

FINANCIAL ANALYSIS

A. Introduction

1. The project's components and the financial analysis undertaken are summarized in Table 7.1.

Table 7.1: Summary of Financial Due Diligence

City or Town	Component	Executing Agency	Implementing Agency	Fiscal Analysis Undertaken	Project Funds from National Government	Revenue-Generating Potential	Tariff to Cover Recurrent Costs	Affordability Analysis
Bac Giang City	Urban Roads	Bac Giang PPC	Bac Giang CPC	Bac Giang City, Bac Giang Province	Assumed 20% on-lent, 80% grant to province	No	No	No
	Wastewater Improvements					WSC collects wastewater fees for city	Yes	Yes
	Storm Water Improvements					No	No	No
Mong Cai City	Wastewater & Stormwater Improvements	Quang Ninh PPC	Mong Cai CPC	Mong Cai City, Quang Ninh Province	Assumed 50% on-lent, 50% grant to province	WSC collects wastewater fees for city	Yes	Yes
	Riverbank Protection					No	No	No
Sa Pa Town	Road #1-Route 152	Lao Cai PPC	Lao Cai DPI	Sa Pa Town, Lao Cai Province	Assumed 20% on-lent, 80% grant to province	No	No	No
	Wastewater and Drainage					WSC collects wastewater fees for city	Yes	Yes
	Green City Action Plan					No	No	No
	Town Center Enhancement					No	No	No

Notes: CPC = City People's Committee, DPI = Department of Planning and Investment, PPC = Provincial People's Committee, WSC = water supply company.

Source: Asian Development Bank

2. The national government will on-lend a portion of the Asian Development Bank (ADB) loan proceeds to the provincial governments (Table 7.1) with the balance distributed as a grant. The terms of the subloans will be the same as the terms of ADB's loan: an interest rate of 2% per year, and a repayment period of 25 years, including a 5-year grace period. To ensure financial sustainability, each Provincial People's Committee (PPC) and town or city must ensure it has sufficient funds to meet debt service and operation and maintenance (O&M) expenses, including any subsidies required.

3. Historically, local governments have received grants to finance wastewater infrastructure. The water supply company (WSC) usually collects wastewater tariffs as a surcharge on the water bill, for the city or provincial government. Wastewater revenues thus depend on water revenues, which are determined by the number of connections, tariffs and volume sold. Decree 88/2007 (updated through Decree 80/2014) mandated that wastewater tariffs should be set at a minimum of 10% of the water bill, although some local governments (including Bac Giang and Mong Cai cities, and Sa Pa town) charge less, thereby increasing the already heavy subsidy required for wastewater operations.

4. The government is currently reviewing its wastewater sector policies. Decree 80/2014 is not yet being enforced nationwide, and requires PPCs to competitively award O&M contracts,

and to subsidize the difference between the tariffs and the tender price. Furthermore, the Ministry of Finance (in conjunction with the Ministry of Construction and Ministry of Planning and Investment) is drafting a circular for wastewater tariffs modeled on Circular 75/2012, which promotes full cost recovery of water tariffs. The wastewater circular is expected to target cost recovery of the investment (whether loan- or grant-funded), and is expected to be finalized by the end of 2015.

B. Current Wastewater Operations and Proposed Tariff Increases

5. Table 7.2 summarizes the existing wastewater operations of local governments involved in the project.

Table 7.2: Wastewater Operation Overview

City/Town	Agency / Government Unit(s) Involved	Wastewater Fees collected by Water Supply Company as a Proportion of Water Bill	Annual Wastewater Revenues (billion)	Proportion of O&M covered by wastewater revenues
Bac Giang City	The city's (i) Flood Control Center operates and maintains sewage and stormwater pumping stations and the WWTP; and (ii) Urban Works Management maintains sewage and stormwater drains. Both departments are funded through the city's budget.	6%	2012: D1.24 2013: D1.44 2014: D2.80	32%-44% ^a
Mong Cai City	Urban Environment Company, funded by the provincial government. No WWTP.	Households: 7%, Others: 10%	Estimated D1.7	Not available
Sa Pa Town	Urban Environment Company, funded by provincial government. No WWTP.	8%	Estimated D0.5	D0.17 billion (2014) ^b

D = Viet Nam dong, O&M = operation and maintenance, WWTP = wastewater treatment plant.

^a The Flood Control Center's budget includes salaries, administrative costs, and equipment repair, and the power costs of the stormwater system. Expenses grew by almost a factor of four (from D2.2 billion in 2012 to D8.6 billion in 2014). 2014 wastewater revenues of D2.8 billion covered only 32% of O&M costs (44% assuming 50% of power costs are for stormwater).

^b Total expenditures for mud and waste removal from the drainage system, excluding O&M costs, which were not available. Sa Pa's Urban Environment Company advised they cannot properly maintain existing drains due to lack of funds.

Source: Asian Development Bank estimates.

