



Report and Recommendation of the President to the Board of Directors

Project Number: 47127-002
October 2015

Proposed Loan and Administration of Grant Republic of the Union of Myanmar: Mandalay Urban Services Improvement Project

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Asian Development Bank

CURRENCY EQUIVALENTS

(as of 8 October 2015)

Currency unit	–	kyat/s (MK)
MK1.00	=	\$0.000775
\$1.00	=	MK1,289

ABBREVIATIONS

ADB	–	Asian Development Bank
AFD	–	Agence Française de Développement (French Development Agency)
EMP	–	environmental management plan
GDP	–	gross domestic product
km	–	kilometer
m ³	–	cubic meter
MCDC	–	Mandalay City Development Committee
MRG	–	Mandalay Regional Government
PAM	–	project administration manual
PMO	–	project management office
SDR	–	special drawing right
TA	–	technical assistance
UCCRTF	–	Urban Climate Change Resilience Trust Fund
UFPF	–	Urban Financing Partnership Facility

NOTE

In this report, “\$” refers to US dollars.

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PROJECT AT A GLANCE

1. Basic Data		Project Number: 47127-002	
Project Name	Mandalay Urban Services Improvement Project	Department /Division	SERD/SEUW
Country Borrower	Republic of the Union of Myanmar	Executing Agency	Mandalay Regional Government
2. Sector	Subsector(s)	ADB Financing (\$ million)	
✓ Water and other urban infrastructure and services	Other urban services		15.00
	Urban sanitation		15.00
	Urban slum development		15.00
	Urban water supply		15.00
	Total		60.00
3. Strategic Agenda	Subcomponents	Climate Change Information	
Inclusive economic growth (IEG)	Pillar 2: Access to economic opportunities, including jobs, made more inclusive	Climate Change impact on the Project	Medium
Environmentally sustainable growth (ESG)	Urban environmental improvement		
4. Drivers of Change	Components	Gender Equity and Mainstreaming	
Governance and capacity development (GCD)	Institutional development	Effective gender mainstreaming (EGM)	✓
Knowledge solutions (KNS)	Knowledge sharing activities		
Partnerships (PAR)	Bilateral institutions (not client government) Implementation		
Private sector development (PSD)	Conducive policy and institutional environment		
5. Poverty Targeting		Location Impact	
Project directly targets poverty	No	Urban	High
6. Risk Categorization:	Low		
7. Safeguard Categorization	Environment: B Involuntary Resettlement: B Indigenous Peoples: C		
8. Financing			
Modality and Sources		Amount (\$ million)	
ADB		60.00	
Sovereign Project loan: Asian Development Fund		60.00	
Cofinancing		56.80	
Asian Investment Facility		6.80	
Urban Climate Change Resilience Trust Fund under the Urban Financing Partnership Facility		4.00	
Agence Francaise de Developpement		46.00	
Counterpart		13.10	
Government		13.10	
Total		129.90	
9. Effective Development Cooperation			
Use of country procurement systems		No	
Use of country public financial management systems		No	

I. THE PROPOSAL

1. I submit for your approval the following report and recommendation on (i) a proposed loan and (ii) the proposed administration of a grant to be provided by the Urban Climate Change Resilience Trust Fund (UCCRTF)¹ under the Urban Financing Partnership Facility (UFPF), both to the Republic of the Union of Myanmar for the Mandalay Urban Services Improvement Project.²

2. The project will help Mandalay further grow as the cultural, educational, and economic hub of Upper Myanmar and act as a national economic center. This approach will foster balanced national development by reducing the concentration of population and economic activities in Yangon and promoting economic growth in Mandalay Region and its surroundings.³

II. THE PROJECT

A. Rationale

3. **Urban sector context.** Although 70% of Myanmar's population resides in rural areas, the urban population has grown 2.3% per year, faster than the country's total population (1.8% per year). The urban population in Myanmar increased from 14.6 million or 29% of the total population in 2000 to 18.4 million or 31% of the total population in 2010. Currently, 10% of Myanmar's population lives in two major cities, Yangon and Mandalay, contributing to 30% of gross domestic product (GDP), and this share is expected to rise rapidly. It is estimated that by 2030, 25% of Myanmar's population will live in urban areas, accounting for roughly 50% of Myanmar's GDP.⁴ Once ongoing and planned tax reform in Myanmar result in a functioning tax regime, the majority of tax revenue will also likely come from cities. However, to ensure that urbanization will be a driving force for economic growth and social development, urban planning and management need to be modernized and investments in urban infrastructure need to be increased.

4. **Climate change impacts.** Myanmar was considered to be the second-hardest hit country (after Honduras) by climate-change-related extreme weather events during 1991–2010; its overall climate change vulnerability factor up to 2030 is classified as "acute."⁵ The government's records confirm this trend in Mandalay Region, reflected in shorter monsoon periods, longer premonsoon droughts, and higher daily rainfall depths: the four highest peak annual daily rainfall depths during 1949–2013 were recorded after 2003. These changing climatic conditions, in tandem with the expanding urban area, are increasing the demand for reliable water resources, wastewater collection and treatment, and urban drainage improvements.

