



Report and Recommendation of the President to the Board of Directors

Project Number: 50099-002
July 2018

Proposed Loan and Grant, and Administration of Grant Kingdom of Cambodia: Fourth Greater Mekong Subregion Corridor Towns Development Project

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Asian Development Bank

CURRENCY EQUIVALENTS

(as of 6 July 2018)

Currency unit	–	riel (KR)
KR1.00	=	\$0.00025
\$1.00	=	KR4,055

ABBREVIATIONS

ADB	–	Asian Development Bank
ADF	–	Asian Development Fund
DPWT	–	Department of Public Works and Transport
EMP	–	environmental management plan
FHH	–	household headed by women
GDP	–	gross domestic product
GDR	–	General Department of Resettlement
GMS	–	Greater Mekong Subregion
ICT	–	information and communication technology
JICA	–	Japan International Cooperation Agency
MPWT	–	Ministry of Public Works and Transport
O&M	–	operation and maintenance
PAM	–	project administration manual
PMU	–	project management unit
WWTP	–	wastewater treatment plant

WEIGHTS AND MEASURES

ha	–	hectare
km	–	kilometer
m ²	–	square meter
m ³	–	cubic meter
m ³ /day	–	cubic meter per day

NOTE

In this report, “\$” refers to United States dollars.

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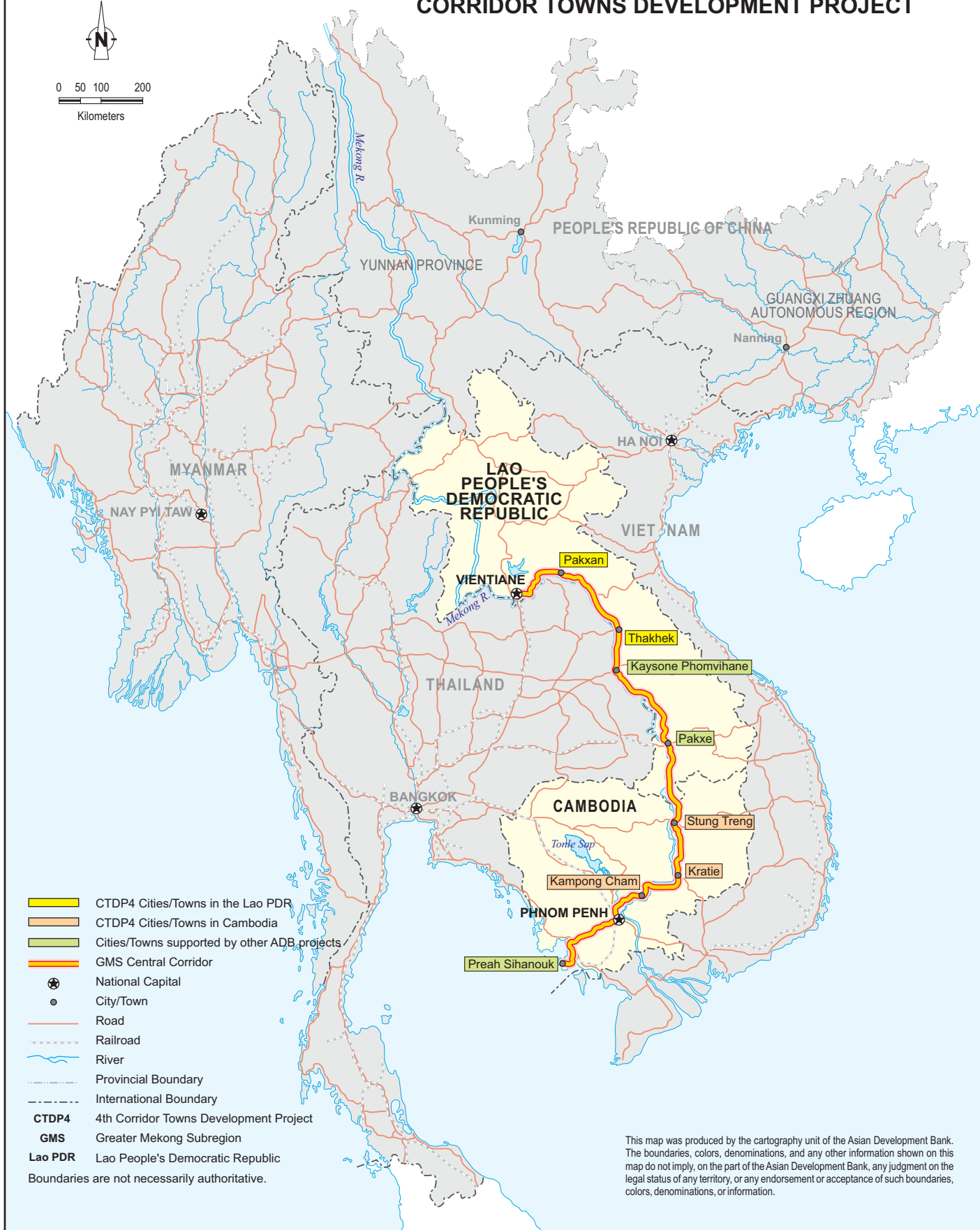
PROJECT AT A GLANCE

