



Report and Recommendation of the President to the Board of Directors

Project Number: 41403-013
November 2014

Proposed Loan Kingdom of Cambodia: Urban Water Supply Project

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Asian Development Bank

CURRENCY EQUIVALENTS

(as of 14 November 2014)

Currency unit	–	riel/s (KR)
KR1.00	=	\$0.000245
\$1.00	=	KR4,068

ABBREVIATIONS

ADB	–	Asian Development Bank
DDR	–	due diligence report
DED	–	detailed engineering design
DPWS	–	Department of Potable Water Supply
EIRR	–	economic internal rates of return
EMP	–	environmental management plan
IEE	–	initial environmental examination
JICA	–	Japan International Cooperation Agency
km	–	kilometer
m ³ /day	–	cubic meter per day
MIH	–	Ministry of Industry and Handicraft
MPWT	–	Ministry of Public Works and Transport
NRW	–	nonrevenue water
O&M	–	operation and maintenance
PAM	–	project administration manual
PIU	–	project implementation unit
PMU	–	project management unit
PPWSA	–	Phnom Penh Water Supply Authority
PWW	–	public waterworks
SDR	–	special drawing right
SPS	–	Safeguard Policy Statement
SRWSA	–	Siem Reap Water Supply Authority
TA	–	technical assistance

NOTE

In this report, “\$” refers to US dollars, unless otherwise stated.

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PROJECT AT A GLANCE

1. Basic Data		Project Number: 41403-013	
Project Name	Urban Water Supply Project	Department /Division	SERD/SEUW
Country	Cambodia	Executing Agency	Ministry of Industry and Handicraft
Borrower	Kingdom of Cambodia		
2. Sector	Subsector(s)	ADB Financing (\$ million)	
✓ Water and other urban infrastructure and services	Urban water supply		34.00
	Total		34.00
3. Strategic Agenda	Subcomponents	Climate Change Information	
Inclusive economic growth (IEG)	Pillar 2: Access to economic opportunities, including jobs, made more inclusive	Climate Change impact on the Project	Low
Environmentally sustainable growth (ESG)	Urban environmental improvement		
Regional integration (RCI)	Pillar 4: Other regional public goods		
4. Drivers of Change	Components	Gender Equity and Mainstreaming	
Governance and capacity development (GCD)	Organizational development	Effective gender mainstreaming (EGM)	✓
Knowledge solutions (KNS)	Knowledge sharing activities		
Partnerships (PAR)	Bilateral institutions (not client government) Implementation		
Private sector development (PSD)	Public sector goods and services essential for private sector development		
5. Poverty Targeting		Location Impact	
Project directly targets poverty	No	Urban	High
6. Risk Categorization:	Low		
7. Safeguard Categorization	Environment: B Involuntary Resettlement: C Indigenous Peoples: C		
8. Financing			
Modality and Sources		Amount (\$ million)	
ADB		34.00	
Sovereign Project loan: Asian Development Fund		34.00	
Cofinancing		0.00	
None		0.00	
Counterpart		3.40	
Government		3.40	
Total		37.40	
9. Effective Development Cooperation			
Use of country procurement systems		Yes	
Use of country public financial management systems		Yes	

I. THE PROPOSAL

1. I submit for your approval the following report and recommendation on a proposed loan to the Kingdom of Cambodia for the Urban Water Supply Project.¹

2. The project will improve the performance of water utilities in nine provincial towns to give residents greater access to safe piped water supply.² It will contribute to the government's target of achieving 100% piped water supply coverage in urban areas by 2025 by (i) rehabilitating and improving existing water treatment plants, (ii) providing new water sources and treatment plants, (iii) augmenting or replacing existing distribution pipelines to increase system pressure and improve service delivery, and (iv) providing new transmission and distribution pipelines. Through a proposed stand-alone technical assistance (TA) project that will complement the project and be processed in 2015, the Asian Development Bank (ADB) will also provide capacity development support to the Ministry of Industry and Handicraft (MIH) in the areas of sector reform and regulation.

II. THE PROJECT

A. Rationale

3. Since its full reintegration into the international development community after elections in 1993, Cambodia has continued to rebuild and recover from a conflict-affected past. Investment in the urban water supply subsector since 1993 has centered primarily on Phnom Penh, the capital and largest city, while infrastructure and institutional development of other public waterworks (PWWs) across the country have suffered from inadequate levels of investment. These PWWs have relied mostly on official development assistance from numerous bilateral and multilateral development partners for financial support, including ADB. Structural and organizational weaknesses in the water sector include a lack of corporate status for PWWs, insufficient autonomy and accountability, and a high degree of control by the central government. The lack of investment has meant that PWWs operate unsustainably and deliver substandard services. Rapid urbanization has exacerbated the problem, and many urban residents lack access to adequate and safe water supply and sanitation services. Typical problems include old piping, inadequate system coverage, poor operation and maintenance (O&M), intermittent supply of water, water quality issues, and high levels of nonrevenue water (NRW).³ Tariff structures vary among the PWWs, and are rarely adequate to cover the true costs of providing the water service. This situation is in stark contrast to the strong management, corporatization, staff development, and efficiency that have allowed Phnom Penh Water Supply Authority (PPWSA) to flourish over the same period, with support from ADB and other development partners. Today, PPWSA is one of the most efficient water utilities in Asia.