5. **Mandalay city profile and issues in urban services delivery.**⁶ Mandalay city, with a population of about 1.25 million, is the country's second-largest city and the capital of Mandalay

¹ Financing partners: the Rockefeller Foundation and the governments of the United Kingdom and the United States. For the purpose of the Mandalay Urban Services Improvement Project, only financing from the Government of the United Kingdom will be utilized.

² The design and monitoring framework is in Appendix 1.

³ The Asian Development Bank (ADB) provided project preparatory technical assistance for Preparing the Mandalay Urban Services Improvement Project (TA 8472-MYA).

⁴ H. Chhor et al. 2013. *Myanmar's moment: Unique opportunities, major challenges*. McKinsey Global Institute.

⁵ Germanwatch. 2014. *Global Climate Risk Index 2015*. Bonn.

⁶ Sector Assessment (Summary): Water and Other Urban Infrastructure and Services (accessible from the list of linked documents in Appendix 2).

Region. The city's population is about 2% of the national population and its contribution to GDP is approximately 8%. It is located in the Greater Mekong Subregion Northern Economic Corridor linking the People's Republic of China and India. The Mandalay Regional Government (MRG) does not directly intervene in urban management matters in Mandalay City, but it has a significant role in approving infrastructure projects and urban service tariffs. The Mandalay City Development Committee (MCDC) is tasked with urban service delivery and infrastructure development. However, it does not effectively carry out its responsibilities because it lacks staff, skills, funds, and data. The piped-water supply system serves only 55% of the city population and only for 10 hours per day on average. The remaining residents use mainly private shallow wells. Nonrevenue water is estimated at 52%. Neither a piped sewerage system nor a centralized wastewater treatment plant exists. Sanitation provision consists of septic tanks draining largely into the roadside drains and of latrines of varying designs. Although Mandalay is located in the heart of the Central Dry Zone, rainstorms can be very intense during the wet season. Seasonal floods are caused mainly by a lack of maintenance of canals and storage ponds, and insufficient capacities of the existing pumping stations. Although MCDC collects about 780 tons of domestic solid waste per day, large amounts are disposed in the drains and canals. Primary collection uses the bell system and the waste is transported to the final disposal sites via transit stations.⁷

6. **Strategic alignment.** The project is in line with the government's proposed National Comprehensive Development Plan, 2016–2021, which designates Mandalay as a bipolar development center to act as a national economic center that would counterbalance the attraction of Yangon and distribute economic growth to Mandalay Region and its surroundings.⁸ The project is also in line with the interim country partnership strategy, 2012–2014 of the Asian Development Bank (ADB) to promote sustainable and inclusive economic growth in support of the government's objectives of poverty reduction and national reconciliation.⁹ Tackling urban environmental problems resulting from rapid urbanization through investment in water supply, sanitation, and waste management is one of the core areas of ADB operation identified in its Strategy 2020.¹⁰ The project is in line with the guiding purpose of ADB's urban operational plan, 2012–2020, which is to catalyze a new form of climate-friendly and resilient, inclusive, competitive, and environmentally sustainable urban development.¹¹ The approach focuses on improving urban systems, making them financially sustainable, and maximizing the urban contribution to such development.

7. **ADB's sector experience.** The water supply projects in Yangon, approved in 1973,¹² and in Mandalay, approved in 1982,¹³ achieved their objectives. The project completion report for Mandalay recommended to reduce the number of contracts and to examine the appropriateness of entrusting the civil works to a parastatal organization because a large number of procurement packages (49 contracts) and civil works carried out by force account

⁷ Primary waste collector rings bell and waits at specified locations for residents to bring waste.

⁸ Ministry of National Planning and Economic Development. 2015. *National Comprehensive Development Plan, First Five Year Plan & Nay Pyi Taw Accord*. Nay Pyi Taw (PowerPoint presentation).

⁹ ADB. 2012. *Interim Country Partnership Strategy: Myanmar, 2012–2014*. Manila.

¹⁰ ADB. 2008. *Strategy 2020: The Long-Term Strategic Framework of the Asian Development Bank, 2008–2020*. Manila.

¹¹ ADB. 2013. *Urban Operational Plan, 2012–2020*. Manila.

¹² ADB. 1973. *Report and Recommendation of the President to the Board of Directors: Proposed Loans to the Union of Burma for the Rangoon Water Supply Project*. Manila; and ADB. 1978. *Report and Recommendation of the President to the Board of Directors: Proposed Supplementary Loan and Technical Assistance Grant to the Union of Burma for the Rangoon Water Supply Project*. Manila. ADB recognizes Burma by the name Myanmar.

