

Report and Recommendation of the President to the Board of Directors

Project Number: 42285-013 October 2015

Proposed Loan and Administration of Loan and Grant Kingdom of Cambodia: Integrated Urban Environmental Management in the Tonle Sap Basin Project

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Asian Development Bank

CURRENCY EQUIVALENTS

(as of 23 September 2015)

Currency unit	-	Riels (KR}
KR1.00	=	\$0.00024
\$1.00	=	KR4,099

ABBREVIATIONS

ADB	_	Asian Development Bank
ASEAN	_	Association of Southeast Asian Nations
EIRR	_	economic internal rate of return
EMP		environment management plan
FIRR	-	financial internal rate of return
GMS	_	Greater Mekong Subregion
IDPoor	_	Identification of Poor Households Programme
MPWT	-	Ministry of Public Works and Transport
NGO	-	nongovernment organization
O&M	-	operation and maintenance
PAM	-	Project administration manual
PDPWT	-	provincial department of public works and transport
PIU	-	project implementation unit
PMU	-	project management unit
PPCR	-	Pilot Program for Climate Resilience
SCF	-	Strategic Climate Fund
SDR	-	special drawing right
SWM	-	solid waste management
TSUADF	_	Tonle Sap Urban Areas Development Framework
USU	-	urban service unit

WEIGHTS AND MEASURES

ha (hectare)	-	a metric unit of area equal to 100 ares or
		10,000 square meters
km (kilometer)	-	a metric unit of length equal to 1,000 meters.
m ² (square meter)	-	a unit of area equal to a square one meter
		on each side

NOTE

In this report, "\$" refers to US dollars.

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PROJECT AT A GLANCE

1.	Basic Data			Project Number: 42285-013
	Project Name	Integrated Urban Environmental	Department	SERD/SEUW
		Management in the Tonle Sap Basin	/Division	
		Project		
	Country	Cambodia	Executing Agency	Ministry of Public Works and
	Borrower	Kingdom of Cambodia		Transport
2.	Sector	Subsector(s)		ADB Financing (\$ million)
1	Water and other urban	Urban flood protection		19.33
	infrastructure and servic	es Urban policy, institutional and capacity	development	6.05
		Urban sanitation	·	6.07
		Lirban solid waste management		5 55
		orban solid waste management	Total	3.00
			Total	37.00
3.	Strategic Agenda	Subcomponents	Climate Change Infor	mation
	Inclusive economic	Pillar 2: Access to economic opportunities,	Adaptation (\$ million)	15.00
	growth (IEG)	including jobs, made more inclusive	Climate Change impac	t on the Medium
	Environmentally	Global and regional transboundary	Project	
	sustainable growth (ESG)	environmental concerns		
		Urban environmental improvement	I	
4.	Drivers of Change	Components	Gender Equity and M	ainstreaming
	Governance and capacity	Civil society participation	Effective gender mains	streaming
	development (GCD)	Institutional development	(EGM)	
	Knowledge solutions	Application and use of new knowledge		
	(KNS)	solutions in key operational areas		
		Knowledge sharing activities		
		Pilot-testing innovation and learning		
	Partnerships (PAR)	Civil acciety organizations		
		International finance institutions (IEI)		
		Official cofinancing		
		United Nations organization		
F	Deverty Terreting		Location Impost	
э.	Project directly targets	Voc	Dural	Low
	Project directly largets	Tes	Lirban	LOW High
	Geographic targeting (TI-C	a) Yes	orban	Tigri
•		Law	I	
6.	Risk Categorization:	LOW		
7.	Safeguard Categorization	n Environment: B Involuntary Re	settlement: B Indigenous	s Peoples: B
8.	Financing			
	Modality and Sources		Amount (\$ million)	
	ADB			37.00
	Sovereign Project loar	n: Asian Development Fund		37.00
	Cofinancing			10.00
	Strategic Climate Fun	d - PPCR		5.00
	Strategic Climate Fun	d		5.00
	Counterpart			5.60
	Government			5.40
	Othors			0.20
	Total			52.60
0	Effective Development C	constation		
Э.	Use of country procurement	nt systems No		
	Use of country public finan	icial management systems No		

I. THE PROPOSAL

1. I submit for your approval the following report and recommendation on (i) a proposed loan; (ii) proposed administration of a loan to be provided by the Asian Development Bank (ADB) Strategic Climate Fund (SCF);¹ and (iii) proposed administration of a grant to be provided by the ADB SCF to the Kingdom of Cambodia for the Integrated Urban Environmental Management in the Tonle Sap Basin Project.²

2. The project will contribute to increased economic activities and environmental protection in towns in the Tonle Sap Basin. It responds to the need of municipal governments for integrated urban environmental management in urban areas around Tonle Sap Lake. The project will improve urban services and enhance climate change resilience in Kampong Chhnang and Pursat municipalities through urban area environmental improvements; community mobilization and environmental improvements; strengthened sector coordination and operations; and strengthened capacity for project implementation, and operation and maintenance (O&M).³ The project follows the Tonle Sap Urban Areas Development Framework (TSUADF) and Kampong Chhnang and Pursat urban development strategies to 2030.⁴

II. THE PROJECT

A. Rationale

3. Urbanization in Cambodia is taking place rapidly since 2004 with an average urban growth rate of 2.6% per year. In 2013, about 21.4% of Cambodia's population lived in urban areas. Urban areas are crucial to Cambodia's economic development and its integration into regional markets such as the Greater Mekong Subregion (GMS) and the Association of Southeast Asian Nations (ASEAN). However, urbanization has been taking place with minimal coordination and regulation, inadequate infrastructure and insufficient regard for environmental impacts. This has resulted in unplanned growth, inefficient land use, damage and loss of natural resources, and inadequate access to urban services. Problems are attributable to poor urban management, little strategic spatial planning, poor integration of environmental management in urban planning, and insufficient investment in infrastructure and community services. Urban planning and investments are needed to accommodate expanding urban populations, sustain economic growth in urban areas, and protect the environment.