4. Cambodia's current population is estimated to be 14.7 million, spread through 24 provinces and 26 cities and district towns.⁴ About 20% of the country's people live in urban areas. Urbanization is far outstripping rural population growth, and the urban population is expected to reach 30% of the national total, by 2030. Cambodia's 2015 Millennium Development Goals target to provide 80% of people living in urban areas with access to improved water sources and

¹ The design and monitoring framework is in Appendix 1.

² ADB provided project preparatory technical assistance. ADB. 2012. *Urban Water Supply and Sanitation Project*. Manila.

³ Nonrevenue water is defined as the difference between the amount of water put into the distribution system and the amount of water billed to consumers.

⁴ Royal Government of Cambodia. 2013. *Cambodia Intercensal Population Survey 2013*. Phnom Penh.

74% with access to improved sanitation have been achieved, with results of 88% and 89% respectively.⁵ This apparent success has been extremely uneven across the country, however, and has had little impact on access to reliable, continuous, and safe piped water supply to the urban households served by the PWWs. In 2009, more than 78% of the residents of Phnom Penh had access to piped water supply, but the national average was only 42%.⁶ Access in urban areas outside the capital ranged from about 12% in Siem Reap to about 64% in Pursat. In 2013, the level of NRW was 6% in Phnom Penh, but ranged from 10% to 40% in the provincial towns—and the reliability of the figures reported from outside of the capital is suspect and the level of water supply leaked, wasted, and unpaid for in these areas could be higher. These PWWs need to follow the example set by PPWSA, since 1993, by (i) increasing water supply coverage, (ii) improving water quality, and (iii) reducing the current high levels of NRW.

5. The Department of Potable Water Supply (DPWS) under the MIH⁷ is responsible for the coordination, policy, and regulation of urban water supply in Cambodia. Of the 12 public water utilities in the country, which supply water to urban centers, two have been transformed into autonomous water authorities—PPWSA in 1996, and the Siem Reap Water Supply Authority (SRWSA) in 2007. This improved the financial and operational performance of both. The MIH controls the remaining 10 PWWs through its provincial line agencies, but aims to transform these to autonomous water authorities by 2018. The DPWS licenses private water supply operators and regulates all public and private operators' tariffs, and it is receiving assistance for these activities from the Japan International Cooperation Agency (JICA) and the World Bank.

6. Taking into consideration the government's public debt management strategy to promote financial autonomy of PWWs and ensure sustainable economic growth, the Ministry of Economy and Finance sought ADB financing for the Urban Water Supply Project in February 2012. ADB's country operations business plan includes an Asian Development Fund loan for the project for 2014 approval.⁸

7. ADB's past support in provincial urban water supply included the Provincial Towns Improvement Project.⁹ It was completed in 2006 and provided water treatment plants and distribution systems in six towns. In 2009, ADB completed a regional TA, the Mekong Water Supply and Sanitation Project in Cambodia, the Lao People's Democratic Republic, and Viet Nam.¹⁰ The TA prepared feasibility studies for water supply and sanitation in the towns of Kratie and Stung Treng, but no ADB financing followed due to differences between ADB and the government on sector and tariff reform. To meet the urgent need in Kratie, a private sector company invested in the water supply system. This was not the case at Stung Treng, where a suitable private sector provider was not available. Identified as an urgent subproject in 2009, Stung Treng's importance has been increasing, with a new national highway under construction connecting it to Siem Reap and onwards to Thailand, in addition to its established links to the Lao People's Democratic Republic.

⁵ World Health Organization and United Nations Children's Fund. 2014. Joint Monitoring Programme for Water Supply and Sanitation (1980–2012).

⁶ National piped water supply coverage in 2014 is estimated at about 50%, but no formal data are available on this.

⁷ This was the Ministry of Industry, Mines, and Energy until 2014.

⁸ ADB. 2014. *Country Operations Business Plan, Cambodia, 2014–2016*. Manila.

⁹ ADB. 2003. *Report and Recommendation of the President to the Board of Directors: Proposed Supplementary Loan to the Kingdom of Cambodia for the Provincial Towns Improvement Project*. Manila. The project covered the towns of Battambang, Pursat, Kampong Thom, Kampong Cham, Svay Rieng, and Kampot.

¹⁰ ADB. 2008. *Technical Assistance for Preparing the Mekong Water Supply and Sanitation Project*. Manila.

8. After limited involvement since 2006, ADB is seeking to reengage in and provide long-term support for the country's urban water supply sector, starting with this project. In line with the government's strategy, the aim of this assistance will be to raise the performance of the PWWs in the rest of the country to the standard achieved by PPWSA in Phnom Penh. The project will address the problems identified by the MIH in its priorities and strategies for 2013–2018. These are (i) inadequate legal and regulatory frameworks; (ii) the continued dependence of the country's PWWs, except for PPWSA and SRWSA, on financial support from the government; (iii) old production and distribution systems and inadequate human resources; (iv) a lack of financial resources for rehabilitating and developing the sector; and (v) the overall inadequate water supply coverage in the country's urban areas.