1. Basic Data		Project Number: 50099-002	
Project Name	Fourth Greater Mekong Subregion Corridor Towns Development Project	Department /Division	SERD/SEUW
Country Borrower	Cambodia Kingdom of Cambodia	Executing Agency	Ministry of Public Works and Transport
2. Sector	Subsector(s)	ADB Financing (\$ million)	
Water and other urban infrastructure and services	Other urban services	1.77	
	Urban flood protection	12.40	
	Urban policy, institutional and capacity development	2.05	
	Urban sewerage	41.58	
	Urban solid waste management	21.70	
Public sector management	Public administration	0.50	
		Total	80.00
3. Strategic Agenda	Subcomponents	Climate Change Information	
Inclusive economic growth (IEG)	Pillar 2: Access to economic opportunities, including jobs, made more inclusive	Adaptation (\$ million)	3.00
Environmentally sustainable growth (ESG)	Global and regional transboundary environmental concerns	Climate Change impact on the Project	Medium
Regional integration (RCI)	Urban environmental improvement		
	Pillar 4: Other regional public goods		
4. Drivers of Change	Components	Gender Equity and Mainstreaming	
Governance and capacity development (GCD)	Institutional development	Effective gender mainstreaming (EGM)	
Knowledge solutions (KNS)	Knowledge sharing activities		
Partnerships (PAR)	Foundations		
	Official cofinancing		
Private sector development (PSD)	Public sector goods and services essential for private sector development		
5. Poverty and SDG Targeting		Location Impact	
Geographic Targeting	Yes	Urban	High
Household Targeting	No		
SDG Targeting	Yes		
SDG Goals	SDG6, SDG11		
6. Risk Categorization:	Low		
7. Safeguard Categorization	Environment: B Involuntary Resettlement: B Indigenous Peoples: C		
8. Financing			
Modality and Sources		Amount (\$ million)	
ADB		80.00	
Sovereign Project grant: ADF Disaster Risk Reduction Fund		1.50	
Sovereign Project (Concessional Loan): Ordinary capital resources		78.50	
Cofinancing		0.50	
Republic of Korea e-Asia and Knowledge Partnership Fund - Project grant (Full ADB Administration)		0.50	
Counterpart		8.00	
Government		8.00	
Total		88.50	

GREATER MEKONG SUBREGION FOURTH GREATER MEKONG SUBREGION CORRIDOR TOWNS DEVELOPMENT PROJECT



0 50 100 200
Kilometers



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I. THE PROPOSAL

1. I submit for your approval the following report and recommendation on a proposed loan and grant to the Kingdom of Cambodia for the Fourth Greater Mekong Subregion Corridor Towns Development Project. The report also describes the proposed administration of a grant to be provided by the Republic of Korea e-Asia and Knowledge Partnership Fund for the project and if the Board approves the proposed loan and grant, I, acting under the authority delegated to me by the Board, approve the administration of the grant.

2. The project will improve urban services and enhance regional economic connectivity in the provincial capital towns of Kampong Cham, Kratie, and Stung Treng along the Greater Mekong Subregion (GMS) Corridor in Cambodia.¹ It will finance key urban environmental infrastructure and enhance institutional effectiveness with a focus on private sector engagement, information and communication technology (ICT)-based public management systems, and the policy and planning environment for regional economic connectivity.²

II. THE PROJECT

A. Rationale

3. **Macroeconomic context.** Cambodia had an estimated population of 15.2 million in 2016, spread across 26 provincial towns and numerous district towns. While Cambodia remains almost 80% rural, urbanization is accelerating and is expected to reach 30% of the national total by 2030. Provincial towns have urbanized rapidly while playing an important role in the national economy, which grew by 7% per year from 2015 to 2017.³ With an increasingly urban economy, urban services contribute to environmentally sustainable and inclusive growth by providing basic infrastructure for businesses and households, creating jobs, safeguarding the surrounding environment and ecosystem, and reducing exposure to flooding and other extreme events.

4. **Transport corridors.** Many Cambodian towns lie on important GMS corridors that connect to the Lao People's Democratic Republic, Thailand, and Viet Nam.⁴ They support increasing regional trade and investment and create incentives for local economies in their hinterlands. The 1,600 kilometer (km) GMS Central Corridor along the Mekong River crosses 13 towns in two countries, with about 20 million people along the corridor, and generates over \$20 billion in regional economic outputs.⁵ Regional transport connectivity is improving since the Asian Development Bank (ADB) first approved a loan for National Road 7 in 1999.⁶ To enhance trade and freight movement, a draft national logistic master plan and the national railway master plan propose an inland waterway along the Mekong River and new railway lines from Phnom Penh to Ho Chi Minh City (Viet Nam) through Kampong Cham and Kratie provinces.

5. **Towns along the central corridor.** On the GMS Central Corridor, Kampong Cham, Kratie, and Stung Treng provinces need to promote economic growth in the less-developed

¹ The Government of Cambodia uses "town" and "city" interchangeably. The project document will use "town."

² ADB. 2018. *Review of Configuration of the Greater Mekong Subregion Economic Corridors*. Manila.

³ ADB. 2018. *Asian Development Outlook 2018: How Technology Affects Jobs*. Manila.

⁴ Southern corridor, Central corridor, and Southern coastal corridor.

⁵ The corridor population comprises the people living 50 km on either side of the Mekong River. ADB calculated the economic output based on the provincial gross domestic product per capita multiplied by the corridor population.

⁶ ADB. 1999. *Report and Recommendation of the President to the Board of Directors: Proposed Loan and Technical Assistance Grant to the Kingdom of Cambodia for the Primary Roads Restoration Project*. Manila.

northeastern region.⁷ The provinces, however, struggle to capture development opportunities as rapid urbanization puts pressure on their limited urban infrastructure and services, resulting in increased environmental pollution and public health risks. Though three provinces have aggregated 10% of the national population, their provincial economy only contributes 7% of the national gross domestic product (GDP).⁸ Agriculture, trading, construction, and services produce limited revenues. Climate change increases annual rainfall intensity and frequency in the provinces and the entire Mekong River catchment (795,000 square kilometers), making people's lives and infrastructure more vulnerable to floods.