4. Urban areas in the Tonle Sap Basin have a direct and symbiotic relationship with their rural areas, which are based on agriculture, fisheries and manufacturing. About 12% of the population in the Tonle Sap provinces live in urban areas along Highways No. 5 and 6, which encompass the Tonle Sap Lake; the six largest urban areas had an estimated population of 480,000 in 2012 which is anticipated to grow to 670,000 by 2030.⁵ The Tonle Sap, a designated biosphere reserve since 1997, contributes about 60% of the country's total inland fisheries production. It is the largest freshwater lake in Southeast Asia and covers 250,000–300,000 hectares (ha) in the dry season and 1.0 million–1.6 million ha in the wet season.

¹ Under the Pilot Program for Climate Resilience (PPCR) financed by the SCF.

² The design and monitoring framework is in Appendix 1.

³ ADB provided project preparatory technical assistance. ADB. 2011. Technical Assistance to the Kingdom of Cambodia for Preparing the Integrated Urban Environmental Management in the Tonle Sap Basin Project. Manila. (TA 7986-CAM, \$700,000, approved on 13 December 2011).

⁴ TSUADF is for approval by the government. Kampong Chhnang and Pursat urban development strategies were approved on 31 July 2014.

 ⁵ Includes municipalities of Kampong Chhnang, Pursat, Serei Saophoan, Siem Reap, Stueng Saen and Battambang.
 Urban growth figures are estimates based on national census and National Institute of Statistics projections.

5. The TSUADF guides sustainable growth and climate resilient infrastructure development of urban areas in the Tonle Sap Basin. The Tonle Sap is at risk of being adversely affected by climate-induced changes to the Mekong River and its tributaries. About 62% of the Tonle Sap's water originates in the Mekong River and 38% in the Tonle Sap basin. It absorbs about 20% of the Mekong River's floodwaters. The Tonle Sap is connected to the Mekong River by the Tonle Sap River, which reverses its flow seasonally. As a result of climate change impacts, average water levels in the Tonle Sap may rise by 0.2 m and peak water levels may increase by up to 0.3 m by 2050, so floods may last 9% longer, and the probability of river floods is likely to increase.⁶ Standard & Poor's ranked Cambodia's economy and creditworthiness as most vulnerable to the effects of climate change amongst the 116 nations measured as part of a vulnerability index.⁷ The TSUADF prioritizes Kampong Chhnang and Pursat municipalities because of their strategic importance, climate change risk and environment protection needs, and synergies with ADB agriculture and rural development projects. Increased prosperity and greater climate resilient infrastructure will strengthen rural-urban regional linkages in these towns through an integrated approach to urban environmental management.⁸

6. Kampong Chhnang and Pursat urban development strategies list severe flooding and poor environmental sanitation as key infrastructure issues affecting residents' health and wellbeing. Both municipalities experienced severe flooding in 2011 and suffer flooding 6–8 months of a year. In Kampong Chhnang, the annual hydrological cycle of the Tonle Sap is the main cause of flooding and inundation damage.⁹ In Pursat, lack of drainage causes the most inundation damage and affects 80% of the town. This is made worse by climate-induced impacts and limited solid waste management (SWM). 'Reduce, reuse, recycle' for waste management is active in both municipalities through junk shops and waste pickers, but only about 20% of the waste stream in Kampong Chhnang and 30% in Pursat is recycled.

7. During the flooding season, poor and vulnerable communities are cut-off from the town center, restricting their access to markets and social services. They reside in low-lying areas near the Tonle Sap with poor drainage, and have limited access to SWM services and sanitation, making human waste disposal an environmental issue especially for communities living on, and adjacent to, the Tonle Sap. About 61% of households in Pursat and 50% in Kampong Chhnang have access to latrines. The Identification of Poor Households Programme (IDPoor) identified 2,133 poor households in Kampong Chhnang and 3,456 poor households in Pursat project area.¹⁰ The project will use this program in supporting community initiatives.

8. **Multiple agencies** at the central government level are involved in urban development and environmental protection: the Ministry of Public Works and Transport (MPWT), Ministry of Economy and Finance, Ministry of Water Resources and Meteorology, Tonle Sap Authority, Ministry of Industry and Handicrafts, and Ministry of Rural Development. The Ministry of Land Management, Urban Planning and Construction is responsible for spatial planning. The Ministry

⁶ C.T. Hoanh, et al. 2010. Impacts of climate change and development on Mekong flow regime. First assessment–2009. *MRC Technical Paper No. 29 (June)*. Vientiane: Mekong River Commission; and K. Västilä, et al. 2010. Modeling Climate Change Impacts on the Flood Pulse in the Lower Mekong Floodplains. *Journal of Water and Climate Change*. 1(1): pp. 67-86.

 ⁷ Floods in 2011 damaged about 10% of the country's total agricultural crops and \$200 million worth of infrastructure.
 E, Morton. 2014. *Cambodia most vulnerable to climate change: Study. The Phnom Penh Post*.12 June.

⁸ TSUADF, Kampong Chhnang Urban Development Strategy, Pursat Urban Development Strategy (accessible from the list of linked documents in Appendix 2).

⁹ Climate Resilience Measures (paras. 26–32 and 42, accessible from the list of linked documents in Appendix 2).

¹⁰ IDPoor is a nationwide identification and targeting program for the poor based on poverty levels and poverty rates in different areas. IDPoor 1 and 2 are categories of poor households. Government of Cambodia. Ministry of Planning. 2012. *ID Poor Atlas*. Phnom Penh.

of Tourism encourages clean tourism city development. The Ministry of Environment oversees climate change adaptation activities, pollution control, green growth, and environmental safeguard compliance, and SWM of household waste. The project will coordinate frequently with these agencies.

9. The role of provincial and municipal governments in decentralized urban management and service delivery is evolving with the gradual assignment of functions from line Ministries to subnational governments under the Law on the Administrative Management of the Capital City, Provincial and District Towns (Organic Law 2008). The Ministry of Interior is responsible for public administration and subnational matters and the National Committee for Sub-National Democratic Development is the inter-ministerial mechanism for promoting democratic development through decentralization and deconcentration reforms. Provincial departments of line ministries (through municipalities) are responsible for O&M, private sector contract management and service delivery. The project will address the larger issue of sustainability by establishing semi-autonomous agencies (urban services units [USUs]) for urban services.