9. The project will provide additional new and rehabilitated water supply infrastructure and extend system coverage to expand access to safe water in nine towns.¹¹ The MIH selected eight PWWs and SRWSA for support under the project. The project aims to (i) address the most urgent needs of the urban water sector by improving and expanding services; and (ii) prepare for sector reform with the goals of providing improved 24-hour service coverage and better water quality, as well as making the PWWs more autonomous and therefore more financially sustainable. The project will also provide piped water supply to an additional 58,000 residents through (i) a new water supply system in Stung Treng, (ii) a new distribution zone in Siem Reap, and (iii) system expansion in Kampong Cham and Svay Rieng. In addition, the project will rehabilitate existing water treatment plants in seven towns. The project interventions will replicate initiatives that made PPWSA successful and build on PPWSA experience.¹² It will also incorporate lessons from previous ADB projects.¹³ The project will help the PWW's reduce real NRW levels to below 15% by using improved material and construction practices in its works to complement ongoing NRW reduction initiatives by the service providers and other development partners.¹⁴

10. The project is aligned with (i) phase 3 of the government's rectangular strategy for growth, employment, equity, and efficiency;¹⁵ (ii) Cambodia's national strategic development plan for 2014–2018;¹⁶ and (iii) the action plan of the MIH to facilitate private sector partnerships, strengthen the management of publicly owned waterworks, and integrate urban water supply with urban environmental management. The project supports ADB's water and sanitation sector assessment, strategy, and road map for Cambodia; as well as ADB's Water Operational Plan, 2011–2020¹⁷ to improve the efficiency of water services. It also aligns with the three pillars of ADB's country partnership strategy for Cambodia¹⁸ which call for (i) strengthening rural, urban, and regional linkages through investments in water supply infrastructure and services; (ii)

¹¹ The towns where these plants will be rehabilitated and their populations in 2012 are Kampong Cham (64,000), Kampong Thom (46,000), Kampot (48,000), Pursat (51,000), Siem Reap (141,000), Sihanoukville (71,000), Stung Treng (34,000), and Svay Rieng (45,000).

¹² The factors that have contributed to PPWSA's success included (i) strong and continuous leadership, (ii) financial autonomy, (iii) continuous staff development and performance-based bonuses, (iv) customer-orientated service, (v) high-quality infrastructure and equipment, and (vi) a strong focus on NRW reduction and energy efficiency.

¹³ Among lessons learned are the need to (i) promote high quality design for water treatment plants to allow flexible operation, (ii) procure good-quality equipment, and (iii) select equipment that can be easily repaired or replaced.

¹⁴ Development Coordination (accessible from the list of linked documents in Appendix 2).

¹⁵ Royal Government of Cambodia. 2013. *Rectangular Strategy for Growth, Employment, Equity, and Efficiency – Phase III*. Phnom Penh.

¹⁶ Key actions for water supply in the national strategic development plan are (i) the development of a legal framework for urban water supply; (ii) promotion of decentralization and deconcentration; (iii) the transfer of full autonomy for service delivery to all provincial waterworks; (iv) an increase in urban water sector financing; (v) improvement of sector performance and public access to safe, affordable, and sustainable water supplies; and (vi) improvement in the protection of water sources and enforcement of regulations.

¹⁷ ADB. 2011. *Water Operational Plan, 2011–2020*. Manila.

¹⁸ ADB. 2014. *Country Partnership Strategy: Cambodia, 2014–2018*. Manila.

human resource development by improving urban water supply management capacity; and (iii) supporting public sector management by helping to decentralize and expand public financial management capacity through the MIH's plan for financial autonomy of the PWWs by 2018.

11. Comprehensive capacity development is currently being implemented under JICA-assistance at some of the project's PWWs, which will also benefit the project. It is focusing on water utility management and finance. JICA is also assisting the MIH at the national policy level in developing a water law. The World Bank is providing support on the licensing of private water operators and related regulation of these. Under new leadership in 2014, the MIH completed a comprehensive assessment of each of its public water utilities and is using the findings to develop short- and medium-term action plans. In particular, the MIH will encourage the PWWs to provide efficient services and affordable tariffs with full cost recovery and savings for future investment to gradually reduce their reliance on external support.

12. The project does not include urban sanitation improvements because responsibility for urban sanitation and drainage systems lies with the Ministry of Public Works and Transport (MPWT), not the MIH, and the Ministry of Economy and Finance requested that the project have a single executing agency. In addition, ADB's experience from previous project loans¹⁹ that required working with both the MPWT and MIH was not entirely successful. However, urban sanitation will be addressed as a subcomponent of ADB's proposed urban development projects with the MPWT. ADB is encouraging the idea of a single agency for urban water supply and sanitation in Cambodia, and will continue with policy dialogue during project implementation. The proposed stand-alone capacity development TA will include an investigation of effective ways to combine urban water supply and urban sanitation in preparation for possible inclusion by ADB in a sector loan planned for 2017.

B. Impact and Outcome

13. The project's impact will be expanded access to sustainable and safe water supply services for the urban population in Cambodia. This will contribute to the government's 2025 target of 100% coverage. The outcome will be improved water supply infrastructure and service provision in nine towns. By 2019, the project will provide a total of about 438 kilometers (km) of pipelines and about 9,600 new household connections in the towns of Siem Reap and Stung Treng.

C. Outputs

14. **Output 1: Existing water supply systems improved in seven towns.** The project will improve operational performance of water supply systems in seven towns and ensure that the facilities operate at optimal level before coverage is expanded under a proposed subsequent sector loan. The improvements will comprise (i) new deep wells at Kampong Cham; (ii) rehabilitated water treatment plants in seven towns; (iii) rehabilitated or new clear water storage tanks in three towns; (iv) rehabilitated pumping equipment in four towns; (v) augmented and/or replaced water mains in four towns; and (vi) subsidized household connections along new pipeline routes,²⁰ including provision for 2,000 new connections for Kampong Cham and Svay Rieng. New laboratory equipment will be provided in five towns to improve monitoring and water quality.

