



Technical Assistance Report

Project Number: 48160-001
Capacity Development Technical Assistance (CDTA)
December 2014

Lao People's Democratic Republic: Strengthening Capacity in Urban Water Supply and Sanitation Management

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Asian Development Bank

CURRENCY EQUIVALENTS

(as of 28 November 2014)

| | | |
|---------------|---|------------|
| Currency unit | – | kip (KN) |
| KN1.00 | = | \$0.000124 |
| \$1.00 | = | KN8,058 |

ABBREVIATIONS

| | | |
|----------------|---|--|
| ADB | – | Asian Development Bank |
| DHUP | – | Department of Housing and Urban Planning |
| GMS | – | Greater Mekong Subregion |
| Lao PDR | – | Lao People's Democratic Republic |
| MPWT | – | Ministry of Public Works and Transport |
| m ³ | – | cubic meter |
| PNP | – | provincial <i>nam papa</i> (provincial water supply utility) |
| TA | – | technical assistance |
| WSRC | – | Water Supply Regulatory Committee |

NOTES

- (i) The fiscal year (FY) of the government and its agencies ends on 30 September. FY before a calendar year denotes the year in which the fiscal year ends, e.g., FY2014 ends on 30 September 2014.
- (ii) In this report, "\$" refers to US dollars.

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CAPACITY DEVELOPMENT TECHNICAL ASSISTANCE AT A GLANCE

| | | | |
|--|--|--|--|
| 1. Basic Data | | Project Number: 48160-001 | |
| Project Name | Strengthening Capacity in Urban Water Supply and Sanitation Management | Department /Division | SERD/SEUW |
| Country Borrower | Lao People's Democratic Republic Lao People's Democratic Republic | Executing Agency | Ministry of Public Works and Transport |
| 2. Sector | | ADB Financing (\$ million) | |
| ✓ Water and other urban infrastructure and services | Urban policy, institutional and capacity development | | 0.80 |
| | Urban water supply | | 0.50 |
| | | Total | 1.30 |
| 3. Strategic Agenda | | Climate Change Information | |
| Inclusive economic growth (IEG) | Pillar 2: Access to economic opportunities, including jobs, made more inclusive | Climate Change impact on the Project | Low |
| Environmentally sustainable growth (ESG) | Eco-efficiency | | |
| 4. Drivers of Change | | Gender Equity and Mainstreaming | |
| Governance and capacity development (GCD) | Institutional development Organizational development | No gender elements (NGE) | ✓ |
| Knowledge solutions (KNS) | Application and use of new knowledge solutions in key operational areas Knowledge sharing activities Pilot-testing innovation and learning | | |
| 5. Poverty Targeting | | Location Impact | |
| Project directly targets poverty | No | Urban | High |
| 6. TA Category: | | B | |
| 7. Safeguard Categorization Not Applicable | | | |
| 8. Financing | | | |
| Modality and Sources | | Amount (\$ million) | |
| ADB | | 1.30 | |
| Sovereign Capacity development technical assistance: Technical Assistance Special Fund | | 1.30 | |
| Cofinancing | | 0.00 | |
| None | | 0.00 | |
| Counterpart | | 0.00 | |
| None | | 0.00 | |
| Total | | 1.30 | |
| 9. Effective Development Cooperation | | | |
| Use of country procurement systems | No | | |
| Use of country public financial management systems | No | | |

I. INTRODUCTION

1. During the country programming mission in 2014, the Government of the Lao People's Democratic Republic (Lao PDR) requested technical assistance (TA) to strengthen capacity in urban water supply and sanitation management. An Asian Development Bank (ADB) TA fact-finding mission visited Vientiane in the Lao PDR from 22 to 26 September 2014 and agreed on the proposed TA impact, outcome, outputs, implementation arrangements, cost, financing arrangements, and terms of reference with the Ministry of Public Works and Transport (MPWT). The design and monitoring framework is in Appendix 1.¹

II. ISSUES

2. The Lao PDR's population in 2011 was estimated at 6.4 million, of whom a third reside in five large urban centers and 150 small towns in 148 districts.² Gross domestic product was estimated at \$1,445 per capita in 2012 and \$1,620 in 2013. An estimated 22.9% of people were living under the poverty line in 2012, down from 28.0% in 2008. The development of urban centers and small towns is important to improve living conditions and public health, strengthen rural–urban linkages, generate employment, and narrow regional income disparities. Increased access to safe and reliable water and sanitation plays a vital role in the economic development of these towns. The government's urban sector targets for water supply and sanitation are 90% coverage for piped water supply and 100% coverage for sanitation by 2030. About 60% of urban residents had access to piped water supply and 90% to improved sanitation in 2012.³ The urban water supply sector decentralized to the provincial level in 1999 and is comprised of 16 provincial *nam papas* (PNPs, or provincial water supply utilities) and *Nam Papa Nakhone Luang* (Vientiane Capital Water Supply Utility). These utilities are state-owned enterprises (or state companies), which are required to perform as corporate entities under the Enterprise Law, 2005.

3. Investments in water supply and sanitation in the Lao PDR have aimed at improving supply-side infrastructure to respond to the economic water scarcity in the country.⁴ Since the 1990s, ADB has contributed to national targets as a lead development partner in the sector through infrastructure financing for water supply systems in Vientiane capital, secondary towns, and small district towns. ADB projects have financed the development and rehabilitation of about 31 new piped water supply systems, improving access for nearly 300,000 people. By 2015, 12 more systems will be constructed and rehabilitated. ADB investment has also increased the access and coverage of household sanitation in project towns to nearly 100%; households are required to improve household latrines prior to receiving a free household water connection, and poor households are eligible for a sanitation grant. Other development partners have also contributed to these targets.