10. **Related policies and strategies.** The project is in line with the government's Rectangular Strategy Phase III; the National Strategic Development Plan 2014–2018; the Organic Law and Sub-decrees; the Cambodia Climate Change Strategic Plan 2014–2023; the National Adaptation Programme of Action for Climate Change; and the ASEAN Clean Tourism City Standard initiative. It focuses on the Tonle Sap provinces prioritized in 2013 for programming because of higher than national average poverty rates and incidence of female illiteracy. The project has synergies with other ADB and development partner projects.¹¹ It is aligned with ADB's country partnership strategy for Cambodia, 2014–2018; country operations business plan for Cambodia, 2015–2017; and urban operational plan, 2011–2020 under Strategy 2020; and the Midterm Review of Strategy 2020. The project focuses on achieving sustainable and inclusive development by transforming key urban areas into competitive and green urban centers; thereby strengthening rural-urban subregion connectivity and linkages.¹²

11. ADB has played a prominent role in the urban sector, together with the Japan International Cooperation Agency, Agence Française de Développement, and German development cooperation through Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ). It assisted the government to launch the Tonle Sap Initiative following development of the Tonle Sap Basin Strategy in 2005. Lessons have been incorporated from ADB's experience in implementing urban development projects in Cambodia into the project design. These lessons include the need for strengthening institutional capacity and skills in project implementation and management; implementing resettlement in partnership with the government; facilitating sector coordination and stakeholder consultations; and establishing a special operating agency and account for O&M of decentralized services for improved sustainability.¹³

¹¹ Development Coordination (accessible from the list of linked documents in Appendix 2).

¹² ADB. 2014. Country Partnership Strategy: Cambodia, 2014–2018. Manila; ADB. 2014. Country Operations Business Plan 2015–2017. Manila; Government of Cambodia. 2014. National Strategic Development Plan 2014–2018. Phnom Penh; ADB. 2013. Urban Operational Plan, 2012–2020. Manila; Government of Cambodia, Ministry of Environment. 2006. National Adaptation Programme of Action for Climate Change. Phnom Penh; Government of Cambodia, Ministry of Tourism. 2014. ASEAN Clean Tourist City Standard. Phnom Penh; Government of Cambodia. 2013. Rectangular Strategy for Growth, Employment, Equity and Efficiency, Phase III. Phnom Penh; Government of Cambodia, National Climate Change Committee. 2013. Cambodia Climate Change Strategic Plan 2014–2023. Phnom Penh; and Government of Cambodia, Ministry of Planning. 2013. Integration of Demographic Perspectives in Development, Cambodia. Phnom Penh.

¹³ Independent Evaluation Department. 2013. Validation Report: Mekong Tourism Development Project in the Greater Mekong Subregion (Cambodia, Lao People's Democratic Republic, and Viet Nam). Manila: ADB; ADB. 2013. Technical Assistance to the Kingdom of Cambodia for *Capacity Development for Urban Management*. Manila;

B. Impact and Outcome

12. The impact will be increased economic activities and environmental protection in towns in the Tonle Sap Basin. The outcome will be improved urban services and enhanced climate change resilience in Kampong Chhnang and Pursat municipalities. The project will enhance the urban environment, improve public health, and contribute to better quality, coverage and reliability of services to more than 100,000 residents in the municipalities of Kampong Chhnang and Pursat. This will be achieved through an integrated program of physical and non-physical investments. The project incorporates climate resilience measures in infrastructure development, with support from the Pilot Program Climate Resilience (PPCR).¹⁴

C. Outputs

13. Output 1: Kampong Chhnang urban area environmental improvements include flood protection totaling 15.1 km along Tonle Sap riverbank through improvement of the existing embankment and construction of a new embankment where required; construction of a new controlled landfill site of 10 ha at Phnom Tauch village with increased capacity; provision of equipment for solid waste collection; and landfill management, including supervised closing of two open dumpsites in Kul Kuk village and Trork village. It complements the Japan International Cooperation Agency's drainage project in the municipality and GIZ's support for development of an urban master plan. Embankment protection will prevent flooding from the Tonle Sap into Kampong Chhnang town, reducing its vulnerability to flooding and providing protection to 1 in 50 year high water levels. In the dry season, outlets will accommodate the natural streams flowing into the Tonle Sap, and sluice gates will avoid backflow into the town as the water rises. In the wet season, natural retention areas will retain wet season flows. The embankment is imperative for residents to have continued access to social services and economic activities in the town (e.g., rice processing mills). Improved flood protection will assist farmers in the eastern part of the municipality to increase agricultural production from two to three crops per year.

14. Output 2: Pursat urban area environmental improvements include construction of about 9.9 km of primary and secondary drains in the town center with associated road improvements and improved wastewater treatment; riverbank erosion protection in select locations along the Pursat River, including revetment and groins; development of a new controlled landfill site of about 28 ha at Toul Mkak village; provision of equipment for solid waste collection; and landfill management, including equipment and supervised closing of two old open dumpsites in Toul Mkak village and Sras Srang village. It complements ADB's previous support to the Dhamnak Chheukrom Irrigation System Rehabilitation (located about 40 km upstream). About 20% of the town's roads have drains connected to National Highway No. 5. Town drainage will improve the stormwater drainage system to accommodate more intensive rainfall. It will support increased economic activities in the town, and facilitate residents' continued access to social services.

15. Output 3: Community mobilization and environmental improvements aim to address the climate change and environmental needs of the urban poor and vulnerable, including ethnic Cham and Vietnamese in Kampong Chhnang and Pursat—making the project more inclusive. It includes improved household sanitation for IDPoor 1 and 2 in the current municipality area; climate change and hygiene awareness and action; and community small-scale infrastructure

Independent Evaluation Department. 2012. Validation Report: *Provincial Towns Improvement Project in Cambodia.* Manila: ADB; and ADB. 1997. *Technical Assistance Completion Report: Urban Development Strategy Study in Cambodia.* Manila.

¹⁴ The PPCR is a targeted program of the SCF, which is one of two funds under the Climate Investment Fund. PPCR programs are country-led; they build on national adaptation programmes of action for climate change.

improvements in pre-identified poor and vulnerable areas in each municipality. Small-scale infrastructure improvements will be prioritized by the communities and financed by the project, national government, and community. The output will extend project benefits to the poor and vulnerable groups in partnership with an international nongovernmental organization (NGO).

