

FINANCIAL ANALYSIS

1. Financial analysis was carried out for the proposed project following the Asian Development Bank (ADB) Guidelines on the Financial Management and Analysis of Projects.¹ Since the project is neither revenue-generating nor cost recovery by nature, the analysis focused on its financial sustainability. Incremental recurrent cost analysis for the implementing agencies, which are responsible for the operation and maintenance (O&M) of the project, was conducted to determine the project's financial sustainability.

2. The project has four outputs: (i) wastewater management and pollution control in the Sayu River Basin strengthened; (ii) water resources management in the Sayu River improved; (iii) eco-compensation mechanism for the Sayu River Basin established; and (iv) education, capacity, and public awareness for water pollution management strengthened. All outputs are nonrevenue-generating and are not intended for cost recovery. The Zhaoyang District Government (ZDG) and the Ludian County Government (LCG) are the project implementing agencies, and they will assume responsibility for the O&M of the project. Financial sustainability analyses were conducted to assess if the ZDG and the LCG have adequate financial capacities to cover the incremental recurrent costs, including the O&M expenditures required to ensure the sustainability of the project.

3. The income and expenditure statements of the ZDG and the LCG in the past 5 years (2014–2018) were used to analyze their historical financial performance. Projected budgetary income and expenditure statements for each implementing agency, including the projections of incremental recurrent costs associated with the project, were then prepared to assess the impact of the project on the financial performance of each implementing agency.

4. Both the ZDG and the LCG are general government sector units. Their incomes come from four basic sources: (i) local budget income, including various tax and nontax income, such as fees and income from the transfer of state-owned asset usage rights; (ii) fiscal subsidies from upper-level government agencies (e.g., national and provincial governments) by way of transfer payments, including refunds of income and sales taxes; general transfer payments; and special purpose capital funds distributed from the central government and the Yunnan Provincial Government; (iii) income from relending of debt borrowed by upper-level government agencies; and (iv) the fund balance carried over from the previous year. Their expenditures are generally used for (i) local spending on public services and security, education, science and culture, social safety and health care, agriculture, forestry and water conservancy, housing, and transport facilities; (ii) the transfer of incomes, such as part of the taxes collected, to upper-level government agencies; and (iii) repayment of government debt. In case of a surplus, the fund balance is carried forward to the following year.

5. Table 1 presents the historical income and expenditure statements of the ZDG during 2014–2018 and Table 2 presents those of the LCG.

¹ ADB. 2005. [Financial Management and Analysis of Projects](#). Manila; and ADB. 2009. [Financial Due Diligence: A Methodology Note](#). Manila.

Table 1: Historical Incomes and Expenditures of Zhaoyang District Government, 2014–2018
(CNY million)

Item	2014	2015	2016	2017	2018
Total income	4,851.29	5,562.37	6,168.71	6,406.12	7,081.85
1. Local income	1,060.92	1,146.21	1,160.01	1,138.40	1,309.30
2. Subsidies from upper-level government agencies	3,737.79	3,609.44	3,732.51	4,296.31	5,219.25
3. Government bond income	40.00	343.00	1,114.50	940.90	548.59
4. Carried over from previous year	12.58	463.72	161.69	30.51	4.71
Total expenditure	4,851.29	5,562.37	6,168.71	6,406.12	7,081.85
1. Local expenditure	4,347.51	5,112.19	5,251.53	5,755.41	6,348.58
2. Transfer to upper-level government agencies	33.82	51.97	33.52	76.61	89.78
3. Repayment for government bond	6.24	253.00	857.50	636.90	506.59
4. Carried forward to next year	463.72	145.21	26.16	(62.80)	136.90

() = negative.

Source: Asian Development Bank estimates.

