responsible for ensuring effective redress and relocation of the affected people.[148]

This stage required the implementation of more adequate safety mitigation measures to protect the public during construction given the potential issues of noise, vibration, water contamination, dust emission, and air pollution, as well as traffic accidents potentially caused by construction vehicles.[149] To implement this stage properly, environmental monitoring was required to follow the mitigation measures and consider countermeasures as needed. The study also proposed nighttime construction in congested areas and spraying water to reduce dust intake. These mitigation measures are listed in Table 7.

138. *Japan International Cooperation Agency (JICA), 2009b*
139. *Japan International Cooperation Agency (JICA), 2009b*
140. *Japan International Cooperation Agency (JICA), 2009b*
141. *Japan International Cooperation Agency (JICA), 2012*
142. *Japan International Cooperation Agency (JICA), 2012*
143. *Center for Disease Control and Prevention (CDC), "What Noises Can Cause Hearing Loss," Environmental Health, accessed July 24, 2021, https://www.cdc.gov/nceh/hearing_loss/what_noises_cause_hearing_loss.html*
144. *Japan International Cooperation Agency (JICA), 2012*
145. *Japan International Cooperation Agency (JICA), 2012*
146. *Japan International Cooperation Agency (JICA), 2012*
147. *Japan International Cooperation Agency (JICA), 2012*
148. *Japan International Cooperation Agency (JICA), 2012*
149. *Japan International Cooperation Agency (JICA), 2012*

Table 7 : Mitigation Measures in Preparatory Survey Report 2009

Classification of Effect	Negative Effect for Environmental and Social Consideration	Countermeasures/ Measures for Mitigation
Vibration/Noise	Vibration and noise arisen from construction equipment and vehicles in operation	-To employ equipment which generate less vibration and noise where possible. -To adopt work methods generating less vibration/noise. -To enforce proper work procedures and work schedules.
Dust	Dust pollution arisen from construction and traffic vehicles traveling on-site	-To spray water on the road regularly. -To enforce speed limits for vehicles. -To maintain the road in good conditions and clean regularly.
Traffic Congestion	Road congestion due to traffic restrictions on traveling vehicles during construction	-To post traffic controllers properly on-site. -To station traffic control guides properly on-site. -To maintain good road surfaces regularly. -To enforce proper work procedures and work schedules.
Traffic Accident	Traffic accidents by traffic vehicles traveling on-site	- To post a watch man properly on-site. - To regularly execute safety education for drivers.
Water Contamination	Water contamination due to "unconscious flow" of materials such as earth materials, stone, bituminous material, or oil into nearby water channel	-To implement proper work procedures to prevent any unfavorable flow into the area's water channel.
Waste Disposal	Environmental pollution due to inadequate disposal of construction waste	-To designate a disposal area for proper treatment of waste materials.

Project Implications

Although there were no controversies reported on social and environmental impact issues, compensation was an issue in this project implementation. Residents and NGOs pointed out the inadequate reimbursement given to the affected houses under the project. Notably, this compensation is not JICA's direct responsibility but required action by the Cambodian government.

Over 4,000 households along the ongoing construction on NR 1 (the stage of construction was unclear) were slated to be displaced, according to 2008 reporting in the *Phnom Penh Post*. By 2010, Thailand-based Mekong Watch noted that over 2,100 households were displaced over the course of the NR 1 improvement project.[150] Many residents were unhappy with the resettlement plans. Local Cambodian NGOs complained that there was a lack of transparency, communication, and disclosure with affected residents, and that the compensation costs were not sufficient.[151] This clearly violated JICA guidelines, which state: "people who must be resettled involuntarily and people whose means of livelihood will be hindered or lost must be sufficiently compensated and supported by the project proponent in a timely manner."[152] One resident said he was offered USD $480 after being asked to leave his roadside home and farm plot.[153] He argued that such compensation was not nearly sufficient, as his roadside stall itself brought in over USD $500 a year, excluding the worth of his home and farm, and he worried how he would make a living upon resettling with such scant compensation.[154] Another widowed mother of four said the USD $500 offered for her land was not nearly enough to build a house with and she had no idea where she would go.[155] The NGO Forum of Cambodia, along with Conservation

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150. Mekong Watch, "A Citizens' Guide to Environmental and Social Guidelines of Japanese Public Financial Institutions Involved in Projects Overseas," in partnership with Friends of the Earth Japan and Japan Center for a Sustainable Environment and Society, September 30, 2010 http://www.mekongwatch.org/PDF/JICA_Guidebook.pdf

