

RISK ASSESSMENT AND RISK MANAGEMENT PLAN

Risk Description	Rating	Mitigation Measures	Responsibility
Technical			
1. Inadequate raw water sources because of competition from other water users	M	Flow measurements were collected as part of the detailed engineering design and will be monitored during implementation. Upstream competing users agreed to release sufficient water daily to maintain the minimum design flows at the intakes. Downstream competing users will engage in and agree upon a distribution agreement.	MPW, PMU
2. Inadequate raw water sources because of climate change, deforestation, and other activities that degrade the environment	M	A water resources management specialist will be engaged through the project supervision consultant (PSC) to review existing information, including bore monitoring, stream gauging records and rainfall data and develop a monitoring system to improve data collection to allow better planning for sustainable water resources utilization.	MPW, PMU
3. Quality and rate of construction may suffer because of abnormally low bids	M	Provisions for abnormally low bids will be applied to the open competitive bidding documents and bid evaluation process.	PMU
4. Construction quality may be compromised by inexperienced construction contractors or inadequate consultant supervision	M	MPW shall prepare clear, concise, and simple detailed engineering designs and bidding documents. The PMU will review the bidding documents to ensure that qualified and experienced construction contractors are engaged. Previous experience with similar contracts will be required as part of the qualification criteria. Construction engineers and construction supervisors will be engaged through the PSC to oversee the civil works contractors.	PMU, PSC
Governance			
5. Limited capacity and systems to enable monitoring of MPW and SMASAs' performance and identify opportunities to improve operational efficiencies	M	As part of the institutional development road map, a simple sector reporting and benchmarking system will be implemented to facilitate the collection and storage of operational and performance data on the sector.	PMU, PSC
6. Lack of government support to implement the institutional development road map	S	The PMU will monitor progress of project activities under the government-approved road map and will coordinate activities to improve the capacity of the SMASAs, with support from the PSC.	PMU
7. MPW has limited understanding of the procurement framework, including contract management and administration	S	The PSC will include a procurement specialist experienced in ADB's Procurement Policy (2017, as amended from time to time). Procurement training will be provided to MPW during project implementation.	Implementing agency, PMU, PSC
8. Limited personnel allocated to PMU and implementing agency to oversee project implementation	M	PMU and implementing agency capacity will be reviewed, and additional staff will be recruited to support project implementation.	PMU, PSC

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		Contract administration will be strengthened through training and PSC support.	
9. Failure to implement water tariff reforms results in limited cost recovery and unsustainable water services	S	An ongoing ADB TA project will support the new regulatory authority to determine the right tariff structure to ensure a trend of cost recovery during the useful life of the new assets. ^a A 2-year O&M component will be included in the civil works contract. A customer billing and collection system will be implemented in the SMASAs during the 2-year O&M period.	PMU, SMASA
10. Capacity of project cities to operate and maintain water supply and sanitation infrastructure is weak	S	On-the-job training and targeted training programs to promote knowledge transfer and increase staff skills will be developed and implemented throughout the 2-year O&M component by the civil works contractor. The project will support the development of an institutional development road map for each project city. The road maps will cover O&M, training, tariff reform, billing systems, and financial management to build the operational capacity of local staff and guide the transition of urban water services to the new state-owned water utility.	PMU, SMASA
11. COVID-19 prevents/delays mobilization of the PSC and international contractors	M	By the time project implementation commences, it is anticipated that COVID-19 vaccines will be widely available and international flights to Timor-Leste will have resumed.	PMU
12. Poor clarity on the transition of DGAS into the new state-owned water utility, Bee Timor-Leste	M	Ongoing ADB TA ^a supports the transition of DGAS into the state-owned water utility responsible for urban water supply and sanitation services	MPW
13. National procurement system falls short of against international standards	M	All procurement under the project will follow ADB's Procurement Policy (2017, as amended from time to time) and Procurement Regulations for ADB Borrowers (2017, as amended from time to time).	National Procurement Commission
Economic and Financial			
14. Weak project financial management systems of implementing agencies	S	The PMU will set up project financial management systems to record, document, and report project financial data, and appoint an external auditor to periodically audit such data as required by ADB, separate from those required under government regulations.	MPW
15. Shortage of staff skilled in financial management	S	An international financial management specialist will be recruited as part of the PSC to assist the PMU. ADB will provide training on ADB financial requirements and disbursement guidelines to the PMU.	ADB, PSC, PMU
16. Weak capacity of the Office of Internal Audit	S	The international financial management specialist of the PSC will develop an internal audit manual and provide training in audit control and procedures. The MPW will ensure that the government internal audit department includes the project in its annual internal audit program.	PSC, MPW
17. Delay of external audit process and low quality of audited project financial statement	S	External auditor for the project financial statement will be outsourced. The terms of reference of the external auditor will be confirmed by ADB.	MPW

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18. Poor quality of financial reports	M	PSC will develop the financial reporting manual and guidelines in consultation with the Ministry of Public Works. PSC will provide training to MPW to improve capacity in financial management and accounting. An international finance specialist will be recruited as part of PSC to improve financial reporting.	MPW, PSC
19. Absence of accounting software and weak financial data backup systems	S	MPW will install an accounting software package and provide training to PMU. PMU will undertake regular backups of all financial, accounting, and project-related data to be safely secured.	MPW, PMU
Poverty, Social and Gender			
20. Lack of consideration of gender and social dimensions in project design, including promotion of gender mainstreaming activities and training	L	<p>Gender and social dimensions are incorporated in the design and a stakeholder and communications strategy will guide construction and operation of project water supply and sanitation infrastructure and services.</p> <p>Two social and gender specialists (one international and one national) will be recruited as part of the PSC and a gender focal point identified at MPW to promote gender awareness and support gender action plan implementation and monitoring. A stakeholder and communications strategy will be developed</p> <p>The socially and gender-inclusive institutional development road map, alongside internships and training programs, will promote gender mainstreaming, female participation in the water sector employment and service design, and gender-responsive outreach to customers.</p>	MPW, PMU
Safeguards			
21. Design, construction, and operation of project water supply and sanitation infrastructure cause negative environmental impacts	L	<p>Safeguard due diligence was carried out, including the preparation of IEEs and EMPs in accordance with national legislation and ADB's Safeguard Policy Statement (2009).</p> <p>EMPs and periodic environmental monitoring will guide the mitigation of environmental impacts and, where necessary, guide corrective action plans to remedy negative impacts.</p>	MPW
22. Construction of water supply and sanitation infrastructure causes involuntary resettlement impacts	L	<p>MPW conducted due diligence assessments and consultations in each project city. Compensation plans were prepared for all affected persons.</p> <p>The resettlement and ethnic group development plans will guide involuntary resettlement, which will respect customary laws and processes and the need to develop customary water management plans to engage communities in water source development and management.</p>	MPW

ADB = Asian Development Bank, COVID-19 = coronavirus disease, DGAS = Directorate General for Water and Sanitation, EMP = environmental management plan, GAP = gender action plan, IEE = initial environmental examination, L = low, M = moderate, MPW = Ministry of Public Works, O&M = operation and maintenance, PMU = project management unit, PSC = project supervision consultants, S = substantial, SMASA = Municipal Water, Sanitation, and Environment Services, TA = technical assistance.

^a ADB. 2019. [Implementing Reforms for Growth and Competitiveness](#). Manila.

Source: Asian Development Bank.