¹³ ADB. 1982. *Report and Recommendation of the President to the Board of Directors: Proposed Loan and Technical Assistance Grant to the Union of Burma for the Mandalay Water Supply Project*. Manila.

had delayed project implementation.¹⁴ An ongoing capacity development technical assistance (TA) will develop the capacity of city governments, including Mandalay, to plan, budget, and prepare multisector urban development projects.¹⁵ ADB assisted the water supply and sanitation departments of MCDC and Yangon City Development Committee in improving water supply through the twinning partnership of urban water utility operators.¹⁶ ADB approved a grant project that focuses on small-scale and tertiary infrastructure, which will be complemented by or linked to large-scale and primary infrastructure to be built under the project.¹⁷

8. Thorough project preparation and coordination. Before the project preparatory TA started, a small team of consultants was engaged under a capacity development TA to conduct a scoping study for a strategic development plan for Mandalay.¹⁸ Its outcome provided valuable information for project preparation. Agence Française de Développement (AFD) expressed its interest in parallel financing for the project at an early stage of project preparation and cofinanced the project preparatory TA. This arrangement enabled close coordination between ADB and AFD as well as effective joint policy dialogue with the government throughout project preparation. Coordination with the European Union through AFD resulted in grant cofinancing from the European Union. A consulting firm mobilized under aid from the Government of France for the private sector, in parallel with ADB's project preparatory TA, provided technical inputs on water supply, solid waste management, and urban transport that have been fully incorporated in the project design. ADB has also closely coordinated with grant projects for water supply in Mandalay being proposed by AFD and the Japan International Cooperation Agency to avoid overlap and ensure complementarity.

9. Special features. The project integrates a biogas-generating system with sludge stabilization as part of the wastewater treatment plant. Biogas generated in the sludge-digesting process will be used to produce electricity, which will power the wastewater treatment plant. The wastewater treatment plant is expected to be carbon-neutral and at least 50% energy self-sufficient. Sludge from the digester will be stabilized for potential reuse in agriculture and/or material reuse in cement works. Training will be conducted for MCDC to ensure effective operation of this system.

B. Impact and Outcome

10. The impact will be improved urban environment and public health in Mandalay. The outcome will be improved access to sustainable urban services in Mandalay.

C. Outputs

11. Outputs of the project are (i) improved water supply systems, (ii) improved wastewater and drainage management, and (iii) strengthened capacity for urban services management. The details are summarized below. Output 1 will build a new water treatment plant, rehabilitate the existing water supply networks, and extend the networks to new urban areas. A comprehensive nonrevenue water reduction program will be implemented including the rehabilitation of pipes,

¹⁴ ADB. 1991. *Completion Report: Mandalay Water Supply Project in Myanmar*. Manila.

¹⁵ ADB. 2013. *Technical Assistance to the Republic of the Union of Myanmar for Transformation of Urban Management*. Manila.

¹⁶ ADB. 2011. *Technical Assistance for Supporting Water Operators' Partnerships in Asia and the Pacific*. Manila.

¹⁷ ADB. 2014. *Grant Assistance to the Republic of the Union of Myanmar for the Pro-Poor Community Infrastructure and Basic Services Project*. Manila.

¹⁸ ADB. 2012. *Technical Assistance to the Republic of the Union of Myanmar for Capacity Building Support for Project Identification*. Manila.

replacement of connections with meters, and improvement of tariff collection efficiency. Output 2 will provide the first centralized wastewater collection and treatment system in Mandalay. The water quality of major creeks and canals will be improved through reducing direct discharge of wastewater to receiving waters; and enhancing septage removal, treatment, and disposal. A substantial amount of funds have been allocated to implement output 3 considering that the project will be the first major externally financed project for Mandalay since the ADB's previous water supply project (footnote 13). Output 3 will cover the project implementation support, capacity development for the MRG and MCDC in urban services management, and awareness programs for the residents on health and environment.

D. Investment and Financing Plans

12. The project is estimated to cost \$129.9 million (Table 1).

Table 1: Project Investment Plan
(\$ million)

Item	Amount ^a
A. Base Cost^b	
1. Water supply systems improved	43.9
2. Wastewater and drainage management improved	52.3
3. Urban services management capacity strengthened	13.5
Subtotal (A)	109.7
B. Contingencies^c	15.9
C. Financing Charges During Implementation^d	4.3
Total (A+B+C)	129.9

^a Includes taxes and duties of \$9.5 million to be financed from government resources through exemption for the grant portion and through cash contribution for the loan portion.

^b In mid-2015 prices.

^c Physical contingencies computed at 10% for civil works, 15% for land acquisition and resettlement, and 10% for all other categories. Price contingencies computed at 1.3% on foreign exchange costs in 2016 and 1.5% thereafter, and 6.9% on local currency costs in 2016, 6% in 2017, and 5% thereafter; includes provision for potential exchange rate fluctuation under the assumption of a purchasing power parity exchange rate.