4. The concept of good water governance is new in the Lao PDR; it requires improving management of water as a resource across competing users and the delivery of water supply service in an efficient manner. The value of water as a limited resource and the competing demands on water for drinking, energy, and irrigation are increasingly recognized. Water and energy, for instance, are linked in two ways—water is used in the production of energy, and

¹ The TA first appeared in the business opportunities section of ADB's website on 21 November 2014. The pre-TA fact-finding mission was upgraded to a TA fact-finding mission on 2 October 2014.

² Government of the Lao PDR, Lao Statistics Bureau. 2012. *Ministry of Planning and Investment Statistical Yearbook 2011*. Vientiane. Town classification, under review, cites Vientiane as the capital, four secondary towns (>20,000 people), provincial or small district towns (4,000–20,000 people), and small towns (<4,000 people).

³ World Health Organization and United Nations Children's Fund Joint Monitoring Programme. 2014. *Progress on Drinking Water and Sanitation: 2014 Update*. New York.

⁴ ADB. 2013. *Thinking about Water Differently: Managing the Water–Food–Energy Nexus*. Manila.

energy is the main cost factor in the provision of water and wastewater services. While energy production depends on water, it does not consume a considerable amount of water; rather, water use in energy production affects water quality. Conversely, every liter of water that passes through the water supply system represents a significant energy cost. Efficiency in the delivery of water supply service involves both stabilizing peak demand and managing the end use of water (such as water reuse or recycling, efficient toilets, low-flow showerheads). Most inefficiency in water supply occurs before the water reaches the end user (such as water leaks). Energy and water efficiency improvements in water utilities generate impressive reductions in operating costs and often improve service. A review in 2013 found that energy-saving measures could reduce energy consumption in the Lao PDR's small town water supply systems by at least 20%–30%.⁵

5. Based on seven PNPs, electricity costs are on average 14% of total operating costs (from 2% in primarily gravity systems to 22% in pumped systems). In 2011, 16 PNPs supplied about 30.5 billion cubic meters (m³) of treated water to their customers and spent an estimated KN9.6 billion (\$1.2 million) on electricity.⁶ A 30% saving in electricity costs could save the PNPs about KN2.9 million (\$360,000) per year, and could reduce tariffs by about KN90/m³ on average (30% of KN313/m³). The main areas for achieving improved energy efficiency are associated with pumping systems, leakage management, and system automation. Scope to achieve energy savings in water treatment and water utility buildings is limited. The TA will build capacity among PNPs in good water governance, and will assist them in conducting energy audits, and in identifying energy efficiency and water reuse measures that help reduce operating costs.

6. The TA will complement PNP training with support to the proposed department of water supply of MPWT in module development for energy and water efficiency. MPWT's Water Supply and Sanitation Strategy, 2013–2030 is implementing the Water Supply Law, 2009. It defines a role for the new department (to address the specific needs of the water supply and sanitation sector) and includes a focus on future demand-side activities.⁷ The TA will support the proposed department and help demonstrate the importance of addressing water supply and sanitation together, as water is a limited resource and requires greater efficiency in the way it is managed from source to disposal and/or reuse or recycle. The department will include a sanitation division for wastewater, water reuse and recycling, and sanitation issues. The Department of Housing and Urban Planning (DHUP) of MPWT, whose remit includes water supply and sanitation, will implement the TA if establishment of the proposed department is delayed.⁸

7. The TA is aligned with ADB's country partnership strategy for the Lao PDR, 2012–2016, which prioritizes water supply and other municipal infrastructure and services.⁹ It is listed in ADB's country operations business plan for the Lao PDR, 2014–2016, and is consistent with ADB's Assessment Strategy and Road Map for Urban Development in the Lao PDR and the Sector Assessment (Summary) for Water Supply and Urban Development and sector problem tree.¹⁰ The TA explores ways to reduce the operating costs of water supply systems, given the limited funds for operation and maintenance; it supports implementation of the Water Supply

⁵ ADB. 2012. *Preparing the Water Supply and Sanitation Sector Project*. Manila. Consultant's report. Manila (TA 8150-LAO); J. Barry. 2007. *Watergy: Energy and Water Efficiency in Municipal Water Supply and Wastewater Treatment: Cost-Effective Savings of Water and Energy*. Washington, DC: The Alliance to Save Energy; M. Feldman. 2009. Aspects of Energy Efficiency in Water Supply Systems. Background paper for the Fifth International Water Association Water Loss Reduction Specialist Conference. Cape Town. 26–30 April.

⁶ Based on water sales of 3.5 billion m³ per year and electricity use of KN313/m³ of water consumed (MPWT 2011 data).

⁷ Ministry of Public Works and Transport. 2013. *Water Supply and Sanitation Strategy, 2013–2030*. Vientiane.

⁸ MPWT submitted its request to the Government for approval of the water supply department on 1 December 2014.

⁹ ADB. 2011. *Country Partnership Strategy: Lao People's Democratic Republic, 2012–2016*. Manila.

¹⁰ ADB. 2013. *Country Operations Business Plan: Lao People's Democratic Republic, 2014–2016*. Manila; ADB. 2012. *Lao People's Democratic Republic: Urban Development Sector Assessment, Strategy and Road Map*. Manila; ADB. 2011. *Country Partnership Strategy: Lao People's Democratic Republic, 2012–2016*. Manila.