¹⁹ ADB. 2008. *Completion Report: Provincial Towns Improvement Project in Cambodia*. Manila.

²⁰ Connections for the poor will be subsidized by 30%–100%, based on household income and ability to pay at the time of connection. A subsidy policy similar to that of PPWSA will be used, rather than historical poverty mapping.

15. **Output 2: New water supply system provided for Stung Treng.** The project will provide a new water supply system for the town Stung Treng that will include (i) a surface water intake; (ii) a water treatment plant that will have a capacity of about 7,950 cubic meters per day and be equipped with a laboratory; (iii) about 354 km of water transmission and distribution pipelines; and (iv) provision for 4,600 new household connections that will be subsidized for poor households.

16. **Output 3: Water supply coverage increased in Siem Reap.** Water supply in Siem Reap will be expanded through a new zone to distribute water from new SRWSA water treatment plants. Subcomponents will include (i) about 6.5 km of new transmission mains; (ii) about 35 km of new distribution pipelines; and (iii) provision for 5,000 household connections to be subsidized for poor households. Water for the project will be supplied by a new 17,000 cubic meters per day (m³/day) treatment plant being developed under parallel financing by the Agence Française de Développement and planned for 2017. A JICA-financed project, sourcing water from the Tonle Sap lake, is planned for 2019 and will provide an additional 60,000 m³/day to Siem Reap to support the town's longer term needs.

17. **Output 4: Project implementation supported and operation and maintenance developed.** The project will include project implementation support services for the project management and implementation units in detailed engineering design and construction supervision. It will also support other project functions, including safeguards implementation and monitoring, gender and community development, accounting and financial management, bidding and procurement, and disbursement. The project will enhance the skills of and provide on-the-job training for the MIH and PWWs staff in project management and design and implementation of urban water supply projects and O&M.

18. **Proposed technical assistance.** ADB is planning a stand-alone capacity development TA (para. 2). The TA would seek to build institutional capacity at the MIH, strengthen sector regulation, and improve tariff reform. The scope of the TA will be developed based on the project needs, MIH's ongoing sector reforms, and coordination with JICA's ongoing capacity development program for the PWWs.

19. **Special features of the project.** The project design includes (i) its planned support for the MIH's recent initiative to accelerate sector reform and improve the financial and operational performance of the PWWs, which aims to increase financial autonomy for all PWWs by 2018; (ii) its use of the experience of PPWSA to enhance management and operational efficiency at other waterworks and to improve service delivery and NRW management; (iii) its plan to optimize the performance of existing facilities through targeted small investments, thereby paving the way for further investment to increase coverage and quality of services; and (iv) its intent to implement a subsidized water connection policy similar to that used by PPWSA at all PWWs under the project to help poorer households to connect.

D. Investment and Financing Plans

20. The project is estimated to cost \$37.40 million (Table 1). Major cost items are civil works (61.7%), consulting services and capacity development (12.5%), vehicles and equipment (2.0%). Contingencies and financing charges represent 22.6% and 1.2% of the estimated costs, respectively.

Table 1: Project Investment Plan
(\$ million)

Item	Amount
A. Base Cost^a	
1. Output 1: Existing water supply systems improved in seven towns	4.61
2. Output 2: New water supply system provided for Stung Treng	12.80
3. Output 3: Water supply coverage increased in Siem Reap	5.68
4. Output 4: Project implementation supported and O&M developed	4.69
5. Vehicles and equipment (including operation and maintenance)	0.73
Subtotal (A)^b	28.51
B. Contingencies^c	8.47
C. Financing Charges During Implementation^d	0.42
Total (A+B+C)	37.40

^a Includes taxes and duties of \$2.56 million to be financed from government resources through exemption. The government will provide in-kind contribution with no incremental cost for the project management unit and project implementation units (except at SRWSA), office space for the consultants, and audit costs.

^b In August 2014 prices.

^c Physical contingencies computed at 15% of base cost. Price contingencies estimated at 2.2% (2014), 1.9% (2015), 1.8% thereafter for foreign project costs and 3.5% for local project costs.

^d Based on 1.0% interest rate on Asian Development Fund loan.

Source: Asian Development Bank estimates.

21. The government has requested a loan in various currencies equivalent to SDR 22,848,000 from ADB's Special Funds resources 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 annum during the grace period and 1.5% per annum thereafter, and such other terms and conditions set forth in the draft loan and project agreements. The financing plan is in Table 2.

Table 2: Financing Plan

Source	Amount (\$ million)	Share of Total (%)
Asian Development Bank		
Special Funds resources (loan)	34.00	90.9
Government	3.40	9.1
Total	37.40	100.0

Source: Asian Development Bank estimates.

E. Implementation Arrangements

22. The project is scheduled for implementation over 60 months from January 2015 to December 2019. The MIH will be the executing agency and will prepare and implement project activities. A project management unit (PMU) will be established in the DPWS with full-time staff to execute and manage the project. An English-speaking project coordinator will be assigned to the PMU. Project implementation units (PIUs) will be established in each of the provincial waterworks responsible for daily coordination and supervision of subproject implementation. The executing agency will recruit project implementation assistance consultants to assist the PMU and PIUs. Procurement of goods, works, and related services will be undertaken in accordance with ADB's Procurement Guidelines (2013, as amended from time to time), and recruitment of consulting services will comply with ADB's Guidelines on the Use of Consultants (2013, as amended from time to time). The implementation arrangements are summarized in Table 3 and described in detail in the project administration manual (PAM).²¹

²¹ Project Administration Manual (accessible from the list of linked documents in Appendix 2).