^d Includes interest. Interest during construction for the Asian Development Bank loan is 1% per year and will be capitalized. There are no commitment charges.

Source: Asian Development Bank estimates.

13. The government has requested a loan in various currencies equivalent to SDR42,547,000 from ADB's Special Funds resources to help finance the project. The loan will have a 32-year term, including a grace period of 8 years, an interest rate of 1.0% per annum during the grace period and 1.5% per annum thereafter, and such other terms and conditions as set forth in the draft loan, grant, and project agreements.¹⁹ The UCCRTF (footnote 1) under the UFPF will provide grant cofinancing equivalent to \$4 million, to be administered in parallel by ADB.²⁰ Parallel financing is proposed for a €40.0 million loan from AFD and a €5.9 million grant from the European Union's Asian Investment Facility administered by AFD. The financing plan is in Table 2.

¹⁹ The loan will include financing charges during implementation. Local transportation and insurance charges may be financed under the loan and grant.

²⁰ In case that the government is unable to finance taxes and duties, ADB loan can finance taxes and duties given that the amount financed (i) is within the threshold identified in the interim country partnership strategy, (ii) does not represent an excessive share of the project investment plan, (iii) applies only to ADB-financed expenditures, and (iv) is material and/or relevant to the success of the project.

14. The Government of the United Kingdom agreed to provide the \$4 million grant through the UCCRTF (footnote 1) under the UFPF to be used exclusively for the project and such allocation constitutes an additional condition permitting the earmarking of that grant for the project. While the loan received Parliament approval, due to unforeseen circumstances, the grant has not yet received formal approval from the government. The first ADB project for Myanmar financed by a combination of a loan and grant, synchronizing approvals for the loan and the grant presented a challenge. However, the process for government approval of the grant has been initiated, and it is expected that such approval will be provided before the end of 2015. The project's design and implementation arrangements include the grant on the assumption that such approval will be received.

15. The borrower will be the Republic of the Union of Myanmar, which will relend the loan proceeds to MCDC. Rending will carry the same terms and conditions as the ADB and AFD loans, including the foreign exchange and interest rate variation risks. The grant funds will be transferred as grants.

Table 2: Financing Plan

Source	Amount (\$ million)	Share of Total (%)
Asian Development Bank ^a	60.0	46.2
Urban Climate Change Resilience Trust Fund ^b under the Urban Financing Partnership Facility	4.0	3.1
Agence Française de Développement ^c	46.0	35.4
European Union's Asian Investment Facility ^d	6.8	5.2
Government ^e	13.1	10.1
Total	129.9	100.0

^a To finance output 2 and output 3a.

^b To finance outputs 3c–e. Financing partners: the Rockefeller Foundation and the governments of the United Kingdom and the United States. Administered by the Asian Development Bank. For the purpose of the Mandalay Urban Services Improvement Project, only financing from the Government of the United Kingdom will be utilized.

^c Parallel financing for output 1 and output 3a.

^d Parallel financing administered by the Agence Française de Développement for output 3b and output 3e.

^e To finance land acquisition, financing charges during implementation for the Agence Française de Développement loan, and taxes and duties through exemption for the grant portion and cash contribution for the loan portion.

Source: Asian Development Bank estimates.

E. Implementation Arrangements

16. MRG will be the executing agency and MCDC will be the implementing agency. MRG will be responsible for major decision making in relation to project implementation. MCDC will coordinate and monitor the project activities of the project management office (PMO). The PMO will be established under MCDC to undertake day-to-day project implementation activities. The project implementation and coordination committee led by the chief minister of MRG will be responsible for providing policy guidance, coordination with relevant ministries at the central level, and interdepartmental coordination at MRG and MCDC. The implementation arrangements are summarized in Table 3 and described in detail in the project administration manual (PAM).²¹

17. To strengthen project readiness, a project management team has already been established under MCDC to undertake preparatory activities. It will be upgraded to a PMO upon government approval of the project. The project preparatory TA was extended with additional

²¹ Project Administration Manual (accessible from the list of linked documents in Appendix 2).

funds from AFD to conduct surveys and prepare technical specifications for the new wastewater treatment plant, and to engage a financial management specialist to provide training and help establish the project accounting system. MCDC requested ADB's assistance in selecting the project implementation support consultant so as to expedite its mobilization.²² Since the project is financed with ADB-administered cofinancing resources as well as Asian Development Fund resources, universal procurement will apply to all contract packages under the project.²³

Table 3: Implementation Arrangements

Aspects	Arrangements		
Implementation period	April 2016–March 2023		
Estimated completion date	31 March 2023 (estimated loan closing date: 30 September 2023)		
Management			
(i) Oversight body	The project implementation and coordination committee will be chaired by the chief minister, MRG. Members will include ministers and secretaries of MRG; and mayor, secretaries, and committee members of MCDC.		
(ii) Executing agency	MRG		
(iii) Implementing agency	MCDC		
(iv) Implementation unit	The project management office will be established under MCDC, headed by a project director and comprising sufficient qualified staff.		
Procurement	International competitive bidding	4 contracts	\$58.6 million
Consulting services	QCBS 5 packages	91 person-months (international) 514 person-months (national)	\$6.9 million
Advance contracting	Selection of the project implementation support consultant will be initiated.		
Disbursement	The loan and grant proceeds will be disbursed in accordance with ADB's <i>Loan Disbursement Handbook</i> (2015, as amended from time to time) and detailed arrangements agreed between the government and ADB.		