6. **Access to services.** National access to improved water supply in urban areas (excluding Phnom Penh) is 69.7%, while access to piped water supply is 42.2%. Wastewater and solid waste services in urban areas (excluding Phnom Penh) are inadequate. While about 80.0% of the population has access to improved sanitation, a large proportion (69.3%) have individual systems (septic tanks) and access to sewerage and wastewater treatment is very limited (10.7%).⁹ More than 75% of households in Cambodia's urban areas (excluding Phnom Penh) do not have access to solid waste services. Rapid urbanization will worsen these challenges. The main reasons for these service delivery gaps are (i) inadequate coverage and delivery of urban environmental infrastructure and services, (ii) inadequate management of public investments, and (iii) poor urban planning that does not consider environmental management and disaster and climate risks.

7. **Policy framework.** Cambodia's National Strategic Development Plan, 2014–2018 identifies key priorities for the urban sector, which include developing a national strategy for town and master plans for urban infrastructure; ensuring environmental sustainability; installing solid and liquid waste management systems; and further developing laws related to land management, urbanization, and construction.¹⁰ However, actions for sanitation and solid waste are not well defined. Regarding sanitation, the National Policy on Water Supply and Sanitation (2003) calls for greater private sector participation, improved cost recovery, cross subsidies where needed, autonomy of public utilities, and the establishment of a regulatory body.¹¹

8. **Institutional arrangements.** The Ministry of Public Works and Transport (MPWT) handles asset creation for urban sanitation, and the provincial Departments of Public Works and Transport (DPWT) handle operation and maintenance (O&M). Solid waste management is the town's responsibility. Because of limited technical capacity in provinces and municipalities, MPWT continues to be involved in the construction of large-scale infrastructure such as sewerage networks, wastewater treatment plants (WWTPs), and controlled landfills.

9. **Private sector participation.** Private sector participation in urban services has been limited, given the public nature of the assets, limited revenue potential, and limited capacity of the

⁷ ADB. 2014. *Cambodia Country Poverty Analysis 2014*. Manila; Government of Cambodia, National Institute of Statistics, Ministry of Planning. 2012. *Cambodian Economic Census 2011*. Phnom Penh. Out of 24 provinces, the income per capita and multidimensional poverty index for five northeastern provinces are Kampong Cham, \$1,033 (ranked 12th) and 0.239 (ranked 14th); Kratie, \$573 (ranked 23rd) and 0.309 (ranked 20th); Mondul Kiri, \$418 (ranked 24th) and 0.409 (ranked 23rd); Ratanak Kiri, \$813 (ranked 18th) and 0.409 (ranked 23rd); and Stung Treng \$721 (ranked 20th) and 0.369 (ranked 21st).

⁸ The national GDP per capita in 2017 was \$1,447 (projected figure). The national average population growth rate was 1.46% per annum. Contribution to the national economy and provincial GDP per capita was estimated from the provincial household income from the 2014 socioeconomic survey (footnote 9) and the provincial population data.

⁹ Government of Cambodia, Ministry of Planning. 2015. *Cambodia Socio-Economic Survey 2014*. Phnom Penh. Improved sanitation includes flush and/or pour flush to piped sewers, septic tanks, and pit latrines with slab.

¹⁰ Government of Cambodia. 2014. *National Strategic Development Plan, 2014–2018*. Phnom Penh.

¹¹ Experience from Phnom Penh indicates that wastewater tariff collection efficiency is 90% if collected through the water supply bill. Solid waste fees are collected from 30% to 50% of the project towns' populations.

private sector. Solid waste management can only attract private operators in some towns.

10. **Project-specific constraints.** The project towns experience the following constraints:
 - (i) Kampong Cham's population will increase from 47,900 in 2017 to 75,000 in 2040. Although 87% of the population will have access to piped water supply by 2024, the town sanitation service relies on preliminary onsite treatment (individual soak pits). Solid waste collection service covers just over 50% of the town's population and waste is disposed at an open dumpsite. Floods result in an estimated annual economic loss of \$1.1 million.
 - (ii) Kratie's population is projected to grow by 3% per year, from 34,700 in 2017 to 68,200 in 2040. Piped water supply coverage will reach 53% by 2024, but the town has no sewage and drainage service. Solid waste collection by the private operator covers less than 30% of the town's population. The town is vulnerable to seasonal floods and waterlogging, with an estimated annual economic loss of \$0.8 million.
 - (iii) Stung Treng, on the border with the Lao People's Democratic Republic, has a population of 32,000 (2017) that will grow to 68,500 (2040). By 2024, water supply will cover 88% of the population. The sanitation service relies on preliminary onsite treatment without wastewater or drainage service. The town's solid waste collection service covers 35%, with no proper disposal site. It is most vulnerable to seasonal floods, with an estimated annual economic loss of \$1.3 million.

11. **Financial management.** DPWTs and town governments have institutional weaknesses and face limited financial resources and revenue streams. In 2017, the central government transferred funds accounting for 77%–97% of the DPWTs' annual revenue (\$1.6 million–\$6.3 million) and 85%–97% of the town governments' annual revenue (\$0.4 million–\$0.6 million). This expenditure requirement will continue to grow if revenue-generating mechanisms are not set up. Paper-based public management systems and lack of a public asset database cause inconsistent bookkeeping and opaque transactions. This results in inefficient use of human and financial resources for urban services and their O&M.