Law; and it strengthens the institutional and legal framework for urban sanitation and wastewater. It is also in line with ADB's *Water Operational Plan, 2011–2020* under Strategy 2020, which promotes working with corporate water utilities to strengthen financial management, reduce inefficiencies, and stabilize water consumption through robust demand management.¹¹

8. The TA builds on ADB's ongoing capacity development support to MPWT, the Water Supply Regulatory Committee (WSRC), and PNPs in urban water supply sector development and regulation, improved water supply utility performance, and private sector participation. ADB sector loan projects have improved the operational and financial performance of PNPs through regular tariff increases and reduced arrears, while ensuring affordable services to poor households. They have also focused on strengthening good corporate governance in the sector through support to (i) PNPs in the preparation, implementation, and updating of 3-year rolling corporate plans; and (ii) provincial governments and water utilities in the preparation and monitoring of service contracts with WSRC-approved benchmarking indicators. The TA complements ongoing project and TA activities by focusing on improved management while continuing to manage the tariff framework. Parallel ADB support in governance and public sector management, including regulatory impact assessments and private sector development, has helped sustain urban water and sanitation developments in the Lao PDR.¹²

III. THE CAPACITY DEVELOPMENT TECHNICAL ASSISTANCE

A. Impact and Outcome

9. The impact will be improved operational and financial performance among water supply utilities. The outcome will be strengthened capacity in water supply and sanitation management for improved efficiency in municipal water use.

B. Methodology and Key Activities

10. **Output 1: Water supply utilities improve their practices in water use management.** The TA will support the proposed water supply department of MPWT and PNPs in identifying greater energy efficiency measures and possible water reuse and recycling opportunities—promoting good water governance. It will support a demand management study to illustrate the impact and costs for measures to reduce water demand and cost for municipal water use (i.e., water at source and the cost of associated treatment). It will assist four PNPs to (i) identify a series of energy efficiency measures for water supply systems, including energy audits; and (ii) develop an approach for water recycling and reuse, with costed measures. It will build PNPs'

¹¹ ADB. 2014. *Midterm Review of Strategy 2020: Meeting the Challenges of a Transforming Asia and Pacific*. Manila; ADB. 2011. *Water Operational Plan, 2011–2020*. Manila; ADB. 2008. *Strategy 2020: The Long-Term Strategic Framework of the Asian Development Bank, 2008–2020*. Manila.

¹² ADB. 2013. *Report and Recommendation of the President to the Board of Directors: Proposed Loan and Administration of a Grant to the Lao People's Democratic Republic for the Water Supply and Sanitation Sector Project*. Manila; ADB. 2012. *Report and Recommendation of the President to the Board of Directors: Proposed Loan and Administration of a Grant to the Lao People's Democratic Republic for Governance and Capacity Development in Public Sector Management Program – Subprogram 1*. Manila; ADB. 2012. *Technical Assistance to the Lao People's Democratic Republic for Implementing Regulatory Impact Assessment*. Manila; ADB. 2011. *Technical Assistance to the Lao People's Democratic Republic for Strengthening Urban Water Supply Regulation*. Manila; ADB. 2010. *Technical Assistance to the Lao People's Democratic Republic for Support for Post-Private Sector and Small and Medium-Sized Enterprises Development Program Partnership Framework*. Manila; ADB. 2009. *Report and Recommendation of the President to the Board of Directors: Proposed Grant to the Lao People's Democratic Republic for the Small Towns Water Supply and Sanitation Sector Project*. Manila; ADB. 2005. *Report and Recommendation of the President to the Board of Directors: Proposed Grant to the Lao People's Democratic Republic for the Northern and Central Regions Water Supply and Sanitation Sector Project*. Manila; ADB. 1999. *Report and Recommendation of the President to the Board of Directors: Proposed Loan to the Lao People's Democratic Republic for the Water Supply and Sanitation Sector Project*. Manila.

capacity in analyzing tariffs to identify measures that can help reduce operating costs. This will be based on a review of examples from the region and other partner initiatives (World Bank's *Thirsty Energy*).¹³ It will complement a recent ADB-supported project, approved in 2013, that focuses on nonrevenue water, water loss audits, and asset management (footnote 12). The PNPs selected will be from the pool of PNPs on ADB projects.¹⁴ A set of modules will be developed to assist the proposed water supply department to train other PNPs in identifying energy efficiency measures and developing an approach for water recycling and reuse.

11. Output 2: Water supply utilities improve monitoring of their operational and financial performance. The TA will work with the same four PNPs (as in output 1) to develop a new system or to adapt an existing grading system to allow each to self-monitor its operational and financial performance against an efficiency index based on key performance indicators, including a new indicator on energy savings or water use. The efficiency index will incorporate output 1 findings with results of the ongoing regulatory TA, which supports the WSRC and PNPs in reviewing benchmarking indicators, refining the methodology for data collection, and conducting performance audits of PNPs (footnote 12). Trained PNP staff will be able to analyze the data in their corporate plans, and to communicate operational and financial efficiency improvements more effectively to tariff-approving authorities through a single index. The output will work in parallel with ongoing ADB-financed sector projects that support participating PNPs to update their corporate plans. It will include a review of existing grading systems and initiatives in the sector, supported by ADB and other agencies (e.g., the Inter-American Development Bank AquaRating and the International Water Association Water Utility Efficiency Assessment Matrix). Modules will be developed to help the new water supply department train other PNPs on the grading systems.

12. Output 3: Enhanced knowledge management through roundtable discussions. This TA will develop the capacity of the proposed water supply department and PNPs through roundtable discussions. These discussions will strengthen the capacity of sector officials and PNPs through regional exchange and knowledge management. They will focus on operational and financial performance topics such as corporate and water governance. The output will identify resource speakers from regional water supply utilities or government departments. It will build on the experience of water operators' partnerships and other forums. A knowledge management series will be developed to showcase sector reform experiences and good corporate and water governance with other utilities and government officials in Southeast Asia.