Output 4: Strengthened sector coordination and operations support the MPWT to 16. convene national urban development task force meetings (twice per year); strengthen climate change regulations, focusing on improved building codes in provincial towns around the Tonle Sap, including appropriate sanitation; and support the establishment of pilot USUs (or special operating agencies) for improved delivery and management of decentralized urban services. If successful, USUs will demonstrate a mechanism for the sustainability and delivery of quality decentralized urban services, which could be replicated in other municipalities. Climate change financing will support the Government in implementing the TSUADF around the Tonle Sap by developing a consultation program, and a plan for climate change adaptation in urban areas. It complements the MPWT parallel climate change initiatives in the transport sector.

17. Output 5: Strengthened capacity for project implementation and O&M include project implementation support services for the project management unit (PMU) and project implementation units (PIUs) in design, supervision; safeguards; project and climate resilience monitoring; gender mainstreaming; community development; accounting and financial management; procurement; disbursement; review and expansion of existing strategies (flood mitigation, stormwater drainage, SWM, and disaster risk management); and skills enhancement and on-the-job training in urban planning and development, SWM, and O&M.

D. **Investment and Financing Plans**

18. The project is estimated to cost \$52.6 million (Table 1).

Table 1: Project Investment Plan

(\$ million)

Iten	n	Amount
Α.	Base Cost ^a	
	1. Output 1: Kampong Chhnang Urban Area Improvements	22.9
	2. Output 2: Pursat Urban Area Improvements	11.2
	3. Output 3: Community Mobilization and Environmental Improvements	4.3
	Output 4: Strengthened Sector Coordination and Operations	0.4
	5. Output 5: Strengthened Capacity for Project Implementation, O&M	5.5
	Subtotal (A) ^b	44.3
В.	Contingencies ^c	6.9
C.	Financing Charges During Implementation ^d	1.4
	Total (A+B+C)	52.6
ADE	3 = Asian Development Bank, SCF = Strategic Climate Fund	

^a Includes taxes and duties of \$4.55 million to be financed by the government through exemption, ADB and ADB SCF. ^b In September 2015 prices.

^c Physical contingencies computed at 10% for civil works, equipment and consulting services. Price contingencies computed at 1.8% to 2.2% on foreign exchange costs and 3.5% on local currency costs; includes provision for potential exchange rate fluctuations under the assumption of a purchasing power parity exchange rate.

Includes interest estimated at \$1.40 million during implementation for the ADB loan and \$0.02 million in service charge for the ADB Strategic Climate Fund loan, which will be both be capitalized as part of the loans.

Source: Asian Development Bank estimates.

19. The financing plan is in Table 2.

Source	Amount (\$million)	Share of Total (%)
Asian Development Bank (Asian Development Fund Ioan)	37.0	70.4
ADB Strategic Climate Fund Ioan ^a	5.0	9.5
ADB Strategic Climate Fund grant ^a	5.0	9.5
Government of Cambodia	5.4	10.2
Community	0.2	0.4
Total	52.6	100.0

Table 2: Financing Plan

ADB = Asian Development Bank, SCF = Strategic Climate Fund

^a Under the Pilot Program for Climate Resilience financed by the Strategic Climate Fund. Administered by ADB. Source: Asian Development Bank estimates.

20. The government has requested a loan in various currencies equivalent to SDR26,382,000 from ADB's Special Funds resources to help finance the project, including taxes and duties of incremental administration costs (office and travel expenses and equipment) and workshops (ADB loan) and taxes and duties of workshops (ADB SCF grant).¹⁵ The ADB 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 as set forth in the draft loan agreement. The ADB SCF will provide a grant of \$5.0 million and a loan for \$5.0 million. The proposed ADB SCF loan will have a 40-year term, including a grace period of 10 years, and a service charge of 0.1% per annum on the disbursed and outstanding loan amount. The interest during implementation of the ADB loan and the service charge of the ADB SCF loan will be capitalized as part of the loans. The government will provide counterpart financing of \$5.4 million equivalent to cover its 10% contribution to output village grants, costs for land acquisition and resettlement, salary supplements, taxes and duties (through exemption), and annual audit of project accounts. Community financing of \$0.2 million in cash will cover its 10% contribution to output village grants. ADB SCF Loan and Grant will be front loaded.

E. Implementation Arrangements

21. The implementation arrangements are summarized in Table 3 and described in detail in the project administration manual (PAM).¹⁶ Procurement of goods and works will follow ADB's *Procurement Guidelines* (2015, as amended from time to time). Consulting services will follow ADB's *Guidelines on the Use of Consultants* (2013, as amended from time to time). Since the project is financed with ADB-administered cofinancing resources as well as Asian Development Fund resources, universal procurement will apply to all contract packages financed under the project.¹⁷ Additional financing may be considered if the project performs well. The original loan, subsequent additional financing, or other finance will be used to achieve readiness for additional financing in such areas as design, safeguard requirements, and capacity.

Aspects	Arrangements
Implementation period	November 2015–October 2022
Estimated completion date	31 October 2022 (loan closing: 30 April 2023)
Management	
(i) Project steering committee	Secretary of State, MPWT (chair); Ministry of Land Management, Urban Planning

Table 3: Implementation Arrangements

¹⁵ ADB loan and ADB SCF grant will finance taxes and duties on ADB loan-financed and ADB SCF grant-financed expenditures, as it is within reasonable country thresholds, does not represent an excessive share of the project investment, and is material and relevant to the project's success; and recurrent costs, local transportation, and is insurance to facilitate project implementation.

¹⁶ Project Administration Manual (accessible from the list of linked documents in Appendix 2).

¹⁷ ADB. 2013. Blanket Waiver of Member Country Procurement Eligibility Restrictions in Cases of Cofinancing for Operations Financed from Asian Development Fund Resources. Manila.