6. Table 7.3 summarizes the tariffs proposed for households to cover O&M costs.

Table 7.3: Proposed Wastewater Tariff for Households

Subproject	Item	2016	2019	2022	2025	2028
Bac Giang	% of water supply bill	8%	10%	15%	20%	25%
	D per month	5,500	7,900	13,600	20,800	29,900
Mong Cai	% of water supply bill	10%	25%	30%	40%	50%
	D per month	15,000	43,100	59,400	91,200	131,000
Sa Pa	% of water supply bill	10%	40%	45%	60%	70%
	D per month	14,800	68,200	88,200	135,300	181,500

D = Viet Nam dong

Source: Asian Development Bank estimates.

7. Bac Giang's WSC had 34,400 connections in 2014, and modest increases in the percentage surcharge from the current 6% are expected to enable the city to cover O&M costs. Mong Cai's WSC had 4,892 connections in 2014, and the proposed tariffs are therefore higher. Sa Pa's WSC had even fewer connections (2,015 in 2014), resulting in even higher tariffs. To minimize the impact on households, gradual increases are proposed. If such tariffs are implemented and WSC revenues increase as projected, for Bac Giang, wastewater revenues

would cover 71% of O&M costs by 2019 and over 100% from 2022; for Mong Cai, 39% by 2019 and over 100% from 2025; and for Sa Pa, 82% by 2019 and over 100% in 2022. (Tariffs would have to be even higher to cover debt service.)

8. **Affordability.** The proposed wastewater tariffs for 2016–2028 were compared with the monthly income of low-income households.¹ For Bac Giang, a monthly wastewater bill of D5,500–D29,900 would be 0.19% to 0.52% of monthly household income; for Mong Cai, a bill of D15,000–D131,000 would be 0.72% to 3.14% of monthly household income; and for Sa Pa, a bill of D14,800–D181,500 would equal 0.71% to 4.32%.²

C. Fiscal Analysis

9. The financial analysis reviewed the financial performance of the local governments for the last 3 years. The data covered (i) revenue collection (the annual revenues collected by each local government); (ii) revenues retained and transferred (local government's share of the revenues collected, based on a formula approved by the national government, and the transfers from the national government when the retained revenues are insufficient to cover recurrent and/or capital costs); and (iii) expenditures (the list of approved annual recurrent and capital expenditures assigned to each government).

10. Of the six government entities (three provinces, two cities and one town), only Quang Ninh province and Mong Cai city are net contributors to the national government (i.e., total annual revenues are higher than total annual expenditures). However, because the formula for sharing collected revenues between the lower and upper government levels is fixed, after revenue sharing, Quang Ninh province still receives fund transfers from the national government, and Mong Cai city from the provincial government, to cover the gap between retained revenues and expenditures.

11. During 2011–2013, Bac Giang city, Quang Ninh province, and Mong Cai city were able to cover annual recurrent costs from retained revenues, while Sa Pa town covered just 13%–15%. In the same period, recurrent and capital investment costs covered by retained revenues equaled from 83% to 90% for Bac Giang city, 84% to 91% for Mong Cai city, and 11% to 14% for Sa Pa town (Table 7.4).

Table 7.4: Proportion of Costs Covered by Retained Revenue (2011–2013)

Subproject	Recurrent Costs	Recurrent and
	%	Capital Investment Costs
		%
Bac Giang Province	40–47	29–34
Bac Giang City	139–231	83–90
Quang Ninh Province	157–219	91–92
Mong Cai City	119–126	84–91
Lao Cai Province	41–47	24–30
Sa Pa Town	13–15	11–14

Source: Asian Development Bank estimates.

12. Financial sustainability is highly dependent on the resolve of the local governments to generate additional revenues by increasing wastewater tariffs and by providing subsidies for the funding gap when revenues do not cover total costs. Total debt service and O&M costs of each subproject were projected for 10 years starting in 2019, with O&M costs assumed to be between

¹ Lowest 10% quantile monthly household income.

² The Bac Giang water bill is 2.08% to 2.39% of monthly household income, the Mong Cai water bill 4.99% to 5.74%, and the Sa Pa water bill 4.92% to 5.66%.

1% to 2% of capital cost. Revenues from the wastewater component were also projected and the resulting net cash flow indicates the funding gap, if any, that needs to be covered through the city or provincial government's annual budget.

13. For Bac Giang, the funding gap for the city's wastewater operations is D0.3 billion–D6.2 billion from 2019 to 2024 (between 2% and 50% of the annual O&M cost for the wastewater component). Beginning in 2025, wastewater revenues can cover wastewater O&M costs. The funding gap including the stormwater and urban roads components is D0.5 billion–D13.9 billion during 2019–2027, which is equivalent to 3.7% of Bac Giang city's 2013 recurrent budget, and 0.07% to 0.14% of Bac Giang province's annual recurrent costs.

14. Mong Cai's projected funding gap for its wastewater operations is D5.4 billion–D12.2 billion for the same period, and the provincial government needs to cover about 25% to 71% of the annual O&M cost during 2019–2028. The overall funding gap including stormwater and riverbank protection is D5.7 billion–D16.6 billion per year during 2019–2028, or about 3.6% of Mong Cai city's 2014 recurrent budget and 0.05% to 0.12% of Quang Ninh province's annual recurrent costs.

