Pre-Feasibility Study
Battambang Urban Improvements to Mitigate Climate Change

August 2010
Executive Summary

FUNDED BY
IMPLEMENTED BY

This pre-feasibility study has examined the current status of infrastructure, services and management with regard to wastewater, drainage and solid waste in seven of the ten Sangkats in Battambang. Recommendations for improvements in this study area are made, with the strongest emphasis possible on the need for institutional strengthening and community development, without which there can be no sustainability. Of special concern were poverty reduction, environmental aspects, and the mitigation and/or adaptation of climate change. Findings and recommendations are summarized below.

A. Drainage and Wastewater Management

1. The existing combined sewerage and drainage system in Svay Pao Sangkat should be maintained, as providing separate facilities would be prohibitively expensive and the short-term impacts considerable. Improvements are needed to address the bottlenecks/deficiencies in the system in order to alleviate flooding along the affected streets. All users must connect to the sewerage system where the infrastructure has been provided. For those areas of the city presently not served by sewers, separate systems for drainage and sewerage should be provided. The existing wastewater treatment plant in Chamkar Samraong is in poor condition; it should be renovated to enhance its efficiency and effectiveness. This will be examined further under a separate CDIA contract.

B. Solid Waste Management

2. There is no single body specifically responsible for solid waste management in the city. The existing approach is piecemeal, with a poorly performing contractor, a few community waste collection services and landfill sites (existing and new) which have no overall management plan. The following interventions are recommended:

- 2.1. Development and capacity building of relevant institutions
- 2.2. Collection and regular updating of waste data
- 2.3. Increased public awareness and participation
- 2.4. Preparation of a waste management strategy
- 2.5. Establishment of a waste management agency, including capacity building
- 2.6. Improved waste collection
- 2.7. Site selection, design and construction of a new landfill
- 2.8. Closure of the existing landfill
- 2.9. Procedures and facilities for hazardous waste

C. Community Development

3. Due to the limited capacity of the municipal government and in order to build a bottom-up mechanism for urban management, empowerment of the Sangkat councils and the public in general should be done through a program of community development. This is considered essential to the sustainability of the investment program. Included are the following:

- 3.1. Sangkat empowerment – training/education in the planning cycle
- 3.2. Community outreach – education about hygiene in the home
- 3.3. Improvement of public facilities – toilet and wash facilities in schools, hospitals, and public buildings
- 3.4. Communal sanitation facilities – public toilet and wash facilities in low-income communities

D. Institutional Development

4. In the medium term (3 years), the following program is proposed:

- 4.1. Strengthen the capacity of the Technical Team
- 4.2. Strengthen the capacity of the Sangkat councils in project implementation

4.3. Strengthen coordination between stakeholders (provincial, municipal, NGO, private sector, key persons)
4.4. Engage NGOs to raise awareness and increase participation
4.5. Enhance the capacity of the private sector
4.6. Provide TA for municipal management, both technical and administrative

5. In the long term (5-10 years), the following are proposed:
5.1. Establish an office to manage urban development
5.2. Provide TA support to municipal capacity development
5.3. Strengthen Sangkat-based urban environmental infrastructure management
5.4. Engage NGOs to promote awareness and participation
5.5. Continue to enhance the capacity of the private sector

E. Estimates of Project Costs

Summary Cost Estimates: (US$ Million)

		Foreign Exchange	Local Currency	Total Cost
I.	Project Components			
	A. Municipal Management Capacity Building and Institutional Strengthening	0.2	0.1	0.3
	B. Solid Waste Management System Performance Improvement	1.1	0.9	2.0
	C. Drainage System Performance Improvement	5.1	5.6	10.7
	D. Wastewater System Performance Improvement	0.8	0.6	1.4
	E. Community Development	1.1	0.5	1.7
	Subtotal (A+B+C+D)	8.3	7.8	16.1
II.	Project Coordination	2.3	1.0	3.4
III.	Taxes and Duties	1.9	-	1.9
	Subtotal (I+II+III)	12.5	8.8	21.3
IV.	Interest and other charges			
	During construction	5.7	-	5.7
	Total (I+II+III+IV)	18.2	8.8	27.0

US$ 1.00= Riel 4000 Source: Consultant estimates

6. The financing plan assumes that the Asian Development Bank will finance 77% of Project cost, including all foreign exchange costs and part of the local currency costs. Interest during construction is expected to be capitalized.