Table 2: Historical Incomes and Expenditures of Ludian County Government, 2014–2018
(CNY million)

Item	2014	2015	2016	2017	2018
Total income	6,496.55	8,307.80	5,572.11	3,946.81	3,450.74
1. Local income	206.88	262.60	306.27	400.66	477.88
2. Subsidies from upper-level government agencies	6,204.40	6,118.48	2,680.96	2,332.69	2,713.08
3. Government bond income	30.00	107.64	351.00	632.00	134.10
4. Carried over from previous year	55.27	1,819.08	2,233.88	581.46	125.68
Total expenditure	6,496.55	8,307.80	5,572.11	3,946.81	3,450.74
1. Local expenditure	4,666.29	6,026.71	4,690.37	3,579.02	3,202.54
2. Transfer to upper-level government agencies	9.41	9.57	9.28	43.11	44.70
3. Repayment for government bond	1.77	37.64	291.00	199.00	115.10
4. Carried forward to next year	1,819.08	2,233.88	581.46	125.68	88.40

Source: Asian Development Bank estimates.

6. The income and expenditure statement of the ZDG shows that its total expenditure increased from CNY4,851.29 million to CNY7,081.85 million from 2014 to 2018 at a compound annual growth rate (CAGR) of 9.9%. Recognizing that the local income was unable to cover expenditures, the upper-level government agencies increased subsidies to the ZDG at a CAGR of 8.7% from 2014 to 2018. Coupled with the increase in local income at a CAGR of 5.4% as well as other income, the ZDG's total income during the same period was able to meet the increasing expenditures. Like the ZDG, the LCG's income is largely dependent on subsidies from the upper-level government agencies. The historical income and expenditure statements of the LCG also demonstrate that the upper-level government agencies financially supported the LCG to meet its expenditure requirements. Since both Zhaoyang District and Ludian County are poor regions in the province, subsidies from the upper-level government agencies to both the ZDG and the LCG will continue for them to meet expenditure requirements.

7. Income and expenditure statements for both the ZDG and the LCG have been projected to assess their financial capacity to cover recurrent expenditures, including debt service on the ADB loan and recurrent costs for the O&M of the project. The projections have been prepared based on the historical incomes and expenditures of the ZDG and the LCG with the incremental costs associated with the project. The investment in Zhaoyang District will be 32% of the project cost, while the investment in Ludian County will be 68% of the project cost. The O&M costs of the project are assumed to be 1% of the total project base cost and will grow by 3% annually. The

O&M costs are assumed to be split between the ZDG and the LCG at a ratio of 32% and 68%. For the proposed ADB loan of \$100 million, the ZDG and the LCG will be responsible for the loan repayment at the same ratio. The projection period covers 5 years of project implementation and 10 years of operations after the project is completed. Table 3 summarizes the projections of budgetary income and expenditure of the ZDG and Table 4 summarizes those of the LCG.

8. Based on the findings of historical income and expenditure statements, the ZDG and the LCG are unable to provide counterpart funding; and they have inadequate financial capacity to repay the ADB loan, at least at the beginning of the operation period. In poor regions such as Zhaoyang District and Ludian County, public infrastructure and facilities are financed with funds channeled from the upper-level government agencies. Central government line ministries sponsor various special purpose capital funds for construction of infrastructures in less-developed regions, in segments such as water conservancy, environmental protection, land and natural resources, housing and construction, reforestation, and agriculture. Each provincial government has similar arrangements to support poor regions to overcome poverty. The project components in Zhaoyang District and Ludian County were applied for related special capital funds and passed initial screenings for financing from the funds. In line with Ministry of Finance regulations, the Yunnan Provincial Finance Department assessed the project's validity—focusing on the scale of local government debt, fiscal affordability, and counterpart assurances—and endorsed it before the project was submitted for the ADB financing. Meanwhile, the concerned upper-level government agencies had already issued commitment letters for the counterpart funding. The above financial commitments are included in the projections.

9. As shown in the projections of the future budgetary income and expenditure for the ZDG and the LCG, the projected financial position of the two entities confirms their financial capacity to cover the recurrent costs of the project to sustain the facilities. In addition, given the central government's support to the project and its assurance that it will fund the project during operations, adequate budgetary allocations can reasonably be expected from the upper-level government agencies to both the ZDG and the LCG. Relevant covenants are also included in the loan agreement to ensure the project's financial sustainability. In conclusion, the project is considered financially sustainable.