12. **ADB assistance and lessons learned.** Since 1997, ADB has approved \$305 million in loan and grant projects for urban services in Cambodia.¹² Lessons incorporated from the two ongoing GMS corridor town development projects include (i) concentrating investments on the same sector (i.e. sanitation and flood protection) and same GMS corridor to achieve synergies in development impact, and (ii) fostering cooperation among project provinces and corridor towns by coordinating their provincial five-year strategic development plan. Other lessons from the urban development and water sector projects include (i) ensuring the project finances household connections and onsite plumbing costs, as these are crucial to the operational and financial viability of the wastewater system; (ii) providing advisory support for developing a financial sustainability road map for all investments; and (iii) adopting a thorough and practical approach to land acquisition and resettlement, aligning with the agreed resettlement framework.

13. **Development coordination.** ADB is a lead partner for the urban sector in Cambodia. As part of project preparation, it coordinated with development partners in the urban and water sector, including Japan International Cooperation Agency (JICA), the Agence Française de Développement, and the World Bank. These partners have focused on larger cities such as Phnom Penh and Siem Reap, with some engagements in other towns such as Sihanoukville,

¹² ADB. 2014. *Assessing Impact in the Greater Mekong Subregion: An Analysis of Regional Cooperation Projects*. Manila; ADB. 2011. *Completion Report: Tonle Sap Rural Water Supply and Sanitation Sector Project in Cambodia*. Manila; and ADB. 2008. *Completion Report: Provincial Towns Improvement Project in Cambodia*. Manila.

Kampot, and Kep. Besides ADB, JICA is the most active partner in the sector, with a strong focus on Phnom Penh and some strategic investments in other areas. The World Bank is planning to reengage in the sector through the Small City Water Supply and Sanitation Project.

14. **Strategic context.** The project is aligned with Phase III of Cambodia's Rectangular Strategy and the National Strategic Development Plan, 2014–2018.¹³ Aligning with its country partnership strategy, 2014–2018, ADB's urban development and water sector support has focused on provinces and towns along the GMS corridors by promoting regional socioeconomic integration. The project is consistent with the two ongoing projects targeting towns on the GMS Southern Corridor and the GMS Southern Coastal Corridor, and other ADB operational and sector policies: ADB's Midterm Review of Strategy 2020 and Urban Operational Plan.¹⁴

15. **ADB's value addition.** ADB's support to GMS corridor towns is a unique long-term engagement to transform the regional transport corridor into an economic corridor. The project will (i) enhance regional cooperation through provincial development strategies, and support resilient master planning to address climate and disaster risks, and (ii) pilot the use of ICT to enhance efficiency and transparency in public service management. By 2019, ADB will have ongoing urban and water sector projects in more than 15 of Cambodia's 26 provincial cities. ADB's growing program including this project provides sufficient scale to engage with the government on strategic and policy issues including town master planning, and financial sustainability road map of urban services which include differentiated approaches based on affordability.

B. Impact and Outcome

16. The project is aligned with the following impact: sustainable, inclusive, equitable, and resilient growth achieved (footnote 10). The project will have the following outcome: urban services for enhancing regional economic connectivity in participating towns improved.¹⁵

C. Outputs

17. **Output 1: Urban environmental infrastructure improved.** The output will include (i) a sewerage system comprising a new 5,050 cubic meter per day (m³/day) lagoon-based WWTP with 137 km of pipelines, 4,676 household connections and pump stations, a 4.3 km drainage channel, and a controlled landfill with capacity of 900,000 cubic meters (m³) and waste collection vehicles in Kampong Cham;¹⁶ (ii) a sewerage system comprising a new 4,900 m³/day lagoon-based WWTP with 143 km of pipelines, 2,688 household connections and pump stations, a 12 km drainage channel, a controlled landfill with capacity of 433,500 m³ and waste collection vehicles, and pedestrian walk rehabilitation with energy-efficient streetlights in Kratie; and (iii) a sewerage system comprising a new 3,800 m³/day lagoon-based WWTP with 147 km of pipelines, 2,253 household connections and pump stations, a controlled landfill with capacity of 291,000 m³ including collection vehicles, pedestrian walk rehabilitation with street landscaping and energy-efficient streetlights in Stung Treng.

¹³ Government of Cambodia. 2013. "Rectangular Strategy" for Growth, Employment, Equity and Efficiency Phase III. Phnom Penh; Government of Cambodia. 2014. *National Strategic Development Plan, 2014–2018*. Phnom Penh.

¹⁴ ADB. 2014. *Country Partnership Strategy: Cambodia, 2014–2018*. Manila; ADB. 2014. *Midterm Review of Strategy 2020: Meeting the Challenges of a Transforming Asia and Pacific*. Manila; ADB. 2013. *Urban Operational Plan, 2012–2020*. Manila.

¹⁵ The design and monitoring framework is in Appendix 1.

¹⁶ A controlled landfill has lined cells, soil cover layers, minimum leachate, and gas treatment to control pollution.

18. **Output 2: Institutional effectiveness, and policy and planning environment for regional economic connectivity enhanced.** The output will strengthen the governments' capacities to support the provision of environmental infrastructure. At the policy level, it will formulate provincial five-year strategic development plans to enhance regional connectivity and economic integration and resilient town planning that incorporates climate change and disaster risk considerations. At the institutional level, it will develop ICT-based operational and planning support systems: (i) public management systems including public asset management, and (ii) utility billing systems for efficient and transparent government operations. At the operational level, it will improve staff capacity in urban service delivery, O&M skills for urban facilities, and contract management with private service providers. To attain public support and ensure participatory planning, MPWT will raise public awareness on sanitation and environmental benefits.