13. Output 4: Institutional development and support for improved water and sanitation management. The TA will assist the proposed water supply department in implementing its institutional mandate, especially with respect to sanitation. It will help the department prepare an urban sanitation strategic framework and road map to 2030, which will focus on on-site sanitation systems, decentralized wastewater systems, and centralized wastewater systems; and highlight the synergies with good water governance. The urban sanitation strategic framework and road map will be in line with the Ministry of Health's sanitation policy (for approval in 2016).

14. The main risk to the TA is that the establishment of the proposed water supply department is delayed. In its absence, the TA will be implemented by DHUP. Assumptions include (i) WSRC and the Water Supply Regulatory Office continue to regulate PNP performance through annual water sector performance reports; (ii) other capacity development assistance by development partners continues in parallel; (iii) PNPs selected are participating in ADB projects, which will support implementation of recommendations and accompanying infrastructure

¹³ D. Rodriguez, et al. 2013. *Water Papers: Thirsty Energy*. Washington DC.

¹⁴ *Nam Papa Nakhone Luang* and Binh Duong Water Supply Sewerage Environment Company Limited of Binh Giang province of Viet Nam are twinning through parallel ADB TA to address nonrevenue water management, energy savings, and customer relations. The TA will coordinate with this activity.

improvements to water supply systems; (iv) energy efficiency action plans and water recycle and reuse measures are incorporated in participating PNP's corporate plans; (v) energy efficiency and water reuse measures are incorporated in future water supply systems; (vi) grading systems developed by development partners are available in English; (vii) regional participants and resource speakers are available to participate in roundtable discussions; and (viii) the Ministry of Health sanitation policy sets forth the overarching policy framework for sanitation.

C. Cost and Financing

15. The TA is estimated to cost \$1.5 million, of which \$1.3 million will be financed on a grant basis by ADB's Technical Assistance Special Fund (TASF-V). The government will provide counterpart support in the form of counterpart staff, air-conditioned office and work space (no office furniture), secretarial assistance, local transport to site visits in the provinces, standard internet access, workshop and training facilities, and other in-kind contributions. The cost estimates and financing plan are in Appendix 2.

D. Implementation Arrangements

16. The TA will be implemented over 36 months (1 January 2015 to 31 December 2017). The executing agency is MPWT, specifically the water supply department (or DHUP). The TA will coordinate with WSRC, DHUP, and PNP's. Participating PNP's will be selected based on the availability of an updated corporate plan; sufficient budget to implement the measures and suggestions by the TA; office space for the TA consultants; and counterpart technical staff (three–five persons) to work with the TA consultants, of which at least one should be a female PNP staff. The project steering committee for ADB water supply and sanitation projects will help coordinate the TA. A budget is allocated for regional meetings for staff from the water supply department.

17. Consultants will be engaged by ADB in accordance with its Guidelines on the Use of Consultants (2013, as amended from time to time). Implementation support will include the consulting services of a firm. The firm will be engaged following quality- and cost-based selection (90:10, full technical proposal) for 48 person-months (four international specialists for 36 person-months and one national specialist for 12 person-months).¹⁵ The consultants will assist MPWT in procuring office equipment in accordance with ADB's Procurement Guidelines (2013, as amended from time to time). All equipment procured will be handed over to MPWT at the end of the TA. Goods will be procured using the shopping procedure, as packages are expected to be less than \$100,000 equivalent. TA consultants will administer the costs for workshops, training, and surveys. Disbursements will be done in accordance with ADB's *Technical Assistance Disbursement Handbook* (2010, as amended from time to time).

18. The design and monitoring framework will be used to monitor the TA. Pre- and post-tests will be administered during workshops and roundtable discussions. Good practices and lessons will be disseminated through workshops, reports, the roundtable discussion series, and other knowledge products. Information will be exchanged with interested members from ADB's Water Community of Practice. Results of the TA will be applied and scaled up under ongoing and planned ADB water supply and sanitation projects.

IV. THE PRESIDENT'S DECISION

19. The President, acting under the authority delegated by the Board, has approved the provision of technical assistance not exceeding the equivalent of \$1,300,000 on a grant basis to the Government of the Lao People's Democratic Republic for Strengthening Capacity in Urban Water Supply and Sanitation Management, and hereby reports this action to the Board.

¹⁵ The higher quality–cost ratio is proposed because of the technical nature of TA implementation and required skills.