Table 3: Projected Income and Expenditure of the Zhaoyang District Government, 2019–2036
(CNY million)

Item	2019	2020	2021	2022	2023	2024	2025	2026	2027
A. Budget Income	7,761.41	8,510.74	9,400.10	10,313.49	11,323.27	12,245.29	13,216.95	14,221.34	15,136.36
1. Local income	1,374.77	1,443.50	1,530.11	1,621.92	1,719.24	1,822.39	1,949.96	2,086.45	2,232.51
2. Subsidies from upper-level agencies	5,750.91	6,200.72	6,828.00	7,520.08	8,284.13	8,932.86	9,581.86	10,279.87	10,791.53
3. Government bond income	630.88	725.51	834.34	959.49	1,103.41	1,268.92	1,459.26	1,678.15	1,929.87
4. Additional income for project funding			62.41	62.41	62.41	62.41	62.41	8.50	9.03
5. Carried over from previous year	4.85	141.01	145.24	149.59	154.08	158.70	163.47	168.37	173.42
B. Budget Expenditure	7,761.41	8,510.74	9,400.10	10,313.49	11,323.27	12,245.29	13,216.95	14,221.34	15,136.36
1. Local expenditure	6,919.95	7,542.75	8,221.60	8,961.54	9,768.08	10,451.84	11,183.47	11,966.31	12,564.63
2. Transfer to upper-level agencies	107.74	129.28	155.14	186.17	223.40	268.08	308.29	354.54	407.72
3. Repayment for government bond	592.71	693.47	811.36	949.29	1,110.67	1,299.49	1,494.41	1,718.57	1,976.36
4. Project implementation spending			62.41	62.41	62.41	62.41	62.41		
5. Project O&M expenses								4.75	4.89
6. ADB debt repayment								3.75	4.14
7. Carried forward to next year	141.01	145.24	149.59	154.08	158.70	163.47	168.37	173.42	178.62

Item	2028	2029	2030	2031	2032	2033	2034	2035	2036
A. Budget Income	16,088.60	16,837.12	17,581.24	18,216.32	18,831.78	19,468.18	20,139.77	20,849.25	21,599.50
1. Local income	2,388.78	2,508.22	2,633.63	2,765.31	2,903.58	3,048.76	3,201.20	3,361.25	3,529.32
2. Subsidies from upper-level agencies	11,292.25	11,538.06	11,709.15	11,689.66	11,555.93	11,333.27	11,018.09	10,592.27	10,034.42
3. Government bond income	2,219.35	2,596.64	3,038.07	3,554.54	4,158.82	4,865.82	5,693.00	6,660.81	7,793.15
4. Additional income for project funding	9.60	10.22	10.89	11.62	12.41	13.27	14.21	15.23	16.34
5. Carried over from previous year	178.62	183.98	189.50	195.19	201.04	207.07	213.29	219.68	226.27
B. Budget Expenditure	16,088.60	16,837.12	17,581.24	18,216.32	18,831.78	19,468.18	20,139.77	20,849.25	21,599.50
1. Local expenditure	13,192.86	13,588.65	13,996.31	14,276.23	14,561.76	14,852.99	15,150.05	15,453.05	15,762.12
2. Transfer to upper-level agencies	468.88	525.14	577.66	618.09	661.36	694.43	729.15	765.60	803.88
3. Repayment for government bond	2,233.28	2,523.61	2,801.21	3,109.34	3,389.18	3,694.21	4,026.68	4,389.09	4,784.10
4. Project implementation spending									
5. Project O&M expenses	5.04	5.19	5.34	5.50	5.67	5.84	6.01	6.19	6.38
6. ADB debt repayment	4.56	5.03	5.54	6.11	6.74	7.43	8.19	9.03	9.96
7. Carried forward to next year	183.98	189.50	195.19	201.04	207.07	213.29	219.68	226.27	233.06

ADB = Asian Development Bank, O&M = operation and maintenance.