D. Summary Cost Estimates and Financing Plan

19. The project is estimated to cost \$88.5 million (Table 1). ADB will finance the works, goods, and consulting services related to project management and capacity building. Detailed cost estimates by expenditure category and financier are in the project administration manual (PAM).¹⁷

Table 1: Summary Cost Estimates (\$ million)

Item	Amount ^a
A. Base Cost^b	
1. Urban environmental infrastructure improved	66.87
2. Institutional effectiveness, and policy and planning environment for regional economic connectivity enhanced	9.67
Subtotal (A)	76.54
B. Contingencies^c	9.70
C. Financial Charges During Implementation^d	2.26
Total (A+B+C)	88.50

^a Includes taxes and duties of \$6.9 million. Such amount does not represent an excessive share of the project cost. The government will finance taxes and duties through exemption and cash contribution for all other costs. ADB will only finance taxes and duties for the incremental administration cost.

^b In March 2018 prices.

^c Physical contingencies computed at 8% for sewage pipelines and 5% for all other components. Price contingencies computed at 1.5% until 2020 and 1.6% thereafter on foreign currency costs and 3.5% on local currency costs; includes provision for potential exchange rate fluctuation under the assumption of a purchasing power parity exchange rate.

^d Interest during construction for the OCR (concessional loan) has been computed at 1.0% per year.

Source: Asian Development Bank.

20. The government has requested (i) a concessional loan of \$78.5 million from ADB's ordinary capital resources; (ii) a grant not exceeding \$1.5 million from ADB's Special Funds resources (Asian Development Fund); and (iii) a grant cofinancing not exceeding \$0.5 million from the Republic of Korea e-Asia and Knowledge Partnership Fund, to be fully administered by ADB, to help finance the project. The loan will have a 32-year term, including a grace period of 8 years; an interest rate of 1.0% per year during the grace period and 1.5% per year thereafter; and such other terms and conditions to be set forth in the draft loan agreement.

21. The summary financing plan is in Table 2. ADB will finance the expenditures in relation to civil works, equipment, consulting services, and incremental administration cost. ADB will not finance taxes and duties, except those relating to incremental administration cost. Climate adaptation and incremental disaster risk reduction structural measures are estimated to cost

¹⁷ Project Administration Manual (accessible from the list of linked documents in Appendix 2).

\$3,000,000, to be financed by ADB through a grant (\$1,500,000) and concessional loan (\$1,500,000) from the Asian Development Fund (ADF) 12 Disaster Risk Reduction allocation.

Table 2: Summary Financing Plan

Source	Amount (\$ million)	Share of Total (%)
Asian Development Bank		
Ordinary capital resources (concessional loan) ^a	78.5	88.7
Special Funds Resources (ADF grant) ^b	1.5	1.7
Republic of Korea e-Asia and Knowledge Partnership Fund (grant) ^c	0.5	0.6
Government	8.0	9.0
Total	88.5	100.0

ADF = Asian Development Fund.

^a ADF 12 Disaster Risk Reduction Fund will finance \$1.5 million of the ordinary capital resources (concessional loan).

^b ADF 12 Disaster Risk Reduction Fund will finance \$1.5 million of the ADF grant resource.

^c Administered by the Asian Development Bank.

Source: Asian Development Bank.

E. Implementation Arrangements

22. The implementation arrangements are described in the PAM and summarized in Table 3.

Table 3: Implementation Arrangements

Aspects	Arrangements		
Implementation period	December 2018–December 2023		
Estimated completion date	31 December 2023		
Estimated loan/grant closing date	30 June 2024		
Management			
(i) Oversight body	Secretary of State, MPWT (chair); Ministry of Land Management, Urban Planning and Construction; Ministry of Economy and Finance; Ministry of Handicraft and Industry; Ministry of Interior; Ministry of Environment; and Ministry of Post and Telecommunications (members)		
(ii) Executing agency	MPWT		
(iii) Key implementing agencies	DPWT in Kampong Cham, Kratie, and Stung Treng provinces		
(iv) Implementation unit	A project management unit (MPWT) and implementing units (DPWTs) comprising technical, safeguards, social, and financial staff.		
Procurement ^a	International competitive bidding	6 contracts	\$73.8 million
	National competitive bidding	2 contracts	\$1.7 million
Consulting services ^a	Quality- and cost-based selection	541 person-months	\$8.6 million
Advance contracting	Advance action for consulting service requested.		
Disbursement	The loan and grant proceeds will be disbursed following ADB’s <i>Loan Disbursement Handbook</i> (2017, as amended from time to time) and detailed arrangements agreed between the government and ADB.		

ADB = Asian Development Bank, DPWT = Department of Public Works and Transport, MPWT = Ministry of Public Works and Transport.

^a MPWT's procurement and recruitment will follow ADB's Procurement Guidelines (2017, as amended from time to time), and ADB's Guidelines on the Use of Consultants (2017, as amended from time to time).

Source: Asian Development Bank.

23. One project management consultant will provide consulting services for the project and the proposed Second Urban Environmental Management in the Tonle Sap Basin Project under a single contract. The MPWT requested expressions of interest for project management consulting service recruitment on 11 June 2018.¹⁸

¹⁸ Both projects have a similar scope of work and implementation schedule and are managed by the same project management unit (PMU) in the MPWT. Combining the consulting service packages will attract a stronger firm, improve economies of scale, and ensure a strong field presence of key international experts across both projects.

III. DUE DILIGENCE

A. Technical

24. Technical due diligence confirmed that the project is technically viable. ADB and the MPWT conducted a detailed examination of (i) the existing infrastructure gaps; (ii) town land use plans; (iii) the required treated effluent quality; and (iv) storm water runoff and wastewater and solid waste generation projections.¹⁹ ADB and the MPWT selected the project scope to complement the existing investment, and the scope will be fully compatible with local conditions and reduce disaster and climate change risk.²⁰ An alternative analysis considered lagoon-based treatment systems and constructed wetlands for wastewater treatment, and controlled dump site, controlled landfill and a fully engineered sanitary landfill for solid waste. The MPWT selected the lagoon-based system and the controlled landfills for all towns based on their capacities to contain pollution, the O&M budget and technical capacity of local government engineers.²¹

25. The project's climate risk without mitigation is classified *medium*. Key climate risks include increased precipitation intensity and variability. The WWTP, drainage channel, and landfill designs will factor disaster and climate risk considerations. The project will contribute to the towns' climate resilience and disaster risk by improving storm water drainage capacities and formulating resilient provincial development strategy and towns' master plans.