DESIGN AND MONITORING FRAMEWORK

| Design Summary | Performance Targets and Indicators with Baselines | Data Sources and Reporting Mechanisms | Assumptions and Risks |
|---|---|--|--|
| <p>Impact</p> <p>Improved operational and financial performance among water supply utilities</p> | <p>By 2020:</p> <p>Improved energy and water efficiency in the delivery of water supply service for four PNPs (2014 baseline: to be collected at start of TA)</p> <p>Direct savings in energy and water is realized for 16 PNPs through a 30% saving or KN2.8 billion or \$360,000 per year (2011 baseline: KN9.6 billion or \$1.2 million)</p> | <p>Corporate plans</p> <p>TA final report</p> | <p>Assumption</p> <p>WSRC and/or Water Supply Regulatory Office continue to regulate PNP performance through annual water sector performance reports.</p> <p>Risk</p> <p>Establishment of the water supply department is delayed.</p> |
| <p>Outcome</p> <p>Strengthened capacity in water supply and sanitation management for improved efficiency in municipal water use</p> | <p>By 2017:</p> <p>Energy efficiency improvements in four PNPs generate reduced operating costs of water supply systems and improved service (2014 baseline: no efficiency improvements)</p> <p>Efficiency grading system (or index) is approved and adopted for at least four PNPs after pilot demonstration (2014 baseline: no grading system exists)</p> <p>Water reuse initiatives are adopted by at least four PNPs (2014 baseline: none)</p> <p>Results of roundtable discussions on water and sanitation management are reflected in the proposed department mandate and urban sanitation strategic framework and road map to 2030 (2014 baseline: no roundtable discussions held)</p> | <p>Corporate plans</p> <p>Draft wastewater strategy and investment plan</p> <p>Draft Ministry of Health's sanitation policy</p> <p>PNPs' energy efficiency action plans</p> <p>Roundtable consultation records</p> | <p>Assumptions</p> <p>Capacity development assistance by other development partners continues in parallel.</p> <p>PNPs selected are participating in ADB projects, which will support implementation of recommendations and accompanying infrastructure improvements to water supply systems.</p> |
| <p>Outputs</p> <p>1. Water supply utilities improve their practices in water use management</p> | <p>By 2017:</p> <p>Four PNPs have developed and pilot tested an energy efficiency action plan</p> <p>Four PNPs have developed and pilot tested water recycle and reuse measures</p> <p>Modules are prepared on energy efficiency and water reuse and recycling</p> | <p>Corporate plans</p> <p>WSRC performance audits and annual performance reports of PNPs</p> <p>TA progress reports</p> | <p>Assumptions</p> <p>Energy efficiency action plans and water recycle and reuse measures are incorporated in participating PNPs' corporate plans.</p> <p>Energy efficiency and water reuse measures are incorporated in future water</p> |

| Design Summary | Performance Targets and Indicators with Baselines | Data Sources and Reporting Mechanisms | Assumptions and Risks |
|--|--|--|---|
| | All technical staff in the new water supply department is trained in the modules for rolling out to other PNPs | | supply systems. |
| 2. Water supply utilities improve monitoring of their operational and financial performance | <p>By 2017:</p> <p>Four PNPs use the grading system for monitoring performance</p> <p>At least five staff members per PNP have received training on calculating the index and generating the reports</p> <p>Modules are prepared on the grading system</p> <p>All technical staff in the new water supply department is trained in the modules for rolling out to other PNPs</p> | TA progress reports | <p>Assumption</p> <p>Grading systems information and methodology developed by other development partners are readily available in English.</p> |
| 3. Enhanced knowledge management through roundtable discussions | <p>By 2017:</p> <p>A series of roundtable discussions are convened in the Lao PDR (one per quarter)</p> <p>A knowledge management series is developed for sharing experiences from the Lao PDR water and sanitation sector</p> | <p>PNP corporate plans</p> <p>WSRC performance audits and annual performance reports of PNPs</p> | <p>Assumption</p> <p>Regional participants and resource speakers are available to participate in roundtable discussions.</p> |
| 4. Institutional development and support for improved water and sanitation management | <p>By 2017:</p> <p>All technical staff is trained in the output 1 and 2 modules</p> <p>Urban sanitation strategic framework and road map 2030 is prepared in accordance with a consultation plan</p> <p>Urban sanitation strategic framework and road map 2030 is approved</p> | <p>Department mandate and government decisions</p> <p>Draft urban wastewater management guidelines</p> | <p>Assumption</p> <p>Ministry of Health sanitation policy sets forth the overarching policy framework for sanitation.</p> |
| Activities with Milestones | | | Inputs |
| <p>Technical assistance implementation start-up includes proposed water supply department established in MPWT (Q4 2014–Q1 2015); government's no-objection letter to TA (Q1 2015); and recruitment of consulting firm (Q1–Q4 2015).</p> <p>1. Water supply utilities improve their practices in water use management</p> <p>1.1 A demand management study is completed, with a costed action plan for implementation (Q1–Q2 2016).</p> <p>1.2 A review of approaches in advocating water recycling and reuse among water utilities and for small- and medium-sized urban towns that rely on surface water (Q1 2016).</p> <p>1.3 Four PNPs are assisted in identifying a series of costed energy efficiency measures for water supply systems, which are incorporated as part of each PNP's corporate plan (Q4 2016–Q2 2017).</p> <p>1.4 The same four PNPs will be assisted in developing an approach for water recycle and</p> | | | <p>ADB: \$1,300,000</p> <p>Note: The government will provide counterpart support in the form of counterpart staff, air-conditioned office and work space (no office furniture), secretarial assistance, local transport to site visits in the provinces, standard internet access, workshop and training facilities, and</p> |