Aspects	Arrangements		
(at least 1 woman)	and Construction, MOI, MEF, and TSA (memb	pers).	
(ii) Provincial coordination	Provincial governor (chair); select members of the provincial technical		
committee (Kampong	coordinating committee, and PMU project	director (members)	. PIU manager
Chhnang and Pursat)	(secretariat). At least one woman on each con	nmittee.	
(iii) Executing agency	MPWT		
(iv) Key implementing agencies	Kampong Chhnang PDPWT and municipality	v, Pursat PDPWT ar	nd municipality.
(v) Project management unit	General Department of Public Works in MPW	/T, 11 staff (at least	: 30% women)
(vi) Implementation unit	PDPWT in Kampong Chhnang, 12 staff (at le	ast 30% women)	
(vii) Implementation unit	PDPWT in Pursat, 9 staff (at least 30% wome	en)	
(viii) Sangkat/commune councils	To coordinate output 3 with PIUs, NGO, com	munity association,	and VDCs.
(ix) Urban service unit and its	By project midterm, the PIUs will be convert	ed into semi-auton	omous USUs in
board (at least 20% women)	PDPWT, with a long-term vision of becomin	g an autonomous	unit under each
	municipality. They will be established for de	livery of urban serv	vices, and O&M
	of urban infrastructure. The board (or its equ	uivalent) will include	e provincial and
	municipal governors, and representatives from	m MPWT, MEF and	women affairs.
Procurement	International competitive bidding	2 contracts	\$33.78 million
	National competitive bidding	12 contracts	\$9.13 million
	Shopping	5 contracts	\$0.18 million
Consulting services	Project management and implementation	506 person-	\$4.67 million
	support consultants (QCBS [80:20])	months	
	Climate change adaptation in urban	13 person-	\$0.35 million
	development consultants (CQS)	months	
	Sector strengthening and capacity	5.5 person-	\$0.13 million
	development consultants (CQS)	months	
	International NGO (QCBS [80:20])	Performance-	\$0.99 million
		based contract	
Advance contracting	Advance action for consulting services requested.		
Disbursement	The loan and grant proceeds will be disbursed	i in accordance with	ADB's Loan
	Disbursement Handbook (2015, as amended from time to time) and detailed		
	arrangements agreed upon between the gove	rnment and ADB.	

ADB = Asian Development Bank, CQS = consultants' qualification selection, MEF = Ministry of Economy and Finance, MOI = Ministry of Interior, MPWT = Ministry of Public Works and Transport, NGO = nongovernment organization, O&M = operation and maintenance, PDPWT = provincial department of public works and transport, PIU = project implementation unit, PMU = project management unit, QCBS = quality and- cost-based selection, TSA = Tonle Sap Authority, USU = urban service units, VDC = village development committee.

Sources: Asian Development Bank and Ministry of Public Works and Transport.

III. DUE DILIGENCE

A. Technical

22. The technologies selected focus on durability and sustainability in both towns. Urban area improvements are prioritized and target areas where there is maximum positive impact on local communities and the environment. Engineering solutions for infrastructure and equipment are appropriate and have been developed based on technical viability and compatibility with local conditions, particularly local O&M capacity. Climate resilience measures will also help reduce maintenance costs and prolong the life of the infrastructure investment. Contract packages will attract contractors with skills and experience to ensure the durability and continuity of the proposed infrastructure. Community-driven improvements will respond to local planning and prioritization results. Household sanitation improvements will be based on function, cost, and long-term durability in an urban setting. The plan for climate change adaptation in urban areas and revised building codes will strengthen climate resilience measures in this and other projects.¹⁸

¹⁸ A sanitary landfill is not feasible in Kampong Chhnang or Pursat owing to high initial and operating costs, low volumes of waste generated, high levels of technical expertise required, and people's low willingness to pay.

B. Economic and Financial

The project contributes to the improved economic welfare of project residents. Flood 23. control components result in significant benefits in savings from property damages avoided and savings from the agricultural and commercial losses resulting from reduced flooding in both towns. Economic benefits for the SWM components are reduced health risks from poor SWM as measured through savings in the Disability Adjusted Life Years attributable to poor SWM for residents. Base case results indicate that subprojects are economically viable with an estimated economic internal rate of return (EIRR) that exceeds the economic opportunity cost of capital of 12%. Base case EIRRs for flood protection and SWM are 18.22% and 16.64% for Kampong Chhnang and 16.88% and 14.50% for Pursat. Sensitivity analysis showed that the EIRRs are most vulnerable to changes in anticipated benefits. The financial viability of the project's only revenue earning component was assessed; the financial internal rates of return (FIRRs) for SWM improvements are 5.98% for Kampong Chhnang and 9.59% for Pursat. The FIRRs exceed the weighted average cost of capital of 2.33% indicating financial viability. Sensitivity tests indicate that the FIRRs would be most susceptible to reductions in revenues. Levy of an environment sanitation fee will help USUs recover O&M costs and gradual depreciation.¹⁹ USUs with a dedicated account will facilitate collection and use of user fees for O&M. Results of the financial projections indicate that user fees can adequately fund O&M of the controlled landfill, garbage collection, and flood control assets during the first 10 years of operation with minimal government subsidies. The user fees are affordable based on a fee affordability analysis.²⁰

C. Governance

24. A financial management and a procurement capacity assessment of the executing and implementing agencies confirmed the adequacy of project implementation and financial management arrangements. The MPWT has experience in managing externally funded projects and has sufficient capacity to undertake international and national competitive bidding for civil works packages. Lessons from ADB projects will guide implementation, financial management, and accounting. The assessments indicated limited capacity at the subnational level, so the PMU will manage all procurement activities and will involve the subnational level in the process. A subaccount will be established in each PIU for operational costs, and a special account solely for depositing revenue collected from the environmental sanitation fee for USUs with strict replenishment measures. Output 5 will support PMU and PIU staff. ADB's Anticorruption Policy (1998, as amended to date) was explained to and discussed with the government and the MPWT. Specific policy requirements and supplementary measures are described in the PAM.

D. Poverty and Social

25. The project will have positive social and economic impacts on residents in Kampong Chhnang and Pursat. They will be able to access livelihood and commercial opportunities through an improvement in their living conditions and public health. The project will improve physical accessibility; reduce vulnerability risk; and enhance local ownership and sanitation awareness. Measures are included to ensure that project benefits reach the urban poor and vulnerable groups, such as the ethnic Cham, Vietnamese and floating communities in Kampong Chhnang. Safety features, such as sidewalks and solar lamps are incorporated for the river embankment in Kampong Chhnang and the drainage in Pursat. The project is effective gender mainstreaming and has a gender action plan. NGOs and civil society organization contributed to the project design and will continue during implementation.