B. Economic and Financial

26. **Economic analysis.** The project is economically viable. ADB conducted the economic analysis of the proposed investments from 2019 to 2043 in accordance with ADB guidelines. ADB quantified the benefits of (i) wastewater and solid waste in terms of health and environmental benefits, using the disability-adjusted-life-year approach, and (ii) drainage and town center enhancement based on the avoidance of flood damage and losses caused by disrupted economic activity during floods. The economic internal rate of return for the three towns is 13.6% for the base case scenario. Sensitivity testing indicated that it decreases to 11.8% in the most sensitive case but is still above the economic opportunity cost of capital of 9.0%.²²

27. **Financial analysis.** A financial evaluation of the revenue-generating wastewater system and solid waste management in the three towns indicated that the government will be unable to achieve full cost recovery through the projected tariff collection. ADB assessed the financial sustainability risk rating as *substantial* and required subsidy or viability gap financing. The analysis showed that realistic tariff schemes will enable DPWTs and town governments to strengthen their annual revenue streams and achieve full O&M cost recovery in the medium to long term.²³ To ensure financial sustainability, the government committed to finalize the financial sustainability

¹⁹ WWTPs will meet standards for discharge into public water areas and sewers: 80 mg/L biological oxygen demand and 100 mg/L chemical oxygen demand (Sub-Decree No. 27 ANRK.BK on Water Pollution Control).

²⁰ In 2023, the project-supported wastewater service will cover 29%–32% of the towns' population while water supply will cover 53%–88% of the towns' population. The water supply service area covers 100% of the wastewater service area. The other projects include (i) water supply network expansions funded by JICA and ADB in Kampong Cham (ADB. 2017. *Report and Recommendation of the President to the Board of Directors: Proposed Loan and Administration of Loan and Grant to Cambodia for the Provincial Water Supply and Sanitation Project*. Manila; and (ii) the water supply system funded by ADB in Stung Treng (ADB. 2014. *Report and Recommendation of the President to the Board of Directors: Proposed Loan to Cambodia for the Urban Water Supply Project*. Manila).

²¹ The three towns' population densities will be 52–75 people per hectare (people/ha) in the town center and 33–64 people/ha in the project area (the average population density in Phnom Penh is about 55 people/ha).

²² Economic Analysis (accessible from the list of linked documents in Appendix 2).

²³ Financial Analysis (accessible from the list of linked documents in Appendix 2).

road map, including incremental wastewater and solid waste tariff and its collection schemes; financial transfers to cover O&M costs; and financial management, including cross-subsidization from other public utilities.

C. Governance

28. The MPWT and its project management unit (PMU) are administering three ADB-financed projects. All three provincial governments have experience in projects funded by international financial institutions and bilateral development partners. Kampong Cham and Stung Treng have ongoing ADB loan projects. Procurement capacity assessments concluded that the MPWT and its PMU have strong capacity to undertake procurement in accordance with ADB requirements. Building on its experience, ADB will support an advanced mode of procurement, including design–build contracting. Although the three provincial governments and their project implementation units are not expected to handle any ADB procurement, they have adequate capacity to conduct national procurement activities. The financial management risk is *moderate* due to constrained resources for asset and financial management. The government agreed on a time-bound action plan to mitigate risks through loan covenants on the timely appropriation of counterpart funds and undertaking anticorruption measures. ADB’s Anticorruption Policy (1998, as amended to date) was explained to and discussed with the government. The specific policy requirements and supplementary measures are in the PAM.

D. Poverty, Social, and Gender

29. The project will directly benefit about 17,900 households (7,134 in Kampong Cham, 6,060 in Kratie, and 4,706 in Stung Treng), including about 2,136 poor and near-poor households. The project is classified *general intervention*. It will improve the quality of life of the people in three towns by ensuring affordable access and urban services delivery. Environmental sanitation and flood protection, and job opportunities for operating the facilities, will particularly benefit poor households and households headed by women. The social inclusion design features include (i) provision of free-of-charge wastewater connections and subsidy to the poor and households headed by women; and (ii) pilot projects on community-based pre- and post-flood management.

30. The project is classified *effective gender mainstreaming*. A gender assessment identified limited participation in the provincial strategy and decision-making process for planning, low female staff representation in the sanitation sector, and limited job opportunities. Impact and service disruptions related to climate change directly affect women, as they have primary responsibility for the household and community management such as cleanup activities during and post-flood events. Poor sewerage and drainage heighten risks and flooding impacts, such as the disruption of work and livelihoods resulting in loss of income, proportionately higher loss of assets and property, and an increased risk of communicable diseases. The gender action plan includes (i) strategies to increase women’s representation in provincial strategic decision-making, (ii) targets for women’s participation in PMUs and capacity-building training sessions, and (iii) provision of job opportunities. The government will collect gender-disaggregated data to monitor progress against the gender action plan.

E. Safeguards

31. In compliance with ADB’s Safeguard Policy Statement (2009), the project’s safeguard categories are as follows.²⁴

²⁴ ADB. Safeguard Categories. <https://www.adb.org/site/safeguards/safeguard-categories>.