| Activities with Milestones | Inputs |
|---|-------------------------------------|
| <p>reuse with recommendations and costed measures (Q2–Q3 2016).</p> <p>1.5 Four PNPs are assisted in implementing energy efficiency measures and water recycle and reuse measures (Q4 2016–Q2 2017).</p> <p>1.6 Four PNPs are assisted in evaluating the results, with clear recommendations for improvements and possible rollout to other PNPs (Q2–Q3 2017).</p> <p>1.7 A set of modules is prepared and training conducted for rolling out to other PNPs (Q4 2016–Q3 2017).</p> <p>1.8 Workshops and meetings will be held intermittently (Q1 2016–Q3 2017).</p> <p>2. Water supply utilities improve monitoring of their operational and financial performance</p> <p>2.1 A comprehensive review of ADB-supported grading systems and those by other agencies is completed, with a recommendation of whether a new grading system is required or if one of these can be adapted (Q1–Q2 2016).</p> <p>2.2 Four PNPs are selected to work in developing or adapting the grading system for monitoring operational and financial performance (Q2–Q3 2016).</p> <p>2.3 Staff in the four PNPs are trained in the grading system, analyzing the data, calculating the index, and generating the reports (Q3–Q4 2016).</p> <p>2.4 The grading system is refined, as needed (Q4 2016).</p> <p>2.5 Four PNPs are assisted in evaluating the results, with clear recommendations for improvements and possible rollout to other PNPs (Q1–Q2 2017).</p> <p>2.6 A set modules is prepared and training conducted for rolling out to other PNPs (Q4 2016–Q3 2017).</p> <p>2.7 Workshops and meetings will be held intermittently (Q1 2016–Q3 2017).</p> <p>3. Enhanced knowledge management through roundtable discussions</p> <p>3.1 A schedule for the roundtable series is prepared around key topics related to water use efficiency, operational performance, and financial sustainability (including results from this TA—outputs 1, 2, and 4) for ADB and MPWT approval (Q1 2016).</p> <p>3.2 A review of existing capacity development and knowledge sharing platforms is completed, with recommendations for roundtable discussions (Q1 2016).</p> <p>3.3 Roundtable discussions are held in the Lao PDR and a knowledge management series is developed (Q4 2015–Q3 2017).</p> <p>3.4 The roundtable series is reviewed at midpoint for refinements (Q2 2016).</p> <p>3.5 The series is evaluated against the expected results, with recommendations for continuity in the Lao PDR and replication in other countries or regions (Q1 2017).</p> <p>4. Institutional development and support for improved water and sanitation management</p> <p>4.1 Technical staff is trained in outputs 1 and 2 (Q1 2016–Q3 2017, intermittent).</p> <p>4.2 A review of urban sanitation and wastewater initiatives is completed and a consultation plan is developed with a timeline for implementation (Q1 2016).</p> <p>4.3 A draft urban sanitation strategic framework and road map is prepared (Q3 2016).</p> <p>4.4 A final urban sanitation strategic framework and road map is prepared (Q4 2016).</p> <p>4.5 The government approves the urban sanitation strategic framework and road map (Q1–Q3 2017).</p> <p>4.6 Workshops and meetings are held intermittently (Q1 2016–Q3 2017).</p> | <p>other in-kind contributions.</p> |

ADB = Asian Development Bank, Lao PDR = Lao People's Democratic Republic, MPWT = Ministry of Public Works and Transport, PNP = provincial *nam papa* (provincial water supply utility), Q = quarter, TA = technical assistance, WSRC = Water Supply Regulatory Committee.

Source: Asian Development Bank.

COST ESTIMATES AND FINANCING PLAN

(\$'000)

| Item | Amount |
|--|----------------|
| Asian Development Bank^a | |
| 1. Consultants | |
| a. Remuneration and per diem | |
| i. International consultants | 778.0 |
| ii. National consultants | 79.0 |
| b. International and local travel | 70.0 |
| c. Reports and communications | 20.0 |
| 2. Equipment, data, and software ^b | 10.0 |
| 3. Training, seminars, and conferences | |
| a. Facilitators (resource persons) | 138.0 |
| b. Training and workshops | 20.0 |
| c. Regional conferences | 10.0 |
| 4. Surveys | 23.0 |
| 5. Vehicle rental | 10.0 |
| 6. Representative for contract negotiations ^c | 10.0 |
| 7. Contingencies | 132.0 |
| Total | 1,300.0 |

Note: The technical assistance (TA) is estimated to cost \$1,500,000, of which contributions from the Asian Development Bank are presented in the table above. The government will provide counterpart support in the form of counterpart staff, air-conditioned office and work space (no office furniture), secretarial assistance, local transport to site visits in the provinces, standard internet access, workshop and training facilities, and other in-kind contributions.

^a Financed by the Asian Development Bank's Technical Assistance Special Fund (TASF-V).

^b Equipment includes two computers and two printers, one photocopy machine, two software packages, and office furniture (e.g., desks, chairs, file cabinet).

^c If these funds are not used for contract negotiations, they should be reallocated to contingencies.

Source: Asian Development Bank estimates.

OUTLINE TERMS OF REFERENCE FOR CONSULTANTS

1. The Ministry of Public Works and Transport (MPWT) is the executing agency for the project. The Asian Development Bank (ADB) will administer the capacity development technical assistance (TA). ADB will recruit a firm based on quality- and cost-based selection (90:10, full technical proposal) in accordance with ADB's Guidelines on the Use of Consultants (2013, as amended from time to time).¹
2. **Scope of work.** The scope of work is outlined in the TA paper. One firm will be recruited to coordinate and implement the activities for the proposed TA.
3. **Time schedule and resources.** The TA implementation period is 3 years, but the technical aspects of the TA will be implemented over 18 months.
4. **Expertise required.** The firm will recruit five key experts—four international output coordinators and one national TA administrator to oversee implementation of outputs 1 to 4. The firm will nominate one of the output coordinators as the team leader for the assignment, responsible for preparing TA progress reports and liaising with the executing agency and ADB on TA matters. Other non-key experts may be suggested by the firm and may comprise both international and national experts. The résumés of other proposed experts will not be scored, but ADB will evaluate all résumés submitted in the proposal on a pass or fail basis. Non-key experts will have a minimum of a bachelor of arts (or science) and at least 2 years of experience in a relevant field of expertise.
5. Interested firms are requested to prepare a detailed description of how they propose to undertake the assignment in the approach and methodology section of their proposal.
6. The consulting firm will work closely with the executing agency and ADB in day-to-day TA implementation activities. It will provide specific inputs and timely project progress for review and approvals prior to proceeding to the next stage of implementation. The consulting firms will coordinate closely with the project coordination unit for other ADB water supply and sanitation sector projects in MPWT in Lao PDR, including consulting firms working in the sector (supported by ADB and other development partners).
7. **Output 1 coordinator and water engineer** (international, 6 person-months, intermittent). An international water engineer will be recruited to coordinate output 1. The specialist will have expertise in water supply engineering, with experience in designing water and energy efficient water supply systems. She or he will have the following qualifications:
 - (i) a minimum of a bachelor of arts or science degree;
 - (ii) a minimum of 8 years' experience as a water supply engineer in Asia or the Pacific; experience in the Greater Mekong Subregion (GMS) or the Lao People's Democratic Republic (Lao PDR) is preferred;
 - (iii) demonstrated knowledge and skills in demand management surveys, including water use and energy efficiency;
 - (iv) expertise in water recycling and reuse, wastewater, and sanitation;
 - (v) management experience of at least 3 years, with demonstrated ability to train and supervise a team and project staff;