151. Mekong Watch, 2010

152. Mekong Watch, 2010

153. Cheang Sokha, "Road work on NR1 runs into housing dispute," The Phnom Penh Post, March 7, 2008 https://www.phnompenhpost.com/national/road-work-nr1-runs-housing-dispute

154. Sokha, 2008

155. Sokha, 2008

and Development of Cambodia and Resettlement Action Network, conducted a survey of 1,400 households along the road, which showed that most residents believed the offered compensation was inadequate.[156]

The MPWT stated that construction may halt if the dispute could not be resolved, while a JICA representative noted that the Cambodian government was charged with distributing compensation.[157] The article highlighted that the government prepared "relocation sites" for the displaced residents, equipped with toilets, drainage pipes, and highway access, but no comment was made regarding the sufficiency of such relocation sites.[158]

Despite the statement from a JICA official that the Cambodian government was charged with compensation, JICA has played a role in some project compensation. According to the 2009 preparatory study for Stage 4 of NR 1, JICA and the Cambodian IRC held twice-monthly meetings on resettlement progress until a consensus on compensation payments and resettlement areas was reached.[159] The length of the meetings and whether a consensus was reached were not disclosed. After concern over the insufficient compensation was raised by local NGOs, JICA disbursed further financial compensation to displaced residents.[160] However, at this time, the final compensation amounts are still not disclosed, precluding analysis of the compensation costs.[161]

Comparison with Chinese-Funded Projects

Unlike the Chinese-funded projects we have reviewed, NR 1 project documents were accessible through JICA's e-library, including precise details on the length of the road widened, the number of bridges constructed, the number of traffic signs, and the length of drainage pipes installed.[162] As described above, none of the five stages for NR 1 were listed in JICA's ODA database or evaluation report database.[163] However, many study reports such as the basic design, feasibility study, preparatory study, and implementing review report were published by JICA, which are all available in JICA's e-library.

In some areas, this project is similar to the three Chinese projects Future Forum has reviewed: the Tatay River Hydropower Dam, the Vaico Irrigation Development Project, and NR 6.[164] The lack of disclosure of the final IEIA report is one aspect of commonality between Chinese-funded and Japanese-funded projects. Although the Sub-decree does not state that EIAs or IEIAs are required to be publicly released, meaning that this lack of disclosure does not violate Cambodian law, such transparency is required under internal JICA regulations and is considered best practice under the Construction Sector Transparency Initiative Infrastructure Data Standards (CoST IDS) for proactive disclosure (as seen in the BRI Monitor website's heatmaps).[165] However, JICA has also shown transparency in other matters, such as disclosing the feasibility study and preparatory study of NR 1 and providing details on the EIA and mitigation plan. Additionally, since the MPWT conducted the IEIA report, JICA might not necessarily be responsible for disclosing the report. Another common element

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156. *Sokha, 2008*
157. *Sokha, 2008*
158. *Sokha, 2008*
159. *Japan International Cooperation Agency (JICA), 2009b*
160. *Mekong Watch, 2010*
161. *Chea Vannak and Ros Chanveasna, "Japan Gives $2.2 mln for National Road 1 Expansion," Khmer Times, November 17, 2014 https://www.khmertimeskh.com/52639/japan-gives-2-2-mln-for-national-road-1-expansion/*
162. *Japan International Cooperation Agency (JICA), 2012 2*
163. *Japan International Cooperation Agency (JICA), 2021a; 2021c*
164. *BRI Monitor, "Chinese State-Owned Enterprises and Infrastructure Development in Cambodia: the Tatay River Hydropower Dam Project (case study)," BRI Monitor, July 2021c https://www.brimonitor.org/?cmp_bypass=ff754d93098aca99777718b7b298c51b6; BRI Monitor, "Chinese Official Development Assistance (ODA) and Infrastructure Development in Cambodia: Vaico Irrigation Project (case study)," BRI Monitor, July 2021a https://www.brimonitor.org/case-studies/the-vaico-irrigation-development-project/; BRI Monitor, 2021b*
165. *Mekong Watch, 2010*

is failure to disclose tender documents, which JICA described as confidential information.[166] Confusion over budgets and timelines are similar between all projects. This was unexpected given JICA's seemingly transparent project reporting.