32. **Environment (category B).** The MPWT prepared an initial environmental examination and environmental management plan (EMP) based on the preliminary design, and disclosed the initial environmental examination and EMP on the ADB website on 23 May 2018.²⁵ Public and stakeholder consultations informed the project design and will continue during implementation. The EMPs detail mitigation and monitoring measures, budget for implementation and institutional arrangements. MPWT will implement the EMP with the support of consulting services and a full-time PMU environmental safeguard officer.

33. A project grievance redress mechanism will facilitate the resolution of safeguard complaints. ADB and the MPWT selected subproject sites. The construction of WWTPs and controlled landfills, improved drainage, and closure of existing dumpsites will have net positive environmental and health benefits through reduced pollution and floods. This will be particularly beneficial in Stung Treng and Kratie, which support internationally important riverine habitats. During construction, short-term, localized impacts will occur such as noise, dust, traffic, waste generation, and surface water quality deterioration. During facility operation, effluent discharges and landfill leachate will need careful management. These impacts will be prevented or minimized to an acceptable degree through effective EMP implementation, effective O&M, and capacity building.

34. **Involuntary resettlement (category B).** The project will acquire 15.3 hectares (ha) of agricultural land. This will affect 12 households with 48 persons, of which 11 households will be severely affected—three in Kratie and eight in Stung Treng. The MPWT prepared two draft resettlement plans for Kratie and Stung Treng following ADB's Safeguards Policy Statement and Cambodian laws and regulations.²⁶ The MPWT has prepared a resettlement framework to guide the screening and resettlement planning in case impacts arise from the detailed engineering design or during implementation. The MPWT will submit resettlement plans to ADB for review and approval before awarding any contracts and will implement them before construction starts. The MPWT disclosed the resettlement framework and the resettlement plans on the ADB website on 23 May 2018.

35. The Ministry of Economy and Finance's General Department of Resettlement (GDR) has the experience and capacity to manage involuntary resettlement impact. The GDR will: (i) conduct training on ADB's Safeguard Policy Statement to build the capacity of relevant stakeholders; (ii) ensure that any physically or economically affected persons are compensated at full replacement cost before civil works begin; and (iii) establish an effective, gender-inclusive grievance redress mechanism to receive, record, and facilitate the resolution of communities' concerns over project impacts, with attention to vulnerable people. The PMU will have dedicated full-time staff to support compliance with ADB safeguard requirements. The GDR will update the draft resettlement plans based on detailed design and in accordance with the resettlement framework and will implement them before civil works begin.

36. **Indigenous peoples (category C).** No indigenous peoples communities are in the project area of impact. Cham and other ethnic minorities in the three towns are settled in upland villages, far from town centers where construction will take place. The project will not directly or indirectly affect the dignity, human rights, livelihood systems, or culture of indigenous peoples or ethnic minorities; and will not affect the territories or natural or cultural resources that indigenous peoples own, use, occupy, or claim as their ancestral domain.

²⁵ Initial Environmental Examination (accessible from the list of linked documents in Appendix 2).

²⁶ Resettlement Framework; Resettlement Plan: Kratie; and Resettlement Plan: Stung Treng (accessible from the list of linked documents in Appendix 2).

F. Summary of Risk Assessment and Risk Management Plan

37. Significant risks and mitigating measures are summarized in Table 4 and described in detail in the risk assessment and risk management plan.²⁷

Table 4: Summary of Risks and Mitigating Measures

Risks	Mitigation Measures
Lack of financial sustainability caused by limited cost recovery and/or low willingness of households to connect to sewerage network or pay for services	MPWT will include financing for household connections (free of charge) in the project to ensure up-front connection to the system. The government will develop a financial sustainability road map (including tariff road map) before construction is completed (loan covenant). MPWT will conduct public awareness campaigns on the system benefits.
Construction delays caused by late approval and implementation of land acquisition and/or resettlement	The resettlement framework, developed with the General Department of Resettlement, will govern land acquisition during implementation. Close coordination among stakeholders to ensure notification (cut-off date), compensation payment, monitoring, and reporting among stakeholders.
Poor O&M of project infrastructure given limited local capacity	The project uses relatively simple technology with limited O&M requirements and will provide dedicated training on O&M.

MPWT = Ministry of Public Works and Transport, O&M = operation and maintenance.

Source: Asian Development Bank.

IV. ASSURANCES

38. The government has assured ADB that implementation of the project shall conform to all applicable ADB policies, including those concerning anticorruption measures, safeguards, gender, procurement, consulting services, and disbursement as described in detail in the PAM and loan documents. The government has agreed with ADB on certain covenants for the project, which are set forth in the loan and grant agreements.

V. RECOMMENDATION

39. I am satisfied that the proposed loan would comply with the Articles of Agreement of the Asian Development Bank (ADB) and, acting in the absence of the President, under the provisions of Article 35.1 of the Articles of Agreement of ADB, I recommend that the Board approve

- (i) the loan of \$78,500,000 to the Kingdom of Cambodia for the Fourth Greater Mekong Subregion Corridor Towns Development Project, from ADB's ordinary capital resources, in concessional terms, with an interest charge at the rate of 1.0% per year during the grace period and 1.5% per year thereafter; for a term of 32 years, including a grace period of 8 years; and such other terms and conditions as are substantially in accordance with those set forth in the draft loan agreement presented to the Board; and
- (ii) the grant not exceeding \$1,500,000 to the Kingdom of Cambodia, from ADB's Special Funds resources (Asian Development Fund), for the Fourth Greater Mekong Subregion Corridor Towns Development Project, on terms and conditions that are substantially in accordance with those set forth in the draft grant agreement presented to the Board.

Stephen Groff
Vice-President

9 July 2018

²⁷ Risk Assessment and Risk Management Plan (accessible from the list of linked documents in Appendix 2).