¹ The higher quality–cost ratio is proposed because of the technical nature of TA implementation and required skills.

- (vi) ability to work with multiple stakeholders, including local governments, communities, civil society organizations, government, water utilities, the private sector, and ADB; and
 - (vii) excellent English language skills, including the ability to produce regular high-quality written reports, Microsoft Powerpoint presentations, and project updates.
8. Specific tasks and responsibilities include the following:
- (i) assist the new water supply department (or its equivalent) in (a) completing a demand management study, (b) reviewing existing approaches in advocating water recycling and reuse among water utilities and for small and medium-sized urban towns that rely on surface water, and (c) developing a set of modules on energy efficiency and water reuse and recycling (including a training program) for other provincial *nam papas* (PNPs, or provincial water supply utilities);
 - (ii) in consultation with ADB and the executing agency, select four PNPs based on clear criteria;
 - (iii) work with these four PNPs in (a) developing an energy efficiency action plan with costed measures for improvements; (b) developing an approach for water reuse and recycling, with costed measures; (c) implementing and evaluating the results of these measures; and (d) recommending measures or improvements to the design and technology of new water supply systems in energy efficiency, water reuse, and recycling;
 - (iv) hold workshops, meetings, and training for technical staff of the four PNPs and the new water supply department (intermittently); and
 - (v) provide progress updates on the output to the executing agency and ADB, through the consultant team leader; project liquidation of advances with supporting documentation; preparation and facilitation of workshops; and management of training records (disaggregated by sex and with specific outcomes listed).
9. **Output 2 coordinator and water supply benchmarking specialist** (international, 12 person-months, intermittent). An international water supply benchmarking specialist will be recruited to coordinate output 2 for 12 person-months. The specialist will have expertise in developing grading systems in the water sector. She or he will have the following qualifications:
- (i) a minimum of a bachelor of arts or science degree;
 - (ii) a minimum of 8 years' experience as a water supply benchmarking specialist or water specialist in Asia or the Pacific; experience in the GMS or the Lao PDR is preferred;
 - (iii) demonstrated knowledge and skills in developing a grading system for monitoring performance the efficiency of water utilities;
 - (iv) understanding and knowledge of different grading systems is an advantage;
 - (v) ability to work with multiple stakeholders, including local governments, communities, civil society organizations, government, water utilities, the private sector, and ADB; previous working relationships with International Water Association and other agencies is an advantage;
 - (vi) management experience of at least 3 years, with demonstrated ability to supervise a team and project staff; and
 - (vii) excellent English language skills, including the ability to produce regular high-quality written reports, Microsoft Powerpoint presentations, and project updates.

10. Specific tasks and responsibilities include the following:
- (i) work with the new water supply department (or its equivalent) in completing a review of ADB-supported grading systems and those by other agencies, with a recommendation of whether a new grading system is required or if one of these can be adapted;
 - (ii) work with the four PNPs (as in output 1) in developing a new grading system or adapting an existing system for the TA;
 - (iii) work with the four PNPs and the new water supply department (or its equivalent) in implementing the grading system and evaluating its results for refinement;
 - (iv) work with the new water supply department (or its equivalent) in developing a set of modules on the grading system, including a training program, for other PNPs;
 - (v) hold workshops, meetings, and training for technical staff of the four PNPs and the new water supply department (intermittently); and
 - (vi) provide progress updates on the output to the executing agency and ADB, through the consultant team leader; project liquidation of advances with supporting documentation; preparation and facilitation of workshops; and management of training records (disaggregated by sex and with specific outcomes listed).
11. **Output 3 coordinator and regional water supply specialist** (international, 12 person-months, intermittent). An international regional water supply specialist will be recruited to coordinate output 3 for 12 person-months. The specialist will have expertise in twinning or organizing knowledge platforms in the water sector. The specialist will have the following qualifications:
- (i) a minimum of a bachelor of arts or science degree;
 - (ii) a minimum of 8 years' experience as a water supply specialist in Asia or the Pacific; experience in the GMS or the Lao PDR is preferred;
 - (iii) demonstrated knowledge and skills in developing a grading system for monitoring performance efficiency of water utilities;
 - (iv) understanding and knowledge of different grading systems is an advantage;
 - (v) ability to work with multiple stakeholders, including local governments, communities, civil society organizations, government, water utilities, the private sector, and ADB; previous working relationships with International Water Association and other agencies is an advantage;
 - (vi) management experience of at least 3 years, with demonstrated ability to supervise a team and project staff; and
 - (vii) excellent English language skills, including the ability to produce regular high-quality written reports, Microsoft Powerpoint presentations, and project updates.
12. Specific tasks and responsibilities include the following:
- (i) Complete a review of existing capacity development and knowledge sharing platforms, with recommendations on a series of roundtable discussions that might be arranged and implemented.
 - (ii) Work with the new water supply department (or its equivalent) and ADB in developing and finalizing a knowledge management series for sharing good practices from the Lao PDR water and sanitation sector. This involves
 - (a) developing, organizing, and facilitating a series of roundtable discussions in the Lao PDR (one per quarter), including the preparation of a schedule and key topics related to water use efficiency, operational performance, and financial sustainability (including outputs 1, 2, and 4 of this TA) for ADB and executing agency approval; selecting a topic, inviting and organizing a roundtable

discussion, inviting a resource speaker from a utility in the region (as required) as well as potential participants from the Lao PDR and the region such as water utilities and government officials (some roundtable discussions may be for knowledge exchange among the water utilities in the Lao PDR, but prior approval from ADB and the executing agency is required); and