ADB = Asian Development Bank, MCDC = Mandalay City Development Committee, MRG = Mandalay Regional Government, QCBS = quality- and cost-based selection.

Note: Procurement and consulting services cover the packages financed by the ADB loan and Urban Climate Change Resilience Trust Fund grant only. Accordingly, goods and works, and consulting services to be financed and administered by ADB under the project will be procured in accordance with ADB's Procurement Guidelines (2015, as amended from time to time) and ADB's Guidelines on the Use of Consultants (2013, as amended from time to time).

Source: ADB.

III. DUE DILIGENCE

A. Technical

18. Since reliable population data and projections were not available when project preparation started, a methodology for population projections was developed using assumptions on population densities and speed of new development by ward. MCDC will be able to monitor and adjust both assumptions over time. Alternative technical options were analyzed for each project facility, and the optimum design solutions were identified. In reviewing the alternatives, consideration was given to improvement of the overall efficiency of capital investment and operational expenditure, and to reduction of negative social and environmental impacts. The technology engaged for the project is within the capacity of the local government agencies assigned to implement, operate, and maintain the project facilities. The designs and the

²² Provided that MCDC will negotiate and sign the consulting service contract.

²³ ADB. 2013. *Blanket Waiver of Member Country Procurement Eligibility Restrictions in Cases of Cofinancing for Operations Financed from Asian Development Fund Resources*. Manila.

operation and maintenance plan are prepared along appropriate standards to ensure sustainability.

B. Economic and Financial

19. **Economic analysis.** The economic analysis assesses the economic viability of the project through standard cost–benefit analysis.²⁴ Conducted for each output as well as for the overall project, the analysis confirms the economic viability. Since most of the project benefits cannot be valued within traditional markets, they are assessed in terms of willingness to pay for the improved services. Average incremental willingness to pay compared with existing amounts is estimated at (i) MK50,820 per household per year for improved water supply, (ii) MK129,500 per household per year for piped-water connections, (iii) MK39,000 per household per cleaning for improved septage services, and (iv) MK48,360 per household per year for improved wastewater and drainage services. The economic internal rate of return was estimated at 20.2% for the improved water supply (with an economic net present value of MK38.4 billion), at 23.4% for improved wastewater and drainage management (net present value: MK48.1 billion), and 19.9% for the overall project (MK 76.8 billion). Sensitivity tests indicated that each output and the overall project are highly robust: a 10% cost increase combined with a 10% benefit decrease would reduce the economic internal rate of return of the overall project to 17%.

20. **Financial analysis.**²⁵ The proceeds of the loans from ADB and the Asian Development Fund will be relented via the Ministry of Finance to MCDC in US dollars, and at the same terms as ADB and AFD loans. MCDC did not need any financial transfers from the central government during the last fiscal years, as revenues from toll fees, rentals, taxes, tariffs, and land development were sufficient to cover expenses, although MCDC did underspend on the operation and maintenance of urban infrastructure. A fiscal analysis and evaluation of MCDC, a government agency, was undertaken consistent with ADB's Financial Management, Cost Estimates, Financial Analysis and Financial Performance Indicators to assess its capacity to service all incremental recurrent costs related to the project (i.e., debt service on the ADB and AFD loans, and operation and maintenance costs).²⁶ To ensure MCDC's financial sustainability, MCDC, MRG, and the government will have to take measures to increase MCDC's current revenues; for example, through water and wastewater tariff increases, and updates and increases of the rental value of properties to generate more housing and lighting tax revenues, and implement tight operating cost controls. The fiscal analysis assumes that MCDC, MRG, and the government will make sure that MCDC has sufficient funds to cover operating expenses and debt service by jointly undertaking to balance MCDC's budget through increased financial support to MCDC; for example, additional transfers from the MRG and/or the central government, as required.

C. Governance

21. The risk rating for financial management is *high*. The public financial management systems in Myanmar are relatively weak because of limited exposure to international best practices and low capacity and computerization. The major risks are (i) limited capacity of MCDC staff to (a) conduct project financial management, (b) prepare financial management reports, and (c) implement an internal audit; and (ii) weak financial management systems and

²⁴ Economic Analysis (accessible from the list of linked documents in Appendix 2).

²⁵ Financial analysis (accessible from the list of linked documents in Appendix 2).