Source: Asian Development Bank estimates.

Table 4: Projected Income and Expenditure of the Ludian County Government, 2019–2036
(CNY million)

Item	2019	2020	2021	2022	2023	2024	2025	2026	2027
A. Budget Income	3,622.85	3,803.62	4,126.11	4,325.54	4,535.02	4,755.06	5,072.04	5,296.41	5,659.97
1. Local income	573.46	688.15	825.78	990.93	1,139.57	1,310.51	1,507.08	1,733.15	1,941.12
2. Subsidies from upper-level agencies	2,772.43	2,862.16	2,895.44	2,909.06	2,947.37	2,961.09	3,041.16	3,108.02	3,209.95
3. Government bond income	147.51	162.26	178.49	196.34	215.97	248.36	285.62	328.46	377.73
4. Additional income for project funding			132.62	132.62	132.62	132.62	132.62	18.06	19.18
5. Carried over from previous year	129.45	91.05	93.78	96.60	99.49	102.48	105.55	108.72	111.98
B. Budget Expenditure	3,622.85	3,803.62	4,126.11	4,325.54	4,535.02	4,755.06	5,072.04	5,296.41	5,659.97
1. Local expenditure	3,362.67	3,530.80	3,707.34	3,892.71	4,087.34	4,291.71	4,592.13	4,913.58	5,257.53
2. Transfer to upper-level agencies	48.28	52.14	56.31	60.81	65.68	70.93	76.61	82.74	89.36
3. Repayment for government bond	120.86	126.90	133.24	139.90	146.90	154.25	161.96	170.06	178.56
4. Project implementation spending			132.62	132.62	132.62	132.62	132.62		
5. Project O&M expenses								10.09	10.39
6. ADB debt repayment								7.98	8.79
7. Carried forward to next year	91.05	93.78	96.60	99.49	102.48	105.55	108.72	111.98	115.34

Item	2028	2029	2030	2031	2032	2033	2034	2035	2036
A. Budget Income	6,048.74	6,355.74	6,678.56	7,018.03	7,379.62	7,760.39	8,161.41	8,583.79	9,028.73
1. Local income	2,174.06	2,434.95	2,678.44	2,946.28	3,240.91	3,500.19	3,780.20	4,007.01	4,247.43
2. Subsidies from upper-level agencies	3,304.56	3,280.74	3,280.14	3,260.37	3,222.77	3,224.58	3,208.52	3,247.08	3,271.66
3. Government bond income	434.39	499.55	574.48	660.66	759.75	873.72	1,004.77	1,155.49	1,328.81
4. Additional income for project funding	20.39	21.71	23.14	24.68	26.37	28.20	30.19	32.35	34.72
5. Carried over from previous year	115.34	118.80	122.37	126.04	129.82	133.71	137.72	141.86	146.11
B. Budget Expenditure	6,048.74	6,355.74	6,678.56	7,018.03	7,379.62	7,760.39	8,161.41	8,583.79	9,028.73
1. Local expenditure	5,625.56	5,906.83	6,202.18	6,512.28	6,837.90	7,179.79	7,538.78	7,915.72	8,311.51
2. Transfer to upper-level agencies	96.50	104.22	112.56	121.57	131.29	141.80	153.14	165.39	178.62
3. Repayment for government bond	187.49	200.61	214.65	229.68	250.35	272.88	297.44	324.21	353.39
4. Project implementation spending									
5. Project O&M expenses	10.70	11.02	11.35	11.69	12.04	12.41	12.78	13.16	13.56
6. ADB debt repayment	9.69	10.69	11.78	12.99	14.32	15.79	17.41	19.19	21.16
7. Carried forward to next year	118.80	122.37	126.04	129.82	133.71	137.72	141.86	146.11	150.50

ADB = Asian Development Bank, O&M = operation and maintenance.

Source: Asian Development Bank estimates.