¹⁹ Environmental sanitation fees include garbage collection fees, drainage, and/or flood control service changes.

²⁰ Economic Analysis and Financial Analysis (accessible from the list of linked documents in Appendix 2).

E. Safeguards

The safeguard category for involuntary resettlement is B in accordance with ADB's 26. Safeguard Policy Statement (2009). An estimated 78,815.25 m² of land (56,945.75 m² [public] and 21,869.50 m² [private]) will be acquired for the project. About 139 affected households (or 576 affected persons) will incur minor impacts resulting from the loss of fixed assets and sources of incomes or livelihoods. About 25 affected households (108 affected persons) will be severely affected by loss of agricultural land or permanent loss of land use equivalent to 10% or more of their total productive assets. The estimated cost of land acquisition and resettlement is \$257,393.53, including base costs, allowances, contingencies and administration costs. This will be updated after detailed design and the detailed measurement survey. Administrative costs of the grievance committee for grievance resolution will be borne by the project. A cutoff date in each town has been established with stakeholder consultation and participation. Project information was shared with affected people during project preparation. Information booklets will be disclosed at commune offices and will be distributed to affected households during the detailed measurement survey. An external monitoring organization will confirm compliance with the resettlement plans and will submit monitoring and post-project evaluation reports.²¹

27. The indigenous peoples safeguard category is B. Ethnic Cham and Vietnamese were identified and meaningfully consulted in Kampong Chhnang villages. They live alongside the Khmer majority and are well integrated the larger community. Design features are included to ensure the ethnic Cham and Vietnamese are beneficiaries and are meaningfully consulted. The Kampong Chhnang river embankment in some parts will be constructed parallel to the existing alignment to avoid resettlement impacts. Output 3 pre-identifies villages where ethnic Cham and Vietnamese are a majority of beneficiaries. Elements of an indigenous peoples plan are integrated in the project design in lieu of a stand-alone indigenous peoples plan.

28. The environment safeguard category is B. Initial environmental examinations and an environmental assessment review framework have been prepared. Climate resilience measures are integrated into the project. Environmental impacts are related to siting, design, construction, and operation; and mitigation measures are part of the environment management plans (EMPs). EMPs have been prepared for SWM, embankment protection, drainage, and riverbank erosion protection, and will form part of the bidding and contract documents. Potential adverse impacts during construction are expected to be temporary and will be mitigated through the EMPs. The project includes budget and institutional arrangements for EMP implementation and monitoring.

29. Safeguard documents are prepared in consultation with communities and according to ADB's Safeguard Policy Statement and government laws.²² They are approved and posted on the ADB website, and will be updated and disclosed after detailed design and cleared by ADB prior to contract awards. A grievance redress mechanism will facilitate resolution of complaints.

F. Risks and Mitigating Measures

30. The overall risk assessment is medium, and the integrated benefits and impacts are expected to outweigh the costs. Major risks and mitigating measures are summarized in Table 4 and described in detail in the risk assessment and risk management plan.²³

 ²¹ Lessons from previous project implementation have been considered, including the importance of good design, grievance redressal, frequent monitoring and implementation capacity.
 ²² Resettlement Plans, Initial Environmental Examination Plans, and Environmental Assessment and Review

²² Resettlement Plans, Initial Environmental Examination Plans, and Environmental Assessment and Review Framework (accessible from the list of linked documents in Appendix 2)

²³ Risk Assessment and Risk Management Plan (accessible from the list of linked documents in Appendix 2).

Risks	Mitigating Measures		
Economic activities are adversely affected by natural	Climate change impacts are identified and included in the		
disasters and lack of climate change impacts.	design of infrastructure investments.		
Municipalities are not prepared to collect revenues for	A special operating agency and account will be		
operation and maintenance of urban infrastructure.	established to collect and manage user fees.		
Project start-up delays increase the number of affected	A project implementation specialist will be recruited to		
people along the embankment alignment.	assist in accelerating project start-up.		
Civil society or nongovernment organizations raise	Civil society or nongovernment organizations will be		
concerns during project implementation.	partners in project implementation.		
Dhamnak Chheukrom Irrigation System Rehabilitation	A detailed hydrological survey of the Pursat River will be		
works (upstream) does not lower flood levels of Pursat	conducted after completion of works.		
river in town center after completion.			

Table 4: Summary of Risks and Mitigating Measures

Source: Asian Development Bank.

IV. ASSURANCES AND CONDITIONS

31. The government and the MPWT, Kampong Chhnang and Pursat PDPWTs and municipalities of Kampong Chhnang and Pursat 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 PAM and loan and grant documents. The government and the MPWT have agreed with ADB on certain covenants and conditions for the project, which are set forth in the loan and grant agreements. A loan disbursement condition stipulating that each USU shall adopt an environmental sanitation fee before disbursement or withdrawal is made for SWM civil works contract is included.

V. RECOMMENDATION

32. I am satisfied that the proposed loan would comply with the Articles of Agreement of the Asian Development Bank (ADB) and recommend that the Board approve

- (i) the loan in various currencies equivalent to SDR26,382,000 to the Kingdom of Cambodia for the Integrated Urban Environmental Management in the Tonle Sap Basin 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 agreement presented to the Board;
- (ii) the administration by ADB of the loan, to be provided by the ADB Strategic Climate Fund, not exceeding the equivalent of \$5,000,000 to the Kingdom of Cambodia for the Integrated Urban Environmental Management in the Tonle Sap Basin Project; and
- (iii) the administration by ADB of the grant, to be provided by the ADB Strategic Climate Fund, not exceeding the equivalent of \$5,000,000 to the Kingdom of Cambodia for the Integrated Urban Environmental Management in the Tonle Sap Basin Project.

