FINANCIAL ANALYSIS

1. The approach to the financial analysis follows the guidelines described in *Financial Management and Analysis of Project* (2005) of the Asian Development Bank (ADB). For revenue-generating subprojects, two basic indicators for financial viability were identified

(i) **Financial internal rate of return**. This is the discount rate at which the net revenues generated by the project are equal to zero. A project is considered financially viable if the computed financial internal rate of return is at least equal to the weighted average cost of capital (WACC) that is used in financing the development of the proposed water supply subproject.

(ii) **Tariff affordability.** The minimum fee or charge should be within the affordability of the average monthly income of the low-income group.

2. For the nonrevenue subprojects such as urban roads, the analysis focuses on the project owner's financial capacity to meet the recurrent costs of operating and maintaining the constructed facilities in a sustainable manner.

A. Financial Analysis of Revenue-Generating Subprojects

3. The basic development (investment) cost of the subproject and the operation and maintenance (O&M) costs are prepared on an annual basis for the financial analysis. These costs are estimated in 2011 prices. Increases in costs due to inflation are covered through a provision for price contingencies for the capital costs and relevant inflation factor for O&M costs.

4. Revenue is estimated from the garbage fee or wastewater fee that can possibly be collected from the beneficiaries. Estimates of annual revenues are based on the total estimated volume of solid waste or wastewater that will be disposed of and/or treated and the corresponding fee for each unit, i.e., per cubic meter of waste generated. For the materials recovery facility, revenues are expected from the sale of the recovered recyclables.

5. On the basis of the financing mix and the loan interest of 1.5% and the assumed cost of equity of 2%, the WACC is computed to be in the range of 1.4%–2.0%. A financial internal rate of return higher than the WACC implies that the incremental net revenues generated by the project will be enough to recover the implementation and operating costs. The summary result of the financial analysis is presented in Table 1.

Table 1: Results of the Financial Analysis

Subproject, Scenario	WACC (%)	FIRR (%)	NPV ($ million)	SV (%)
1. Kaysone Phomvihane Wastewater Treatment	1.49			
Base case		4.3	2.97	
10% increase in capital, O&M costs		3.1	1.82	37
10% reduction in revenues		3.0	1.52	34
10% increase in costs, 10% reduction in revenues		1.9	0.37	18
1-year delay in revenues		3.5	2.25	57
2. Kaysone Phomvihane Solid Waste Management	1.77			
Base case		4.1	1.48	
10% increase in capital, O&M costs		3.2	0.94	46
10% reduction in revenues		3.1	0.76	41
10% increase in costs, 10% reduction in revenues		2.2	0.25	21
1-year delay in revenues		3.1	0.83	42

Subproject, Scenario	WACC (%)	FIRR (%)	NPV ($ million)	SV (%)
3. Kaysone Phomvihane Mekong River Embankment Protection	1.41	6.6	4.90	
Base case		5.4	4.05	58
10% increase in capital, O&M costs		5.3	3.56	52
10% reduction in revenues		4.2	2.71	28
10% increase in costs, 10% reduction in revenues		5.7	4.27	74
1-year delay in revenues				
4. Kaysone Phomvihane Materials Recovery Facility				
Base case	2.00	19.8	2.30	
10% increase in capital, O&M costs		17.8	2.18	99
10% reduction in revenues		17.6	1.95	90
10% increase in costs, 10% reduction in revenues		15.7	1.83	49
1-year delay in revenues		16.9	1.76	50

WACC = weighted average cost of capital, FIRR = financial internal rate of return, NPV= net present value, O&M = operation and maintenance, SW = switching value.
Source: Asian Development Bank estimates.

B. Financial Sustainability of Nonrevenue Generating Subprojects

6. The Provincial Department of Public Works and Transport (PDWT) in Savannakhet will be the project owner and be responsible for O&M after project completion. The financial analysis therefore focuses on the future budget positions of this entity, aiming to appraise its financial capacity for covering recurrent expenditures of the subprojects.

7. The department's overall financial position was briefly studied with discussions with finance officials and review of financial reports (Table 2). The national government requests annual reports of all department expenses through its submission of budget proposals. While the department collects fees for services and permits, all funds collected are remitted to the national government. It is not allowed to use its collections for operation or repair and maintenance of infrastructure and facilities.

Table 2: Savannakhet Provincial Department of Public Works and Transport Financial Cash Flow, 2008–2011

(KN million)

	Actual			
Item	**2008**	**2009**	**2010**	**2011**
Revenues				
Fees	85	75	70	50
Services	270	460	750	0
Total	**355**	**535**	**820**	**50**
Expenses				
Payroll	957	943	993	1,063
Staff benefits	251	200	210	500
Administration	330	375	400	500
Capacity building	25	25	50	150
Contingency	0	0	0	0
Supplies	20	25	0	0
Capital outlays, operation and maintenance	4,525	4,628	14,808	16,595
Total	**6,108**	**6,197**	**16,460**	**18,808**

Source: Department of Public Works and Transport annual budget plans.

8. Due to the current arrangement that the department has no revenue-generating mandate, forecasting its financial operations is not applicable. To establish the sustainability of the subprojects, the projected repairs and maintenance of the subprojects identified and

calculated in the technical study must be noted by the department and included in its annual budget.

Table 3: Estimated Repair and Maintenance Costs for the Urban Road Subprojects[a]

		Annual Repair and Maintenance[b]			Projection		
Item	**Inflation**	**Share**	**$ million**	**KN million**	**2018**	**2019**	**2020**
Kaysone Phomvihane Urban Roads			**184,991**	1,483.26	1,848	1,911	1,977
Local	5.00%	60%	110,995	889.95	1,252	1,315	1,381
Foreign	0.05%	40%	73,996	593.30	595	596	596
Phine Urban Roads			**127,034**	1,018.56	1,269	1,312	1,357
Local	5.00%	60%	76,220	611.14	860	903	948
Foreign	0.05%	40%	50,814	407.72	409	409	409
Dansavanh Urban Roads			**51,179**	410.35	511	529	547
Local	5.00%	60%	30,707	246.21	346	364	382
Foreign	0.05%	40%	20,472	164.14	165	165	165
Total O&M Requirements for Corridor Town Development Project					**3,628**	**3,751**	**3,881**

KN = kip, O&M = operation and maintenance.
[a] Corridor Towns Development Project requirement for subproject operation and maintenance costs. Consultant's estimates as presented in the technical study of the subproject feasibility studies.
[b] Exchange rate $1.00 = KN8,018.
Source: Asian Development Bank estimates.

9. Immediately after completion of the urban road subprojects, maintenance allocation will have to be included by PDWT on its annual budget. This is estimated to be about KN3,700 million annually. Given the government's support to the subprojects by assuring that it will fund the operating expenditure and periodic maintenance, an adequate budgetary amount for recurrent costs of operating the facilities is reasonably expected.