Table 3: Implementation Arrangements

Aspects	Arrangements		
Implementation period	January 2015–December 2019		
Estimated completion date	31 December 2019		
Management			
(i) Executing agency	MIH		
(ii) Key implementing agencies	The PMU will be the DPWS - Project Director, Project Manager, Accountant, Technical Officer (3), Procurement Officer (2), Administration Officer, Social and Environmental Safeguards Officer (2), Cashier. Four drivers to be engaged as contract staff under the project costs.		
(iii) Implementation unit	PIU at each PWW - Project manager, accountant, technical officer, administrative officer, and social and environmental safeguards officer. At least one staff from the provincial Department of Industry and Handicraft will be included as the project manager of the PIU. PMU and PIU at SRWSA - Project Director, Project Manager, Water Supply Engineer, Civil Engineer, Procurement Officer, Social and Environmental Safeguards Officer, Administration Officer, and Accountant. Support staff and vehicles will be provided by SRWSA.		
Procurement	International competitive bidding	3 contracts	\$ 22.28 million
	National competitive bidding	2 contracts	\$ 1.43 million
	Shopping	4 contracts	\$ 0.16 million
Consulting services	Consulting firm (QCBS, 80:20, FTP)	503 person-months	\$ 4.23 million
Advance contracting	Advanced action for consulting services and procurement of project vehicles and equipment.		
Disbursement	The loan proceeds will be disbursed in accordance with ADB's <i>Loan Disbursement Handbook</i> (2012, as amended from time to time) and detailed arrangements agreed upon between the government and ADB.		

ADB = Asian Development Bank, DPWS = Department of Potable Water Supply, FTP = full technical proposal, MIH = Ministry of Industry and Handicraft, PIU = project implementation unit, PMU = project management unit, PWW = public waterworks, QCBS = quality- and cost-based selection, SRWSA = Siem Reap Water Supply Authority.
Source: Asian Development Bank estimates.

III. DUE DILIGENCE

A. Technical

23. Technical due diligence assessed the appropriateness of the technologies and the subproject components proposed. An ADB mission visited all subproject sites and discussed all proposed improvements with all eight PWWs and SRWSA. The project has been designed to address the operational issues at each water treatment plant and will ensure that each facility operates at optimum levels when completed. New pipelines will expand coverage in four towns and improve system pressures and performance in the other five. In response to the MIH's increased focus on 24-hour supply and water quality, NRW management will be given a higher priority, and new water laboratories will be provided at six of the PWWs. Pipeline replacement and an improved quality of materials and construction will reduce NRW.

B. Economic and Financial

24. Economic and financial analyses were conducted in accordance with ADB's guidelines for the project.²² The following were considered in the computation of economic

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

internal rate of return (EIRR): (i) value of incremental water, (ii) resource cost savings on non-incremental, (iii) value of water saved from improvement in non-technical losses, (iv) value of health benefits, and (v) other economic benefits identified but not quantified and valued. The estimated base case EIRR ranged from 12.0% for Stung Treng to 36.4% for Kampot, higher than the economic opportunity cost of capital of 12%. Sensitivity analyses showed that subprojects were most sensitive to a simultaneous increase in costs and a decrease in benefits. EIRRs remain above 12% in all sensitivity scenarios except for Siem Reap and Stung Treng, where EIRRS are marginal at 10.5% and 9.5%, respectively, for this worst case scenario. Overall, EIRR for the project is 13.9%.

25. SRWSA is a state-owned enterprise, and the government will onlend the project funds to SRWSA at terms of at least the Asian Development Fund interest rate. The financial evaluation undertaken for SRWSA concluded that the base case financial internal rate of return is 26.3%, higher than the weighted average cost of capital of 0.75%, showing the project to be financially viable. Sensitivity analysis showed that the subproject was most sensitive to a simultaneous increase in the cost of capital (20%) and O&M (10%), plus a decrease in revenue (10%). However, the financial internal rates of return remained above the weighted average cost of capital under all scenarios. The eight PWWs operate with varying levels of efficiency and cost recovery. The government will grant the project funds on to the PWWs and require them to commit to operational and tariff reforms that will ensure their sustainability and cover O&M expenses and depreciation by 2018. Current and proposed tariffs are considered affordable, based on tariff affordability analyses.

C. Governance

26. An assessment of the financial management and procurement capacity of the executing and implementing agencies found the project implementation and financial management arrangements of the DPWS to be adequate, but noted that the MIH is a new ministry created in 2014 and has no track record on procurement or in anticorruption performance. The DPWS PMU has experience in managing externally funded projects and the capacity to undertake international and national competitive bidding for civil works packages. The MIH has adequate qualified and experienced finance and accounting permanent staff who can be nominated to the PMU. However, the staff has not been trained on ADB's project implementation procedures. The nine implementing agencies have the finance and accounting staff to fill PIU positions, but they need training on ADB reporting procedures. Output 4 will strengthen the capacity of the PMU and PIU staff through on-the-job support in project and financial management. ADB's Anticorruption Policy (1998, as amended to date) was explained to and discussed with the government and the MIH. The PAM contains specific policy requirements (footnote 21).

