

FINANCIAL ANALYSIS

A. Introduction

1. The financial analysis of the proposed project was carried out in accordance with Asian Development Bank (ADB) guidelines.¹ The financial position of the Xiangtan Municipal Government (XMG) was reviewed, and financial sustainability analysis was conducted to assess whether the XMG has adequate financial capacity to cover the incremental recurrent costs, including operation and maintenance (O&M) expenditures, required to ensure the sustainability of the project. The project has no revenue-generating component; hence the financial costs and benefits were not assessed.

B. Methodology and Assumptions

2. The fiscal budget and expenditures of the XMG for the past 5 years (2014–2018) were used to analyze their historical financial performance. Projected fiscal budget and expenditures were then prepared to assess the impact of the project on the financial performance of the XMG.

3. Key assumptions for the financial analysis include the following:

- (i) Physical contingencies are estimated as 5% of base costs.
- (ii) Price contingencies account for cumulative cost inflation over the construction period.
- (iii) Annual project operating costs are estimated based on reported operating costs of existing facilities plus incremental operating costs of the facilities created by the project.
- (iv) Recurrent costs associated with incremental capital investments are based on a percentage of the price.
- (v) Domestic and international cost escalations are shown in Table 1.
- (vi) An exchange rate of CNY6.9772 = \$1.00 was used (as of 14 February 2020).
- (vii) Subprojects are financed using the ADB loan and counterpart funds from the XMG. The ADB loan has a term of 25 years, including a 5-year grace period.
- (viii) Financing costs for the ADB loan include interest during implementation and commitment fee charges. Interest during implementation is computed at a 5-year fixed swap rate of 1.515% plus an ADB spread of 0.500% and a maturity premium of 0.100%. The commitment fee is levied at 0.150% against the undisbursed amount of the loan each year. The interest during the repayment period is computed at a 10-year fixed swap rate of 1.658% plus an ADB spread of 0.500% and a maturity premium of 0.100%. Interest rates and terms are shown in Table 2.

Table 1: Domestic and International Cost Escalation Factors

(%)						
Item	2021	2022	2023	2024	2025	2026
International cost escalation factors	1.6	1.6	1.6	1.6	1.6	1.6
Domestic cost escalation factors	2.1	2.1	2.1	2.1	2.1	2.1

Source: Asian Development Bank estimates.

¹ ADB. 2005. [Financial Management and Analysis of Projects](#). Manila; and ADB. 2019. [Financial Analysis and Evaluation: Technical Guidance Note](#). Manila.

Table 2: Interest Rates and Terms

Item	Amount
IDC rate (%)	2.115
Commitment fee (%)	0.150
Interest during repayment period rate (%)	2.258
Total period of the loan (years)	25
Grace period (years)	5
IDC and commitment fee capitalized into the loan	No

IDC = interest during construction.

Source: Asian Development Bank estimates.

C. Financial Sustainability Analysis for the Xiangtan Municipal Government

4. Financial sustainability analysis was conducted to assess the capacity of the XMG to provide the counterpart funds; repay debt service for the whole project; and cover the incremental recurrent costs, including the O&M expenditures required to ensure the sustainability of the project. Therefore, a detailed review of the budgets and expenditures of the XMG during 2014–2018 was undertaken to assess its historical fiscal performance, capital structure, generation of internal funds to support the project's implementation, and future debt service. Projections were prepared to assess the likely financial performance of the XMG for the operation period following project commissioning.

5. **Historical revenue and expenditure.** The historical financial performance was analyzed to determine whether the XMG can provide the required counterpart funds during the construction period, debt service during the operating period, and the necessary funds for O&M during the operating period. The sources of income are from taxes (value-added tax, business tax, resource tax, and real property tax), nontax revenues, and subsidies from upper-level government agencies. On the other hand, expenditures are categorized into general budget expenditure (including general public services, education, public safety, personnel welfare, environmental protection, agriculture, forestry, and water), and subordinate subsidy expenditure.

6. Similar to most other municipalities in the People's Republic of China, Xiangtan has experienced robust socioeconomic development during 2014–2018. The total revenues of Xiangtan increased by an annual average of 12.5% from CNY12.58 billion in 2014 to CNY20.17 billion in 2018, while expenditures grew at an annual rate of 13.0% during the same period.