- (b) preparing an event brief following such an exchange as part of a knowledge management series.
- (iii) Review and evaluate the series at midpoint for refinements and adjustments.
- (iv) Evaluate the series against the expected results, with recommendations for continuity in the Lao PDR and replication in other countries or regions.
- (v) Provide progress updates on the output to the executing agency and ADB, through the consultant team leader; project liquidation of advances with supporting documentation; preparation and facilitation of workshops; and management of training records (disaggregated by sex and with specific outcomes listed).

13. **Output 4 coordinator and institutional water supply specialist** (international, 6 person-months, intermittent). An international institutional water supply specialist will be recruited to coordinate output 4 for 6 person-months. She or he will have expertise in institutional development, legal drafting, and capacity development. The specialist will have the following qualifications:

- (i) a minimum of a bachelor of arts or science degree;
- (ii) a minimum of 8 years' experience as an institutional water supply specialist in Asia or the Pacific; experience in the GMS or the Lao PDR is preferred;
- (iii) demonstrated knowledge and skills in institutional development for strengthening the mandate of the proposed water supply department of MPWT;
- (iv) ability to work with multiple stakeholders, including governments, water utilities, the private sector, and ADB;
- (v) management experience of at least 3 years, with demonstrated ability to supervise a team and project staff; and
- (vi) excellent English language skills, including the ability to produce regular high-quality written reports, Microsoft Powerpoint presentations, and project updates.

14. Specific tasks and responsibilities include the following:

- (i) work with output 1 and output 2 coordinators to ensure that technical staff from the new water supply department (or its equivalent) are trained in the modules;
- (ii) work with the new water supply department (or its equivalent) in completing a review of urban sanitation and wastewater initiatives and in developing a consultation plan with a timeline for implementation;
- (iii) work with the new water supply department (or its equivalent) in preparing a draft urban sanitation strategic framework and road map to 2030;
- (iv) work with the new water supply department (or its equivalent) in finalizing an urban sanitation strategic framework and road map to 2030;
- (v) support the new water supply department (or its equivalent) in attaining approval of the urban sanitation strategic framework and road map to 2030;
- (vi) hold workshops, meetings, and training for technical staff of the four PNPs and the new water supply department (intermittently);
- (vii) provide progress updates on the output to the executing agency and ADB, through the consultant team leader; project liquidation of advances with supporting documentation; preparation and facilitation of workshops; and

management of training records (disaggregated by sex and with specific outcomes listed).

15. **Technical assistance administrator** (national, 12 person-months, intermittent). The national TA administrator will be in charge of all administrative responsibilities for the TA, and will ensure all documentation required by the executing agency and ADB is kept and is in accordance with ADB's procedures. This includes both financial documentation and administrative matters, including the quality of reports. She or he will have the following qualifications:

- (i) a minimum of a bachelor of arts or science degree;
- (ii) a minimum of 3 years' experience in accounting and record keeping for development projects or TA projects;
- (iii) excellent computer skills (Microsoft Word and Excel);
- (iv) strong English language skills, with demonstrated ability to prepare financial reports;
- (v) excellent communication and interpersonal skills; and
- (vi) familiarity with ADB or World Bank regulations is an advantage.

16. **Facilities to be provided by the executing agency and other administrative matters.**

The consultants recruited and mobilized will be field-based, highly mobile, and will visit the different PNPs along the water supply systems in accordance with needs. The government will provide counterpart support in the form of counterpart staff, air-conditioned office and work space (no office furniture), secretarial assistance, local transport to site visits in the provinces, standard internet access, workshop and training facilities, and other in-kind contributions.

17. **Travel and accommodation.** The consultants are expected to arrange and pay their own accommodation and travel as agreed to in advance with the executing agency and ADB. Reimbursement will be subject to and in line with ADB's contract terms and conditions.

18. **Contract and reporting requirements.** The consulting contract will be time-based. The consulting firm will submit an inception report (within 1 month of mobilization), an interim report (at TA midpoint), a draft final report (2 months prior to TA completion), and a final report (1 month prior to TA completion). The inception report will confirm the design and monitoring framework, including the suggested indicators and baselines, and make recommendations for more quantifiable indicators to measure improved efficiency; detail the proposed work plan and scope of activities for the TA; and indicate any proposed changes to the outputs or circumstances affecting implementation. The assignment should be closely coordinated and timed with the overall sector activities. The interim report will be submitted midway during TA implementation. A draft final report will be due toward the end of TA implementation, and the final report will incorporate comments from the executing agency and ADB.

19. Output 1 and 2 modules may be attached to these milestone reports or submitted separately; modules will be finalized after receiving ADB and executing agency comments. The knowledge management series (comprising four–six briefs) will be submitted as separate reports or as otherwise agreed with ADB and the executing agency. A draft urban sanitation strategic framework and road map and final version will be submitted as separate documents.

20. The format and length of reports and documents under the TA will be agreed in advance with ADB and the executing agency.