D. Poverty and Social

27. A socioeconomic survey was conducted during project preparation in four pilot subproject areas to determine the socioeconomic and gender characteristics of the populations targeted to benefit from the project in the nine towns. The baseline data and assessment results supported the preparation of the poverty, social, and gender analysis report on the nine subproject areas, which identified the poverty, social and gender issues, risks, needs, priorities, and opportunities related to the beneficiaries. Based on this assessment, a summary poverty reduction and social strategy, a gender action plan, and a stakeholders communications strategy were prepared. They include measures to enhance project benefits and mitigate potential risks to or negative impacts on beneficiaries.

28. The project will improve public health and promote investment and employment opportunities that will benefit the overall population of 551,000 in the nine towns, which includes 275,000 women and girls. The beneficiaries will include poor and vulnerable households living below the poverty line, which represent up to 30% of the individual town populations. The project will benefit households by providing access to a reliable and safe water supply. It is designed to improve social inclusion. Domestic water supply connections will be made available to 11,600 households through subsidies of up to 100%. Potential customers will be trained on how to apply for these connection subsidies.

29. Based on the gender analysis and proposed actions, the project is gender mainstreaming category II—effective gender mainstreaming. The gender action plan aims to provide project benefits for women, including (i) 10% of the employment in civil works construction and in O&M, with the same pay and job conditions as those of men; (ii) participation by women in construction skills training and upgrading to enhance their employment opportunities; (iii) a minimum 30% of the places in the PMU staff training to be provided in planning, design, financial management, procurement, and O&M of project facilities; (iv) the development of greater gender-sensitivity and gender equity policies in the executing agency, PMU, and PIUs, including gender awareness training in which at least 70% of the participants will be males; (v) a guarantee that at least 25% of the staff and 10% of the management positions in the executing agency, PMU, and PIUs will be women receiving equal pay as men in the same positions by 2019; and (vi) nongovernment organizations and civil society organizations to be partners for information, education, and communication.

E. Safeguards

30. The project is classified as category C for involuntary resettlement. It involves no land acquisition or resettlement impacts. It is category C for indigenous people. Both classifications are based on the requirements outlined in ADB's operations manual²³ and ADB's Safeguard Policy Statement (SPS), 2009. Due diligence conducted for each subproject found that none of the subproject components will involve land acquisition or involuntary resettlement impacts. Most of the infrastructure components for the subprojects are within existing waterworks compounds and will not require land acquisition. All trench and pipe installation works are located in existing rights-of-way and are free from encroachment. Temporary impacts during construction from pipeline construction, including other unanticipated impacts, will be addressed during implementation based on actual impacts and in accordance with the national laws and ADB's SPS. Any component that involves land acquisition and resettlement and triggers ADB's SPS will be excluded from the subproject during implementation.

31. The project is classified as category B for environment. The subprojects are not expected to cause any irreversible adverse environmental impacts. Initial environmental examinations (IEEs) have been prepared for six subprojects. Environmental due diligence reports (DDRs) were prepared for the remaining three, because impacts will be within the boundaries of the existing facilities. Potential impacts of climate change and/or natural hazards on the project have been integrated into the IEEs and environmental DD Rs, with recommendations for consideration during detailed engineering design (DED). Mitigation measures for identified impacts are included in the environmental management plans (EMPs). At the DED stage, when the IEEs and EMPs will be updated and finalized, the proposed mitigating measures will be reviewed and updated. EMP implementation will be ensured by a designated environment officer in the PMU.

²³ ADB. 2013. *Operations Manual*. OM F1/BP and F1/OP. Manila.

32. Resettlement DDRs and environment IEEs and DDRs have been prepared in consultation with local communities and are in accordance with ADB's SPS and government regulations. Effective monitoring at all stages of subproject implementation will be ensured. A grievance redress mechanism will help to facilitate resolution of complaints regarding project performance. The resettlement DDRs will be updated after DED to identify any impacts. All the DDRs, IEEs, and EMPs will be updated and disclosed after DED and cleared by the government and ADB prior to contract awards. In compliance with ADB's information disclosure and consultation requirements, the safeguard documents will be posted on ADB's website.

F. Risks and Mitigating Measures

33. Key risks are (i) lack of human resources for project management and implementation, and (ii) limited absorptive capacity of the PIUs. The project will provide specific support and on-the-job training to mitigate these risks and the MIH will ensure that additional qualified staff are recruited. Although MIH is a new ministry, new leadership at the MIH is focusing on sector reform and transparency. In addition, the project will provide MIH with training in ADB's procedures and guidelines for procurement, project administration, financial reporting, and its anticorruption policy. Additional support and oversight will be provided by the Cambodia resident mission, as well as through the proposed stand-alone TA. The overall risk assessment is medium, and the integrated benefits and impacts are expected to outweigh the costs. Major risks and mitigating measures are described in detail in the risk assessment and risk management plan.²⁴

IV. ASSURANCES

34. The government and the MIH have 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 project administration manual and loan covenants. The government and the MIH have agreed with ADB on certain covenants for the project, which will be set forth in the loan agreement and project agreement.

V. RECOMMENDATION

35. 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 the loan in various currencies equivalent to SDR22,848,000 to the Kingdom of Cambodia for the Urban Water Supply Project, from ADB's Special Funds resources, with an interest charge at the rate of 1.0% per annum during the grace period and 1.5% per annum 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 and project agreements presented to the Board.

Bindu N. Lohani
Ranking Vice-President

20 November 2014

²⁴ Risk Assessment and Risk Management Plan (accessible from the list of linked documents in Appendix 2).