DESIGN AND MONITORING FRAMEWORK

Impact the Project is aligned with Sustainable, inclusive, equitable, and resilient growth achieved (National Strategic Development Plan, 2014–2018) ^a			
Results Chain	Performance Indicators with Targets and Baselines	Data Sources and Reporting	Risks
Outcome Urban services for enhancing regional economic connectivity in participating towns improved	By 2026 a. 31% of the town population in Kampong Cham, Kratie, and Stung Treng (41,400 residents) serviced by new wastewater collection and treatment facilities (2017 baseline: 0 resident) b. 90% of the town population in Kampong Cham, Kratie, and Stung Treng (120,400 residents) residents served by improved solid waste management (2017 baseline: 48,000 residents) c. Incidence of flood and/or waterlogging reduced by 80% in the project service area (2017 baseline: six flood events per year in Kampong Cham, Kratie, and Stung Treng)	a–c. Annual reports by DPWTs and MPWT; project completion report	Lack of financial sustainability caused by limited cost recovery and/or low willingness of households to connect to sewerage network or pay for services. Poor O&M of project infrastructure given limited local capacity.
Outputs 1. Urban environmental infrastructure improved	By 2024 1a. Three new lagoon-based wastewater treatment plants with 13,750 m ³ /day capacity constructed (2017 baseline: 0) 1b. At least 420 km combined trunk and wastewater collection pipeline constructed (2017 baseline: 0) 1c. At least 9,000 households and commercial buildings connected to the wastewater treatment system (including 1,500 households headed by women) (2017 baseline: 0) 1d. Three controlled landfills with capacity of 1,624,500 m ³ constructed and operational (2017 baseline: 0) 1e. At least 16,000 m ² of pedestrian walk rehabilitated (2017 baseline: not available) 1f. 30% of staff employed in O&M are women (baseline 2017: 0)	1a–1f. Project progress reports	Construction delays caused by late approval and implementation of land acquisition and/or resettlement.

Results Chain	Performance Indicators with Targets and Baselines	Data Sources and Reporting	Risks
2. Institutional effectiveness, and policy and planning environment for regional economic connectivity enhanced	<p>2a. Two ICT-based public management systems for improved work productivity and transparency in three provincial governments deployed (2017 baseline: not available)</p> <p>2b. Provincial five-year development plans with regional cooperation and development strategy approved in Kampong Cham, Kratie, and Stung Treng (2017 baseline: not available)</p> <p>2c. At least 120 government staff (at least 50% women) in the provincial governments increased ICT skills to operate the ICT-based public services (2017 baseline: 0)</p>	2a–2c. Project progress reports	

Key Activities with Milestones

1. Urban environmental infrastructure improved

- 1.1. Complete the bidding documents for solid waste management component by Q1 2019
- 1.2. Complete the bidding document for solid waste management goods component by Q1 2020
- 1.3. Complete the bidding documents for wastewater treatment component by Q3 2019
- 1.4. Complete the bidding document for the town center enhancement component by Q3 2019
- 1.5. Complete the engagement of solid waste management contractor(s) by Q4 2020
- 1.6. Complete the engagement of wastewater treatment contractor(s) by Q1 2020
- 1.7. Complete the engagement of the town center enhancement contractor(s) by Q1 2020
- 1.8. Complete the land acquisition and resettlement activities in Kratie by Q1 2020
- 1.9. Complete the land acquisition and resettlement activities in Stung Treng by Q1 2020
- 1.10. Complete construction by Q4 2023

2. Institutional effectiveness, and policy and planning environment for regional economic connectivity enhanced

- 2.1. Complete procurement of the ICT consulting service by Q3 2019
- 2.2. Ensure the completion of the ICT consulting service by Q4 2023

Project Management Activities

Complete the procurement of the project management consulting service by Q1 2019
 Ensure the completion of the project management consulting service by Q2 2024
 Complete environmental management plan key activities, resettlement plan key activities, gender action plan key activities, and communication strategy key activities by Q2 2024

Inputs

Asian Development Bank: \$78.5 million (concessional loan)
 Asian Development Fund Disaster Risk Reduction Fund: \$1.5 million (grant)
 Republic of Korea e-Asia and Knowledge Partnership Fund: \$0.5 million (grant)
 Government: \$8.0 million

Assumption for Partner Financing

Not applicable

DPWT = Department of Public Works and Transport, ICT = information and communication technology, km = kilometer, m² = square meter, m³ = cubic meter, m³/day = cubic meter per day, MPWT = Ministry of Public Works and Transport, O&M = operation and maintenance, Q = quarter.

^a Government of Cambodia, Ministry of Planning. 2014. *National Strategic Development Plan, 2014–2018*. Phnom Penh.

Source: Asian Development Bank

LIST OF LINKED DOCUMENTS

<http://www.adb.org/Documents/RRPs/?id=50099-002-3>

1. Loan Agreement
2. Grant Agreement: Asian Development Fund Disaster Risk Reduction Fund
3. Grant Agreement: Republic of Korea e-Asia and Knowledge Partnership Fund
4. Sector Assessment (Summary): Water and Other Urban Infrastructure and Services
5. Project Administration Manual
6. Contribution to the ADB Results Framework
7. Development Coordination
8. Financial Analysis
9. Economic Analysis
10. Country Economic Indicators
11. Summary Poverty Reduction and Social Strategy
12. Risk Assessment and Risk Management Plan
13. Climate Change Assessment
14. Gender Action Plan
15. Initial Environmental Examination: Kampong Cham, Kratie, and Stung Treng
16. Resettlement Plan: Kratie
17. Resettlement Plan: Stung Treng
18. Resettlement Framework

Supplementary Document

19. Social Safeguards Due Diligence Report: Kampong Cham