15. Sa Pa's projected funding gap for its wastewater operations is D1.7 billion–D3.0 billion during 2019–2024, meaning the provincial government needs to cover 21% to 38% of annual O&M costs during the period. By 2025, wastewater revenues are projected to cover wastewater O&M costs. The overall funding gap including urban roads and the town center enhancement is D2.6 billion–D13.1 billion per year during 2019 to 2028, or about 3.4% of the 2014 recurrent budget, and 0.03% to 0.11% of Lao Cai province's annual recurrent costs.

16. **Borrowing capacity of provincial governments.** Annual revenues and expenditures of each province were projected for 10 years beginning in 2016. For Bac Giang, the required cash flow is between D1 billion to D96 billion per year during 2016–2019, and loan amortization is D13 billion to D21 billion per year during 2021–2040. The total incremental funds required (cash flow and amortization) as a result of the project is 0.1% to 0.8% of Bac Giang province's projected annual expenditure. Quang Ninh's required cash flow is between D1 billion to D117 billion per year during 2016–2019, and loan amortization is D31 billion to D53 billion per year during 2021–2040. The total incremental funds required are 0.03% to 0.29% of Quang Ninh province's projected annual expenditure. For Lao Cai, the required cash flow is D1 billion to D96 billion per year during 2016–2019, and the loan amortization is D13 billion to D22 billion per year during 2021–2040. The total incremental funds required as a result of the project equal 0.06% to 0.77% of Lao Cai province's projected annual expenditure.

Table 7.5: Projected Revenue, Cost and Funding Gap

Bac Giang	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
Inflow: Wastewater	5.9	6.0	6.1	14.0	14.2	14.4	24.7	25.0	25.3	38.7
Outflow: O&M - Wastewater	(10.9)	(11.6)	(12.3)	(13.0)	(13.8)	(14.6)	(15.5)	(16.4)	(17.4)	(18.5)
Stormwater	(2.4)	(2.5)	(2.7)	(2.8)	(3.0)	(3.2)	(3.4)	(3.6)	(3.8)	(4.0)
Urban roads	(4.5)	(4.8)	(5.1)	(5.4)	(5.7)	(6.0)	(6.4)	(6.8)	(7.2)	(7.6)
Total Outflow	(17.8)	(18.9)	(20.0)	(21.2)	(22.5)	(23.8)	(25.3)	(26.8)	(28.4)	(30.1)
Funding Gap	11.9	12.9	13.9	7.2	8.3	9.5	0.5	1.8	3.1	-
Mong Cai	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
Inflow: Wastewater	4.6	4.8	5.0	9.0	9.3	9.6	16.2	16.8	17.4	26.7
Outflow: O&M - Wastewater	(15.3)	(16.2)	(17.2)	(18.2)	(19.3)	(20.4)	(21.7)	(23.0)	(24.3)	(25.8)
Riverbank protection	(4.0)	(4.2)	(4.4)	(4.7)	(5.0)	(5.3)	(5.6)	(6.0)	(6.3)	(6.7)
Total Outflow	(19.2)	(20.4)	(21.6)	(22.9)	(24.3)	(25.7)	(27.3)	(28.9)	(30.6)	(32.5)
Funding Gap	14.7	15.6	16.6	13.9	15.0	16.1	11.1	12.1	13.2	5.7
Sa Pa	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
Inflow: Wastewater	4.4	4.6	4.8	6.6	6.9	7.3	11.8	12.5	13.3	18.9
Outflow: O&M - Wastewater	(7.0)	(7.4)	(7.8)	(8.3)	(8.8)	(9.3)	(9.9)	(10.5)	(11.1)	(11.7)
Urban roads	-	(3.3)	(3.5)	(3.7)	(3.9)	(4.2)	(4.4)	(4.7)	(5.0)	(5.3)
Town center enhancement	-	(5.5)	(5.8)	(6.1)	(6.5)	(6.9)	(7.3)	(7.8)	(8.2)	(8.7)
Total Outflow	(7.0)	(16.1)	(17.1)	(18.1)	(19.2)	(20.4)	(21.6)	(22.9)	(24.3)	(25.7)
Funding Gap	2.6	11.6	12.3	11.6	12.3	13.1	9.8	10.4	11.0	6.8

() = negative, O&M = operation and maintenance
Source: Asian Development Bank estimates.

17. The incremental expenditure for each province as a result of the proposed subprojects is minimal compared to their annual expenditure budgets. These additional costs can be accommodated in the provincial budget, either by realigning the annual expenditures or selling provincial government properties.

D. Proposed Covenants

18. **Government commitment on fund allocations.** Provincial government counterpart funds are needed to finance project implementation and funding gaps to cover O&M costs and loan amortizations, to the extent not covered by the incremental revenues. The provincial and city governments have acknowledged this obligation and agree to provide this during project implementation and during operation of the completed infrastructure.

19. **Compliance with Decree 80/2014 and other relevant decrees.** Each of the provincial and city governments will commit to comply with all relevant decrees. It is noteworthy that all three do not currently comply with the requirement that wastewater tariffs comprise a surcharge equal to at least 10% of the water bill. As noted above, it is expected that the government will enact new decrees to require increased recovery of costs, including debt service and O&M.