DESIGN AND MONITORING FRAMEWORK

Design Summary	Performance Targets and Indicators with Baselines	Data Sources and Reporting Mechanisms	Assumptions and Risks
<p>Impact Expanded access to sustainable and safe water supply services for the urban population in Cambodia</p>	<p>By 2025: The project will contribute to increasing access to safe water to 100% of the urban population in the project area, in line with the government's National Strategic Development Plan, 2014–2018 (2012 baseline: 88%)</p> <p>All public waterworks in Cambodia are financially autonomous by 2018 (2014 baseline: 2)</p>	<p>Reports and statistics from government agencies, development partners, and nongovernment organizations</p> <p>ADB loan review missions</p>	<p>Assumptions Government commitment to the provision of water supply continues. Government commitment to decentralization and corporatization of provincial waterworks is sustained.</p> <p>Risks Raw water sources are depleted. Government does not implement regulatory changes across the country.</p>
<p>Outcome Water supply infrastructure and service provision improved in nine towns</p>	<p>By 2019: Through about 438 km of new pipelines the urban population served in Kampong Cham, Siem Reap, Stung Treng, and Svay Rieng will be increased by more than 11,600 households (approximately 58,000 people, of whom 51% or 29,280 are women), with equal access to all households and subsidies of up to 100% for connections for the poor</p> <p>Real NRW levels reduced to less than 15% for all participating water utilities. Current NRW levels are inaccurate, but estimated to be at least 20%. Baseline NRW levels will be confirmed by 2015.</p> <p>MIH implements corporate principles at public waterworks and provides them with full financial autonomy. (2014 baseline: 1—SRWSA)</p> <p>Standard system of regulation and tariff-setting based on customer affordability, with full cost recovery, adopted by participating waterworks. The policy on subsidized connections for the poor applied by them uniformly. (2014 baseline: 1—SRWSA)</p> <p>All project stakeholders, including water end users, poor households, affected peoples, and civil society organizations are fully consulted through public and household consultations, and the media.</p> <p>Approximately 275,000 women and girls receive improved water supply services across the nine project towns.</p>	<p>Annual reports by provincial waterworks and MIH</p> <p>Project progress reports</p> <p>Project completion report</p>	<p>Assumptions Strong commitment and support from central and local governments and beneficiaries continues. O&M is prioritized and sufficient funds are allocated in annual budget.</p>
<p>Outputs 1. Existing water supply systems improved in seven towns</p>	<p>By 2019: New groundwater sources in Kampong Cham developed Seven existing water treatment plants in</p>	<p>Project progress and project completion reports</p>	<p>Assumptions Decision making by the executing agency and implementing agencies is timely.</p>

Design Summary	Performance Targets and Indicators with Baselines	Data Sources and Reporting Mechanisms	Assumptions and Risks
	<p>Kampong Cham, Kampong Thom, Kampot, Pursat, Sihanoukville, Stoung, and Svay Rieng rehabilitated</p> <p>Rehabilitation or new clear water storage tanks in Kampong Cham, Kampong Thom, and Sihanoukville completed</p> <p>Rehabilitation of pumping stations at Kampong Cham, Kampong Thom, Pursat, and Svay Rieng completed</p> <p>About 49 km of augmentation and replacement of water mains in Kampong Cham, Kampong Thom, Pursat, and Svay Rieng completed</p> <p>New water laboratories and equipment provided at Kampong Thom, Pursat, Sihanoukville, Stoung, and Svay Rieng</p> <p>Provision made for approximately 2,000 new household connections in Kampong Cham and Svay Rieng along new pipelines, with equal access to all households and connections for the poor subsidized up to 100%</p> <p>At least 10% of those employed in construction and post-project O&M activities are women and have safe working conditions and equal pay with men for equal work. (2014 baseline: 5%–10% on similar projects)</p>	<p>Baseline and follow-up surveys in project towns</p> <p>Construction records and evaluation reports, including GAP 6-monthly reports and midterm review</p>	<p>Commitment of government to institutional changes</p> <p>Appropriate tariffs imposed for cost recovery</p> <p>AFD-financed water treatment plant completed by 2017 to provide water to the new Siem Reap distribution zone</p> <p>Risks</p> <p>Lack of capacity in executing agency and implementing agencies may cause delays in project implementation</p> <p>New Ministry with no track record</p> <p>Unforeseen conditions affect construction.</p>
2. New water supply system provided for Stung Treng	<p>By 2019:</p> <p>Surface water intake, water treatment plant (approximate capacity 7,950 cubic meters per day), and about 354 km of new water transmission and distribution pipelines installed</p> <p>Provision made for approximately 4,600 new household connections, with equal access for all households and connections for the poor subsidized up to 100%</p> <p>At least 10% of those employed in construction and post-project O&M activities are women and have safe working conditions and equal pay with men for equal work. (2014 baseline: approximately 5%–10% on similar projects)</p>	<p>Project progress and project completion reports</p> <p>Baseline and follow-up surveys in project towns</p> <p>Construction records and evaluation reports, including GAP 6-monthly reports and midterm review</p>	
3. Water supply coverage increased in Siem Reap	<p>By 2019:</p> <p>About 41.5 km of new pipelines provided to distribute water from new water treatment plants financed by the AFD (in 2017) and JICA (in 2019)</p> <p>Provision for about 5,000 new household connections, with equal access for all households and connections for the poor subsidized up to 100%</p> <p>At least 10% of those employed in construction and post-project O&M activities are women and have safe working conditions and equal pay with men for equal work (2014 baseline: 5%–10% on similar projects)</p>	<p>Project progress and project completion reports</p> <p>Baseline and follow-up surveys in project towns</p> <p>Construction records and evaluation reports, including GAP 6-monthly reports and midterm review</p>	