²⁶ ADB. 2014. Financial Management, Cost Estimates, Financial Analysis, and Financial Performance Indicators. *Operations Manual*. OM G2. Manila.

controls, including the current internal audit setup, which does not provide the requisite independence. This poses significant constraints for development effectiveness in Myanmar. The proposed risk mitigation measures involve capacity development through the engagement of international and national accounting and financial management consultants to (i) provide training, including on-the-job-training, for the PMO on ADB's disbursement policies and procedures, and international best practices; and (ii) improve project budgeting and accounting systems, including computerization of the accounting system. Although the executing and implementing agencies do not have recent experience in implementing externally funded projects, two key staff at MCDC and the PMO participated in the implementation of a previous ADB-financed project. To mitigate procurement risks, (i) the number of contracts has been reduced to a minimum; (ii) MCDC has requested ADB to assist in selecting the project implementation support consultant, provided that MCDC will negotiate and sign the consulting service contract; and (iii) ample training on ADB's procurement requirements will be conducted under the project.

22. ADB's Anticorruption Policy (1998, as amended to date) was explained to and discussed with the government, MRG, and MCDC. Relevant policy sections will be included in all project documents and contracts relating to procurement. The policy requirements and supplementary measures are described in the PAM (footnote 21).

D. Poverty and Social

23. The project will cover all poor and vulnerable households in the project area, including households headed by women, with individual water connections and improved sanitation, which is anticipated to yield health and economic benefits. The framework for inclusion of the poor and vulnerable will ensure that targeted coverage of all poor and vulnerable households is part of the gender equality and social inclusion action plan.²⁷ The project is categorized as effective gender mainstreaming. The water connection subsidy will ensure affordability and access to better service, while a lifeline tariff subsidy for water supply and wastewater will ensure continuous affordability of user charges by poor households. Participation of the community, especially of women and those from socially excluded groups, is elicited by raising awareness of the project. The stakeholder strategy and participation plan for the project will maximize the participation of stakeholders, particularly women, the poor, and vulnerable groups. A gender equality and social inclusion action plan will ensure that gender equality and social inclusion are implemented and monitored at regular intervals. Data, disaggregated by sex and social and economic background, will be collected within 1 year of the regular intervals to help establish baseline figures to track social and gender equality results as the project progresses.

E. Safeguards

24. **Environment.** The project is classified as category B. An initial environmental examination was prepared in accordance with ADB's Safeguard Policy Statement (2009) and the applicable environment regulations of the government.²⁸ The project is not expected to cause irreversible adverse environmental impacts. Mitigation measures for identified impacts are included in the environmental management plan (EMP). In addition, potential impacts of climate change and natural hazards (mainly floods and earthquakes) are recommended for integration into the detailed engineering design in terms of location and structure of the facilities. At the detailed engineering design stage, the EMP will be updated and finalized. The final EMP,

²⁷ Gender Action Plan (accessible from the list of linked documents in Appendix 2).

²⁸ Initial Environmental Examination (accessible from the list of linked documents in Appendix 2).

cleared by ADB, will form part of the contract bidding documents. Effective environmental monitoring at all stages of subproject implementation will be ensured. In compliance with ADB's information disclosure and consultation requirements, the safeguard documents will be posted on ADB's website.

25. **Involuntary resettlement.** The project is classified as category B. The proposed acquisition of 5.253 hectares of land for the wastewater treatment plant will affect 17 households (58 persons), including 8 landowners, 3 tenants, and 6 seasonal workers. A resettlement plan was prepared and includes a review of local laws and regulations, gap analysis, and proposed gap-filling measures.²⁹ The resettlement plan is in compliance with ADB's Safeguard Policy Statement and takes into consideration provisions of local laws and regulations. The resettlement plan includes an internal and external monitoring framework. Consultations with the affected households were conducted during project preparation and will continue throughout resettlement planning and implementation. The project information booklet will be distributed and a grievance redress mechanism will be established. Effective internal and external monitoring at all stages of subproject implementation will be ensured. MCDC is committed to implementing the resettlement plan and allocating sufficient counterpart funds for land acquisition. Capacity development of MCDC for social safeguards was conducted during project preparation and will continue during project implementation. The resettlement plan will be updated at the detailed engineering stage and cleared by ADB. In compliance with ADB's information disclosure and consultation requirements, the safeguard documents will be posted on ADB's website.

26. **Indigenous peoples.** The safeguard category for indigenous peoples is C. Some 96.4% of the city population is Bamar by ethnicity. However, no communities of ethnic minorities or groups live separately in the urban area. As the project will benefit all residents in the project area equally, no adverse impact on indigenous peoples is anticipated. In accordance with ADB's Safeguard Policy Statement, no separate indigenous peoples plan is required.