In terms of road construction, JICA provides more holistic support than China, funding not only road construction but also donating road maintenance equipment and providing road maintenance capacity development.[167] This is notably important given that road maintenance in Cambodia continues to be a challenge, specifically due to lack of funds for road upkeep, coupled by a monsoon climate with heavy rains that damages roads quickly.[168] Meanwhile, Chinese road projects, such as NR 6, characteristically utilize cheaper, less durable construction materials and have not provided holistic support for the road sector.[169] The differences between these two approaches may be simply because JICA has historically participated in Cambodia's road sector and thus has more experience and capability in providing high-quality construction and support.

Conclusion

Consistent with other ODA projects in Cambodia, NR 1's project information, such as the budget, loan terms, and grace period, is stored in the CDC's ODA database and publicly available on the CDC's website and JICA's country office.

This stands in stark contrast to Chinese-funded initiatives in this BRI case studies series, which lack information and project details. JICA has published many study reports of NR 1 on their website, including feasibility studies, basic designs, and preparatory study reports. All these documents are of value for civil society actors and other relevant entities to analyze project assessments, such as socio-economic impacts, environmental impacts, and technical work lines. These documents clearly define the roles and responsibilities between JICA and the host government, including procurement processes and compensation, which are essential to achieving transparency. Equally important, the JICA office is also proactive in providing information and regularly communicated with the Future Forum team via email throughout the research process to clarify details.

Even though it lacked tender documents, JICA seemed to commit to pursuing a high-quality project. Besides implementing the leading pavement standard, JICA contracted the NR 1 Project to companies with demonstrated expertise at each stage. For example, the Urban Sector stage of the NR 1 improvement project was contracted to Hazama Ando Corporation, a Japanese engineering firm with years of experience in urban development.

As described above, the NR 1 Project did not meet the criteria of transparency best practices as set out in the CoST transparency assessment. JICA did not disclose its contract and tender documents of NR 1 to the public. Furthermore, available reports and information did not record the lender of NR 1. While this project did not fully meet transparency standards, it does illustrate a qualitative difference from Chinese-funded projects in terms of the level of transparency, especially in disclosing its work to public. Additionally, the JICA project,

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166. As noted earlier, Stages 1, 2, and 3 were under a fully tied grant, which furthered JICA's ability to selectively contract companies from Japan. This tied aid does not necessarily require the recipient procurement system based on theory.

167. Cambodianess, "Japan Donates Construction Vehicles worth $4.5 Million to Cambodia," Cambodianess, October 13, 2020 https://cambodianess.com/article/japan-donates-construction-vehicles-worth-45-million-to-cambodia; Japan International Cooperation Association (JICA), 2021c.

168. Spiess, 2017

169. Spiess, 2017

which was implemented earlier than several BRI projects, was more transparent and engaged in a thorough, publicly available examination of social and environmental impacts, and determined additional negative externalities. This provides ample cause to question the validity of the hypothesis that BRI projects' lack of transparency and other problems are due to host country capacity issues rather than issues on the part of the donor.

Compared to JICA's work in Cambodia, BRI projects do not adhere to the same standards, despite engaging with the same government institutions. It is difficult to blame the Cambodian government—as some have sought to do—when a clear counterexample exists of a donor state engaging with Cambodia in a significantly more open and transparent manner than China has done. There are no clear variables that indicate any structural cause for such a significant discrepancy in outcomes between the JICA and BRI cases; rather, the only conclusion that can be drawn is that the challenge is the government of the People's Republic of China and its unwillingness to adhere to the same rules and standards of other aid providers.

The RGC needs to set the general standards or regulations for all donors to release more information (i.e., tender documents and EIA reports) regardless of the terms of assistance, which will increase transparency for all project development.

In addition, the comparative assessment of donor works could and should be facilitated by the government. The review will note the similarities and differences in their work, serving as a constructive forum and space that allows all parties to detect the critical issues in the projects' quality and transparency. It could also help to identify and discuss best practices and lessons learned, which would allow all relevant stakeholders to improve. The government could monitor parties' performance over time: if any parties intentionally commit the same mistakes, the government has a role to penalize these actors and suspend them from upcoming bidding.

After reviewing NR 1, the study suggests that JICA should better engage with responsible governments regarding compensation, as displaced residents were dissatisfied with the outcome. Even though the residents' compensation is not JICA's responsibility, it must at least play a role in ensuring sufficient compensation for people impacted by projects it has funded. In this case, JICA needs to monitor whether the government's reimbursement is adequate. If the government faces a severe financial burden regarding the project, JICA could consider allocating or disbursing more of its budget to solve the problem, as they did with NR 1.


BRI
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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.

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