Design Summary	Performance Targets and Indicators with Baselines	Data Sources and Reporting Mechanisms	Assumptions and Risks
4. Project implementation supported and O&M developed	<p>By 2019:</p> <p>Discrete NRW sections established in each participating provincial waterworks.</p> <p>The executing agency, PMU, implementing agencies, and PIUs develop greater gender-sensitive and responsible policies; promote gender-awareness training (at least 70% male participation), and provide training and employment opportunities to female staff in technical and professional fields</p> <p>At least 25% of staff and 10% of management positions in executing agencies, PMU, implementing agencies, and PIUs are women and paid as the same rate as men for similar positions. (2014 baseline: about 10% female staff)</p> <p>PMU staff trained in appropriate levels of knowledge on planning, design, financial management, procurement, and O&M of project facilities, and 30% of those trained are women. (2014 baseline: about 10% female staff)</p> <p>Contractors encouraged to train and upgrade the construction skills of women in appropriate areas to enhance their formal employment opportunities. (2014 baseline: 5%–10%)</p>	<p>Project progress and project completion reports</p> <p>Training records and evaluation of capacity development programs</p> <p>Organization's employment records and annual reports</p> <p>Construction records and evaluation reports, including GAP 6-monthly reports and midterm review</p>	
Activities with Milestones		Inputs	
<p>1. Existing water supply systems improved in seven towns</p> <p>1.1 Complete detailed engineering design and bidding documents by June 2016</p> <p>1.2 Complete social and environmental safeguards approvals by September 2016</p> <p>1.3 Conduct bidding and contract award by March 2017</p> <p>1.4 Complete rehabilitation of water supply systems by March 2019</p> <p>2. New water supply system provided for Stung Treng</p> <p>2.1 Complete detailed engineering design and bidding documents by September 2016</p> <p>2.2 Complete social and environmental safeguards approvals by December 2016</p> <p>2.3 Conduct bidding and contract award by June 2017</p> <p>2.4 Construct water treatment plant and distribution system by December 2019</p> <p>3. Water supply coverage increased in Siem Reap</p> <p>3.1 Complete detailed engineering and bidding documents by September 2016</p> <p>3.2 Complete social and environmental safeguards approvals by December 2016</p> <p>3.3 Conduct bidding and contract award by June 2017</p> <p>3.4 Construct new distribution zone by December 2019</p> <p>4. Project implementation supported and operation and maintenance developed</p> <p>4.1 Provide management assistance, hands-on training to executing agency, PMU, implementing agencies, and PIUs, and conduct of training programs and workshops throughout the project</p> <p>4.2 Establish monitoring system to report on outputs and outcomes by June 2016</p> <p>4.3 Check and validate NRW, gender, and other baseline data by June 2016</p> <p>4.4 Identify potential opportunities for private sector engagement by June 2017</p> <p>4.5 Establish NRW units and implement NRW management program by March 2018</p>		<p>ADB: ADF \$34 million</p> <p>Government: \$3.40 million (estimated in-kind) to cover taxes and duties, counterpart staff, and office space.</p>	

ADB = Asian Development Bank, ADF = Asian Development Fund, AFD = Agence Française de Développement GAP = gender action plan, JICA = Japan International Cooperation Agency, km = kilometer, MIH = Ministry of Industry and Handicraft, NRW = nonrevenue water, O&M = operation and maintenance, PIU = project implementation unit, PMU = project management unit, SRWSA = Siem Reap Water Supply Authority.

Source: Asian Development Bank.

LIST OF LINKED DOCUMENTS

<http://www.adb.org/Documents/RRPs/?id=41403-013-3>

1. Loan Agreement
2. Project Agreement
3. Sector Assessment (Summary): Water and Other Urban Infrastructure and Services
4. Project Administration Manual
5. Contribution to the ADB Results Framework
6. Development Coordination
7. Financial Analysis
8. Economic Analysis
9. Country Economic Indicators
10. Summary Poverty Reduction and Social Strategy
11. Gender Action Plan
12. Initial Environmental Examination: Kampong Cham Subproject
13. Initial Environmental Examination: Kampong Thom Subproject
14. Initial Environmental Examination: Pursat Subproject
15. Initial Environmental Examination: Siem Reap Subproject
16. Initial Environmental Examination: Stung Treng Subproject
17. Initial Environmental Examination: Svay Rieng Subproject
18. Risk Assessment and Risk Management Plan

Supplementary Documents

19. Participation Plan
20. Ministry of Industry and Handicraft Letter Confirmation of No Land Acquisition in Stoung and Svay Rieng and Revised Subproject Components
21. Phnom Penh Water Supply Authority Annual Report: Clean Water for All and Customer Information, 2013 (including connection policy)
22. 2013 Feasibility Study: Kampong Cham, Siem Reap, Stung Treng, and Svay Rieng (main report only)
23. 2013 Feasibility Study: Kampong Thom, Kampot, Pursat, Sihanoukville, and Stoung (main report only)
24. Poverty, Social, and Gender Analysis
25. Complete Economic Analysis