F. Risks and Mitigating Measures

27. The project is categorized as high risk because of (i) the limited capacity of the executing and implementing agencies for administering externally funded projects, and (ii) ADB's limited recent experience in the country. However, the integrated benefits and impacts are expected to outweigh the costs. Major risks and mitigation measures are summarized in Table 4 and described in detail in the risk assessment and risk management plan.³⁰

Table 4: Summary of Risks and Mitigating Measures

Risks	Mitigating Measures
PMO staff do not have sufficient knowledge and experience in implementation of externally funded projects, thus risks for financial management and procurement are rated high.	Consultant will be engaged to support project implementation and train PMO staff on ADB's requirements and procedures for procurement, funds disbursement (including use of imprest fund and state of expenditure procedures), and financial management procedures. The number of procurement packages has been minimized.
MCDC revenue is insufficient to cover operation and maintenance of project facilities and repay loans.	MRG and MCDC will ensure that MCDC secures in a timely manner a subsidy, fiscal transfer, or any other financial support from MRG or the Government of Myanmar to cover the shortfall.

²⁹ Resettlement Plan (accessible from the list of linked documents in Appendix 2).

³⁰ Risk Assessment and Risk Management Plan (accessible from the list of linked documents in Appendix 2).

Risks	Mitigating Measures
Inadequate subsidies are provided to meet shortfall in water supply and wastewater revenues.	Consultant will assist MRG and MCDC in estimating shortfalls during construction to allow them to allocate sufficient budget for operation and maintenance.

ADB = Asian Development Bank, MCDC = Mandalay City Development Committee, MRG = Mandalay Regional Government, PMO = project management office.
Source: ADB.

IV. ASSURANCES AND CONDITIONS

28. The government has assured ADB that implementation of the project shall conform to all applicable ADB policies including those concerning anticorruption measures, safeguards, gender, procurement, consulting services, and disbursement as described in detail in the PAM and loan documents.

29. The government has agreed with ADB on certain covenants for the project, which are set forth in the loan, grant, and project agreements.

30. The government has agreed that no withdrawals will be made from the loan and grant accounts until (i) MCDC has entered into a subsidiary loan agreement with the government, and (ii) the PMO has been established with qualified staff.

V. RECOMMENDATION

31. I am satisfied that the proposed loan would comply with the Articles of Agreement of the Asian Development Bank (ADB) and recommend that the Board approve

- (i) the loan in various currencies equivalent to SDR42,547,000 to the Republic of the Union of Myanmar for the Mandalay Urban Services Improvement Project, from ADB's Special Funds resources, with an interest charge of 1.0% per annum during the grace period and 1.5% per annum thereafter; for a term of 32 years, including a grace period of 8 years; and such other terms and conditions as are substantially in accordance with those set forth in the draft loan and project agreements presented to the Board; and
- (ii) the administration by ADB of the grant not exceeding the equivalent of \$4,000,000 to the Republic of the Union of Myanmar for the Mandalay Urban Services Improvement Project, to be provided by the Urban Climate Change Resilience Trust Fund under the Urban Financing Partnership Facility as described in para. 14.

Takehiko Nakao
President

22 October 2015

DESIGN AND MONITORING FRAMEWORK

Impact the Project is Aligned with			
Urban environment and public health in Mandalay is improved (proposed National Comprehensive Development Plan, 2016–2021) ^a			
Results Chain	Performance Indicators with Targets and Baselines	Data Sources and Reporting Mechanisms	Risks
Outcome Access to sustainable urban services in Mandalay improved	By 2024 a. Households with access to water supply without interruption increased to 124,000 (2014 baseline: 19,000) b. Nonrevenue water reduced to 25% (2014 baseline: 52%) c. Direct discharge of wastewater to receiving waters reduced to 25,000 m ³ /day (2014 baseline: 85,000 m ³ /day) d. Households living in wards affected by seasonal flooding reduced to 18,000 (2014 baseline: 92,000) with frequency of flooding raised to 1 in 2 years (2014 baseline: more than 1 in 6 months) e. Budgets for water supply and sanitation operations ring-fenced	a–e. Mandalay City annual report, end-of-project survey	MCDC revenue is insufficient to cover operation and maintenance of project facilities and repay loans. Inadequate subsidies are provided during the period of shortfall in water supply and wastewater revenues.
Outputs 1. Water supply systems improved	By 2023 1a. Water production capacity increased to 183,000 m ³ /day (2014 baseline: 97,000 m ³ /day) by rehabilitating existing treatment plant and reservoirs and constructing a new treatment plant 1b. 19 km of main transmission lines and 116 km of distribution systems constructed (2014 baseline: not applicable) 1c. 18 km of existing network rehabilitated and new network extended (2014 baseline: not applicable) 1d. 20,000 connections, including meters, replaced (2014 baseline: not applicable) 1e. At least 30% of unskilled labor force in civil works are women (2014 baseline: not applicable)	1a–e. Quarterly construction report	PMO staff do not have sufficient knowledge and experience in implementation of externally funded projects.