Takehiko Nakao President

20 October 2015

DESIGN AND MONITORING FRAMEWORK

Impact the Project is Aligned with

Increased economic activities and environmental protection in towns in the Tonle Sap basin (Tonle Sap Urban Development Strategic Framework 2014–2030)^a

Results Chain	Performance Indicators with Targets and Baselines	Data Sources and Benorting	Risks
Outcome	By 2023:	neporting	
Improved urban services and enhanced climate change resilience in Kampong Chhnang and Pursat municipalities	 a. At least 100,000 residents benefit from the project in Kampong Chhnang and Pursat municipalities (2013: 42,500 residents in Kampong Chhnang and 51,400 residents in Pursat). b. Households affected by floods in Kampong Chhnang reduced by 80% (2013: 5,400 households) c. Households affected by flooding in Pursat town center reduced by 50% (2013: 2,860 households) d. At least 19,600 households served by improved SWM in Kampong Chhnang and Pursat (2013: 1,500 households in Kampong Chhnang; 400 households in Pursat) e. At least 90% sanitation coverage achieved (2013: 50% in Kampong Chhnang and 61% in Pursat) f. Strengthened institutional framework and adaptive capacities of USUs in climate resilience infrastructure and climate change and hygiene awareness (baseline: not applicable) 	af. PMU's annual PPME reports, quarterly project progress, and project completion reports f. National Committee for Disaster Management announcements and reports	Economic activities are adversely affected by natural disasters and lack of climate change impacts. Municipalities are not prepared to collect revenues for O&M of urban infrastructure.
Outputs 1. Kampong Chhnang urban area environmental improvements	By 2022: (Baseline: not applicable, if not otherwise stated) 1a. At least 15.1 km of embankment and road improved and constructed to a once in 50 years frequency flood level or 1:50 year flood levels (2013: range 1:1–1:20) 1b. 365 ha of urban land in 14 villages, and 950 ha of agricultural land in 14 villages are free from flooding from Tonle Sap 1c. About 10 ha is converted into a controlled landfill 1d. Two open dumpsites are closed and capped. 1e. Household collection increases to at least 60% in the municipality of Kampong Chhnang (2013: 4% or 400 households)	1a.–1e. PMU's annual PPME, quarterly project progress, and project completion reports	Project start-up delays increase the number of affected people along the embankment alignment. CSOs and/or NGOs raise concerns during project implementation.
2. Pursat urban area environmental improvements	By 2022: (Baseline: not applicable, if not otherwise stated) 2a. At least 9.89 km of drains are improved and extended (2013: 5.64 km of drains) 2b. At least 9.49 km of sidewalks along associated drainage-roads are installed (2013: 0) 2c. At least 1.5 ha of the wastewater stabilization pond facility (anaerobic and facultative ponds) is rehabilitated to produce installed capacity of 5,700 m ³ /day (2013: not functioning) 2d. 200 mm of Pursat riverbank is reinforced. 2e. About 28 ha are developed for a new controlled landfill 2f. Two open dumpsites are closed and capped (2013: 1 of 2 landfill sites is closed) 2g. Household collection increases to at least 60% in Pursat municipality (2013: 11%)	2a.–2g. PMU's annual PPME, quarterly project progress, and project completion reports	Dhamnak Chheukrom Irrigation System Rehabilitation works (upstream) does not lower flood levels of Pursat river in town center after completion. CSOs and/or NGOs raise concerns during project implementation.

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Results Chain	Performance Indicators with Targets and	Data Sources and	Risks
	By 2022	neporting	
3. Community mobilization and environmental improvements	 (Baseline: 0) 3a. At least 40% of participants in output activities and training are women. 3b. At least 5,200 IDPoor 1 and 2 households in Kampong Chhnang and Pursat have pour-flush toilets. 3c. At least 30% of hygiene campaigns focus on menstrual hygiene and SWM. 3d. At least 2,000 poor and vulnerable households benefit from community-driven climate resilience infrastructure. 	3a.–3d. PMU's annual PPME, quarterly project progress, and project completion reports 3b. Government of Cambodia, Ministry of Planning's IDPoor Atlas	CSOs and/or NGOs raise concerns during project implementation.
4. Strengthened sector coordination and operations	 By 2022: (Baseline: not applicable) 4a. A plan for climate change adaptation in urban areas around the Tonle Sap is adopted by Tonle Sap provinces 4b. Building codes with refined latrine standards are adopted by Tonle Sap provinces 4c. MPWT chairs at least two coordination meetings per year 4d. Semi-autonomous USUs in Kampong Chhnang and Pursat municipalities are established and become operational (20% of staff are women) 	4a.–4d. PMU's annual PPME, quarterly project progress, and project completion reports	
5. Strengthened capacity for project implementation, and operations and maintenance	By 2022: 5a. At least 20% of training participants are qualified women (2013: 5%-10%) 5b. A capacity development program is adopted by each municipality (baseline: not applicable)	5a.–5b. PMU's annual PPME, quarterly project progress, and project completion reports; and sex- disaggregated training records	
 Key Activities with Milestones Kampong Chhnang urban area environmental improvements Conduct topographical and soil surveys (Q1, 2017) Update feasibility study^b and appraisal report for ADB and government approval (Q1–Q3, 2017). Issue bids, evaluate bids, and submit to ADB for no objection (Q4, 2017–Q3, 2018). Transfer O&M and tariff collection for SWM to USU (Q4, 2017–Q2, 2018) Award landfill civil works contract, procure landfill equipment and construct landfill (Q2, 2018–Q3, 2019) Transfer O&M responsibilities for drainage and flood control systems to USU (Q3, 2018) Remediate old open dumpsites and construct controlled landfill (Q4, 2018–Q2, 2019) Award civil works contract and construct embankment (Q2, 2018–Q4, 2019) Dry season 1, Construct embankment segments A to C (Q1–Q3, 2019) Dry season 1, Construct embankment segments A to C (Q1–Q3, 2019) Dry season 2, Construct embankment segments D to I (Q1–Q3, 2019 and Q1–Q3, 2020) Construct embankment segments I to M during higher lake levels (Q1, 2019–Q4, 2020) Construct embankment works and defects liability period (Q3, 2021–Q3, 2022) Internal and external monitoring of safeguard documents (2017–2022, quarterly) Pursat urban area environmental improvements Conduct topographical and solis surveys (Q1, 2017) Update feasibility study^b and appraisal report for ADB and government approval (Q1–Q3, 2017) Transfer O&M and tariff collection for SWM to USU (Q4, 2017–Q2, 2018) Award contract for drainage and to ADB for no objection (Q4, 2017–Q2, 2018) Award contract for drainage and embankment works (Q3, 2018) Procure landfill equipment (Q2–Q3, 2018) Award contract for drainage and embankment works (Q3, 2018) Procure landfill equipment (Q2–Q3, 2018) Award contract for landfill construction (Q4, 2018) Procure landfill equipment (Q2			