F. Implementation Arrangements

7. The national government intends to use Battambang Municipality as a pilot case that can be replicated throughout Cambodia. The present proposal is that the responsibility for the success of this initiative should remain with the Ministry of the Economy and Finance and Ministry of the Interior acting through the National Committee for De-concentration and Decentralization (NCDD) as provided in Anukret 216 2009, Article 212.

8. The Ministry of the Interior would be the Executing Agency for the Project and would act through the NCDD, which would implement project activities that strengthen management coordination and planning and organizing the activities of the Province and Municipality. The NCDD has practical experience in preparing the transition to a de-concentrated and decentralized administration, assisted by international and bilateral

entities. The NCDD has provincial-level representation and is designated by the Government to promote deconcentrated local development. (Anukret/Subdecree 216 OrNKr.BK 2009, Articles 192 and 204).

9. Battambang Municipality would be the Implementing Agency for municipal-level components of the Project and the Sangkat/Sangkat Councils would be the Implementing Agencies for the Sangkat-level components. A municipal project implementation unit (MPIU) would be set up in the municipal governor's office. A deputy municipal governor would be appointed as MPIU head and would be supported by full-time administrative, financial, and secretarial staff to supervise and manage direct implementation activities under the Project. As such, the MPIU would be responsible for planning and budgeting project activities and supervising and monitoring municipal-level field activities.

10. Similarly, Sangkat Project Implementation Units (SPIU) would be responsible for Sangkat-level components of the Project. The Heads of Sangkats/Sangkat would be designated as the SPIU heads.

11. Senior members of provincial staff of relevant line ministries would be seconded to the MPIU on a part-time basis or transferred as required, in accordance with the provisions of Anukret 216. The MPIU would be supported by advisors and consultants recruited internationally.

12. The Project would also contract out services to prequalified international and local NGOs and other institutions. Project implementation requires a high level of technical performance that most of the agencies lack. However, this risk can be mitigated through use of international advisors and consultants with suitable experience in implementing similar projects in Cambodia and elsewhere.

G. Issues for Feasibility Study

13. Solid Waste Management
    - 13.1. Study impact of site closure on waste pickers
    - 13.2. Develop model contracts
    - 13.3. Resolve method of charging and allocations to commune
    - 13.4. Establish municipal waste management agency
    - 13.5. Transfer contract with present contractor to municipality and revise
    - 13.6. Analyze waste composition
    - 13.7. Prepare TOR for site selection and landfill design/construction

14. Wastewater Management
    - 14.1. Refine estimates of numbers connected and volume of wastewater
    - 14.2. Review connection charges to sewerage system
    - 14.3. Study on-site wastewater disposal and prepare strategy
    - 14.4. Assess need for credit scheme for building septic tanks/ cesspits
    - 14.5. Prepare improvement program for WWTP
    - 14.6. Pilot community sanitation facilities

15. Drainage
    - 15.1. Survey degree of wastewater connections to storm drainage
    - 15.2. Assess potential environmental hazard of drainage improvement

16. Capacity Building/ Project Coordination

16.1. Define needs for capacity building and project coordination and prepare program
16.2. Define need for environmental safeguards
16.3. Assess need for building controls, especially on-site infrastructure and connection to drainage or sewer network. Inspection of culvert provision, obstruction of drains.
16.4. Draft new contract with private sector with environmental safeguards for waste collection and disposal
16.5. Draft licensing by-law for sludge removal operators including environmental safeguards