Results Chain	Performance Indicators with Targets and Baselines	Data Sources and Reporting Mechanisms	Risks
2. Wastewater and drainage management improved	<p>By 2023</p> <p>2a. 27 km of sewerage networks constructed (2014 baseline: 0)</p> <p>2b. 31 km of interceptor networks and a pumping station constructed at Thingazar Creek (2014 baseline: 0)</p> <p>2c. A wastewater treatment plant with a capacity of 75,000 m³/day constructed (2014 baseline: 0)</p> <p>2d. Pilot wastewater connections in densely populated city center implemented (2014 baseline: 0)</p> <p>2e. 10 septage collection vehicles provided (2014 baseline: 6 operational)</p> <p>2f. 60 km of main canals dredged and rehabilitated (2014 baseline: not applicable)</p> <p>2g. Stormwater pumping capacity increased to 65,100 m³/hour (2014 baseline: 21,900 m³/hour)</p> <p>2h. At least 30% of unskilled labor force in civil works are women (2014 baseline: not applicable)</p>	2a–h. Quarterly construction report	PMO staff do not have sufficient knowledge and experience in implementation of externally funded projects.
3. Capacity for urban service management strengthened	<p>By 2023</p> <p>3a. Project implementation support provided in terms of detailed engineering designs, procurement, construction supervision, disbursement, financial management, social and environmental safeguards, and operation and maintenance</p> <p>3b. At least 50 MRG and MCDC staff trained on municipal financing, nonrevenue water reduction, cost recovery, and corporatization of water and wastewater operations (at least 30% of participants are women)</p> <p>3c. Urban spatial plan and infrastructure development plans developed, endorsed, and implemented</p>	<p>3a–b. Attendance sheets, end-of-training survey</p> <p>3c. MCDC annual report</p>	PMO staff assigned by MCDC are frequently rotated.

Results Chain	Performance Indicators with Targets and Baselines	Data Sources and Reporting Mechanisms	Risks
	3d. Pilot community-based solid waste management designed and implemented 3e. Programs to raise awareness on public health and environmental protection conducted (with equitable share of male and female participants)	3d. PMO quarterly report 3e. Program materials, attendance sheets	

Key Activities with Milestones

Output 1. Water supply systems improved

- 1.1 Complete detailed designs and update EMP by 2016.
- 1.2 Complete procurement of works and goods by 2017.
- 1.3 Complete civil works and equipment installation by 2021.

Output 2. Wastewater and drainage management improved

- 2.1 Complete detailed designs and update EMP and resettlement plan by 2016.
- 2.2 Complete land acquisition and resettlement activities by 2017.
- 2.3 Complete procurement of works and goods by 2018.
- 2.4 Complete civil works and equipment installation by 2022.

Output 3. Urban service management capacity strengthened

- 3.1 Establish PMO with qualified staff by 2015.
- 3.2 Recruit and mobilize consultants by 2016.
- 3.3 Review and assess existing organization, staffing, and administration systems; and identify institutional bottlenecks and capacity development needs by 2017.
- 3.4 Prepare guidelines and manuals, and develop training programs by 2018.
- 3.5 Conduct training for MRG and MCDC by 2022.
- 3.6 Develop public health and environmental protection awareness programs and materials for beneficiaries by 2019.
- 3.7 Conduct awareness programs by 2022.

Inputs

Asian Development Bank (loan): \$60,000,000
 Urban Climate Change Resilience Trust Fund under the Urban Financing Partnership Facility (grant): \$4,000,000
 Government of Myanmar: \$13,100,000

Assumptions for Partner Financing

The outputs financed by the following partners in parallel will be implemented without delay.
 Agence Française de Développement (loan): \$46,000,000 (€40,000,000) for entire output 1 and part of output 3a.
 European Union (grant): \$6,800,000 (€5,900,000) for output 3b and part of output 3e.

EMP = environmental management plan, km = kilometer, m³ = cubic meter, MCDC = Mandalay City Development Committee, MRG = Mandalay Regional Government, PMO = project management office.

^a Ministry of National Planning and Economic Development. 2015. *National Comprehensive Development Plan, First Five Year Plan & Nay Pyi Taw Accord*. Nay Pyi Taw (PowerPoint presentation).

Source: Asian Development Bank.

LIST OF LINKED DOCUMENTS

<http://www.adb.org/Documents/RRPs/?id=47127-002-3>

1. Loan Agreement
2. Grant Agreement
3. Project Agreement
4. Sector Assessment (Summary): Water and Other Urban Infrastructure and Services
5. Project Administration Manual
6. Contribution to the ADB Results Framework
7. Development Coordination
8. Financial Analysis
9. Economic Analysis
10. Country Economic Indicators
11. Summary Poverty Reduction and Social Strategy
12. Gender Action Plan
13. Initial Environmental Examination
14. Resettlement Plan
15. Risk Assessment and Risk Management Plan

Supplementary Document

16. Consultation and Participation Plan
17. Economic Analysis–Supplementary Tables