Key Activities with Milestones

- 2.9. Construction of riverbank protection (Q3, 2018-Q2, 2019)
- 2.10. Transfer O&M responsibilities for drainage and flood control systems to USU (Q3, 2018)
- 2.11. Procure solid waste collection equipment (Q4, 2019)
- 2.12. Hand over works for landfill and defects liability period (Q4, 2019-Q4, 2020)
- 2.13. Construct drainage system starting at foot of system, construct pumping stations and WWTP with road rehabilitation as required (Q4, 2018–Q2, 2020)
- 2.14. Supervise start-up and commissioning of WWTP (Q3-Q4, 2020)
- 2.15. Hand over of drainage and embankment works and defects liability period (Q3, 2019-Q1, 2022)
- 2.16. Internal and external monitoring of safeguard documents (2017–2022, quarterly)

3. Community mobilization and environmental improvements

- 3.1. Recruit International NGO (Q2-Q4, 2016)
- 3.2. Train village development committee units for project briefing and output training (Q2–Q3, 2017)
- 3.3. Climate change adaptation and sanitation needs assessments (Q1–Q2, 2017)
- 3.4. Undertake community awareness programs (Q3, 2017–Q3, 2018 and intermittent)
- 3.5. Needs assessments for small-scale infrastructure works on climate change adaptation and sanitation (Q1–Q3, 2017)
- 3.6. Assist in planning, implementing, and supervising community environmental improvements (Q3, 2017–Q4, 2021)
- 3.7. Prepare report on community environmental improvements and lessons (Q4, 2021)
- 3.8. Internal and external monitoring of safeguard documents (2017-2022, quarterly)
- 4. Strengthened sector coordination and operations
- 4.1. Recruit and mobilize climate change resilience consultants (Q3–Q4, 2016)
- 4.2. Recruit and mobilize institutional development consultants (Q1-Q2, 2016)
- 4.3. Prepare, approve, establish, and strengthen USU institutions (Q2, 2016-Q3, 2022)
- 4.4. Review climate change and urban development documents, and sanitation standards in building codes (Q1, 2017)
- 4.5. Implement TSUADF, including revising building codes and developing the plan for climate change adaptation in urban areas (Q2, 2017–Q1, 2019)
- 4.6. Plan for climate change adaptation in urban areas is endorsed, including revised building codes in Tonle Sap provinces (Q4, 2018–Q1, 2019)
- 4.7. National task force for urban development meetings (Q1, 2017–Q1, 2022)
- 5. Strengthened capacity for project implementation, and O&M
- 5.1. Appoint and update PMU and PIU members, including grievance focal points (Q1, 2016 and Q4, 2016)
- 5.2. Recruit and mobilize project management and implementation support consultants (Q4, 2015–Q4, 2016)
- 5.3. Recruit external resettlement monitor (Q3–Q4, 2016)
- 5.4. Develop project performance management system and capacity development plan (sex-disaggregated) (Q2, 2017)
- 5.5. Undertake training programs in project and financial management, procurement, safeguards, gender mainstreaming, and others (Q1, 2017–Q1, 2022)
- 5.6. Submit guarterly project progress reports (1 month after each guarter, starting in Q1, 2017)
- 5.7. Prepare annual PPME reports (31 January, 1 month after close of calendar year)
- 5.8. Submit Government completion and post-evaluation reports on resettlement activities (Q2, 2019 and Q1, 2020)
- 5.9. Submit government project completion report and resettlement report (Q3, 2022)

Inputs

ADB: \$37.00 million (loan)

Government: \$5.37 million

Note: The government will provide counterpart support to cover its 10% contribution to output village grants, costs for land acquisition and resettlement, salary supplements, taxes and duties (through exemption), and annual audit of project accounts.

ADB Strategic Climate Fund: \$5.00 million (loan) and \$5.00 million (grant)

Assumptions for Partner Financing

Not Applicable.

ADB = Asian Development Bank, CSO = civil society organization, EMP = environment management plan, ha=hectare, IDPoor = Identification of Poor Households Programme, km = kilometer, MPWT=Ministry of Public Works and Transport, NCB = national competitive bidding, NGO = nongovernmental organization, O&M = operation and maintenance, PIU = project implementation unit, PMU = project management unit, PPME = project performance monitoring system, PPMS = project performance management system, Q = quarter, SCF = Strategic Climate Fund, SWM = solid waste management, TA = technical assistance, TSUADF = Tonle Sap Urban Areas Development Framework, USU = urban services unit, WWTP = wastewater treatment plant.

^a Government of Cambodia, Ministry of Public Works and Transport. Forthcoming. *Tonle Sap Urban Areas Development Framework 2014–2030*. Phnom Penh.

^b Feasibility studies include detailed engineering design and updated cost estimates, economic and financial analyses, bid and tender documents, socioeconomic data and safeguards documents.

Source: Asian Development Bank.

LIST OF LINKED DOCUMENTS

http://www.adb.org/Documents/RRPs/?id=42285-013-3

- 1. Loan Agreement: Special Operations
- 2. Loan Agreement: ADB Strategic Climate Fund
- 3. Grant Agreement: ADB Strategic Climate 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. Gender Action Plan
- 13. Initial Environmental Examination: Kampong Chhnang
- 14. Initial Environmental Examination: Pursat
- 15. Environmental Assessment and Review Framework
- 16. Resettlement Plan: Kampong Chhnang
- 17. Resettlement Plan: Pursat
- 18. Risk Assessment and Risk Management Plan

Supplementary Documents

- 19. Tonle Sap Urban Areas Development Framework
- 20. Kampong Chhnang Urban Development Strategy
- 21. Pursat Urban Development Strategy
- 22. Poverty and Social Analysis
- 23. Stakeholder Consultation and Participation Plan
- 24. Climate Resilience Measures
- 25. Technical Options
- 26. Technical Feasibility for Kampong Chhnang Flood Protection
- 27. Technical Feasibility for Pursat Drainage and Embankment
- 28. Technical Feasibility for Kampong Chhnang Solid Waste Management
- 29. Technical Feasibility for Pursat Solid Waste Management
- 30. Complete Economic and Financial Analyses
- 31. Urban Institutional Analysis