Table 3: Historical Revenue and Expenditure of the Xiangtan Municipal Government
(CNY million)

Item	2014	2015	2016	2017	2018
Revenues					
Budget revenue	5,940	6,353	6,974	6,870	6,733
Revenue from taxes	2,619	2,951	3,208	3,703	4,168
Subsidies from upper-level government agencies ^a	4,760	5,883	6,141	5,457	5,900
Others ^b	1,880	6,002	3,720	5,429	7,536
Total	12,580	18,239	16,835	17,757	20,169
Expenditures					
General budget expenditure	9,802	11,360	12,515	14,115	13,898
General public service	889	1,251	1,218	1,456	1,849
Public safety	599	600	728	777	779
Education	707	719	868	1,118	1,076
Social insurance and employment	1,345	1,863	2,209	2,129	2,361
Urban and rural community expenditure	2,472	2,858	2,410	3,301	2,830
Agriculture and water conservancy	464	494	516	709	571
Others	3,326	3,575	4,566	4,625	4,432
Subordinate subsidy expenditure ^c	1,216	1,345	1,521	1,449	1,927

Item	2014	2015	2016	2017	2018
Repayment of government bonds and others ^d	783	4,773	1,823	1,182	3,438
Total	11,800	17,478	15,858	16,746	19,263
Surplus	780	761	977	1,011	906

Note: Numbers may not sum precisely because of rounding.

^a Including return income, general transfer payment income, and special transfer payment income.

^b Including income of subordinates and superiors, bond transfer income, balance from previous year, transfer to the budget stability adjustment fund, and transfer of funds.

^c Including return expenditure, general transfer payment expenditure, and special transfer payment expenditure.

^d Including bond repayment expenditure, debt transfer expenditure, and arrangement of budget stability adjustment fund.

Source: Xiangtan Municipal Government.

7. **Projection of revenue and expenditure.** Financial forecasts were carried out for 2021–2045 based on the projected annual growth rate provided by the XMG, which indicated that both revenues and expenditures are to increase at 8.0% based on the development plan of Xiangtan municipality after 2019.

8. **Results of the analysis.** The total investment of the program is estimated at \$395.88 million, of which the XMG will finance \$195.88 million. The assessment of XMG's projected annual revenues shows the XMG has the necessary counterpart funds for the components. The analysis indicates that all project components are expected to have sufficient funds available for counterpart funds during implementation. Xiangtan municipal contributions were analyzed in terms of affordability relative to projected revenues and expenditures (Table 4). Annual funds that should be made available during implementation range from CNY72.00 million in 2021 to CNY145.31 million in 2025, or an average of CNY273.34 million during 2021–2025.

9. The XMG will pay interest on the ADB loan with a 25-year term, including a grace period of 5 years. Annual debt service—interest and principal—is estimated and presented in Table 4. Annual funds required for O&M are projected to be CNY109.91 million starting in 2026, representing 0.31% of the XMG's projected expenditures in 2026 and 0.29% in 2027. Table 4 shows the counterpart funding, annual debt service, and O&M costs as a share of the XMG's projected revenues and expenditures (and any surplus), which indicates that XMG is expected to have the capacity to provide counterpart funds during implementation, repay the principal and interest of the ADB loan, and cover the O&M cost after construction. The total incremental costs during 2021–2045 are estimated to be about 0.14%–1.52% of the XMG's annual fiscal revenue.

Table 4: Counterpart Fund, Debt Service, and Operation and Maintenance Costs as a Share of the Xiangtan Municipal Government's Revenue, Expenditure, and Surplus

Item	2021	2022	2023	2024	2025	2026	2027
Total revenue (CNY million)	25,408.00	27,440.00	29,636.00	32,006.00	34,567.00	37,332.00	40,319.00
Total expenditure (CNY million)	24,265.00	26,207.00	28,303.00	30,567.00	33,013.00	35,654.00	38,506.00
Surplus (CNY million)	1,142.00	1,234.00	1,332.00	1,439.00	1,554.00	1,678.00	1,813.00
Counterpart funding costs							
Counterpart fund (CNY million)	72.00	356.38	440.17	352.85	145.31		
Debt service (CNY million)	2.25	5.63	11.55	17.53	21.21	39.80	41.24
O&M (CNY million)						109.91	109.91
Total costs (CNY million)	74.26	326.01	451.72	370.38	166.52	149.71	151.15
Percent of total revenue (%)	0.29	1.32	1.52	1.16	0.48	0.40	0.37
Percent of total expenditure (%)	0.31	1.38	1.60	1.21	0.50	0.42	0.39
Percent of surplus (%)	6.50	29.34	33.90	25.74	10.71	8.92	8.34

Note: Numbers may not sum precisely because of rounding.

O&M = operation and maintenance.

Source: Asian Development Bank estimates.