



Extended Annual Review Report

Project Number: 49116-001
Loan Number: LN3269 and CF72
December 2020

Ooredoo Myanmar Limited Nationwide Telecommunications Project (Myanmar)

This is an abbreviated version of the document, which excludes information that is subject to exceptions to disclosure set forth in ADB's Access to Information Policy.

Asian Development Bank

CURRENCY EQUIVALENTS

Currency unit – kyat (MK)

	At Appraisal	At Project Completion
	Kyat/s (MK)	Kyat/s (MK)
MK1.00	– \$0.001	\$0.0008
\$1.00	– MK1,090	MK1,325

ABBREVIATIONS

ADB	– Asian Development Bank
ARPU	– average revenue per user
CSR	– corporate social responsibility
E&S	– environmental and social
EHS	– environmental, health, and safety
EIRR	– economic internal rate of return
ESMS	– environmental and social management system
FIRR	– financial internal rate of return
GAP	– gender action plan
ICT	– information and communication technology
IEE	– initial environmental examination
IFC	– International Finance Corporation
LTE	– long-term evolution
MLA	– master lease agreement
MOTC	– Ministry of Transport and Communications
O&M	– operation and maintenance
OML	– Ooredoo Myanmar Limited
OQSC	– Ooredoo Qatari Shareholding Company
RRP	– report and recommendation of the President
SIM	– subscriber identity module
SPS	– Safeguard Policy Statement

WEIGHTS AND MEASURES

km	– kilometer
MHz	– megahertz
MB	– megabyte

NOTES

- (i) The fiscal year (FY) of Ooredoo Myanmar Limited ends on 31 March. FY before a calendar year denotes the year in which the fiscal year ends, e.g., FY2000 ends on 31 December 2000.
- (ii) In this report, "\$" refers to United States dollars.

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BASIC DATA
Nationwide Telecommunications Project
(LN3269 and CF72-Myanmar)

Key Dates	Expected	Actual
Concept clearance approval	25 October 2013	25 October 2013
Board approval	30 June 2015	30 June 2015
Loan agreement	1 October 2015	1 October 2015
First disbursement	3 February 2016	3 February 2016
Commercial operations date

Project Administration and Monitoring	No. of Missions	No. of Person-Days
Due diligence and loan negotiation	7	19
Project administration	0	0
XARR mission	0	0

ADB = Asian Development Bank, XARR = extended annual review report.

EXECUTIVE SUMMARY

The Asian Development Bank (ADB) approved a loan of up to \$150.0 million from ADB's ordinary capital resources and a B loan of up to \$300.0 million to Ooredoo Myanmar Limited (OML) for the Nationwide Telecommunications Project. OML was created by Ooredoo Group and is the implementing vehicle for the group's rollout of its mobile network in Myanmar. The International Finance Corporation also extended a bilateral loan of \$150.0 million to OML.

The project consisted of rolling out a third-generation (3G) mobile telecommunication network (Universal Mobile Telecommunication System 900/2100 or UMTS 900/2100) across Myanmar. The government awarded a 15-year operating and associated spectrum license to Ooredoo Group Qatar along with Telenor Group of Norway. At the time of project approval, Myanmar was one of the least connected countries in Southeast Asia as a result of decades of underinvestment in information and communication technology (ICT) infrastructure. Given the inadequate infrastructure, the cost to access ICT was prohibitively expensive. At that time, local banks lacked the financial and technical capacity to undertake large and complex financing such as that for the OML project. ADB and the International Finance Corporation were ideally situated to provide the required financial support and expertise in supporting the rollout. To further catalyze participation from commercial banks, ADB undertook cofinancing programs through B loans. ADB also designed a technical assistance (TA) project to help OML and other industry stakeholders reduce reliance on diesel generation and minimize carbon emissions by adopting renewable energy technologies for telecommunication towers.

The project's overall development outcome is successful. The project contributed to private sector development and ADB's strategic development objectives. The project helped reduce the cost of mobile calls from about \$0.60 per minute to the current average of \$0.0086 per minute. OML employed 812 people since starting operations, 48% of whom were female.

OML complies with applicable national laws and regulations as well as with ADB's 2009 Safeguard Policy Statement. OML's environmental and social management system contained the elements of an initial environmental examination (IEE), and a review of a range of project documents identified no significant issues.

ADB played a catalytic role by providing financing during a critical stage of Myanmar's technological buildout. ADB's participation strengthened the confidence of local and international private investors, which, in turn, led to greater mobilization of capital for large-scale projects in Myanmar.

The weighted average all-in margin of ADB's dollar-denominated loan, including the front-end fee, was slightly higher than the cost-recovery price generated by ADB's pricing tool at appraisal. The company was able to service its debt obligations with the support of its parent company.

ADB efficiently processed the loan to OML and played a leading role in mobilizing external debt for the project. ADB was able to develop a strong relationship with the client group, which led to an even larger transaction with the Ooredoo Group, to partially fund OML's rollout of its broadband services and further upgrade its mobile telecommunication network. The loan to OML was fully disbursed in March 2020.

The project offered several lessons and recommendations for future ADB projects focused on scaling up ICT infrastructure in developing member countries in Asia.

I. THE PROJECT

A. Project Background

1. In June 2015, the Board of Directors of the Asian Development Bank (ADB) approved a loan of up to \$150.0 million from ADB's ordinary capital resources and a B loan of up to \$300.0 million to Ooredoo Myanmar Limited (OML) for the Nationwide Telecommunications Project. The funds were to be used for the rollout of an advanced third-generation (3G) mobile telecommunication network across Myanmar.

2. At the time of approval, Myanmar was one of the least connected countries in Southeast Asia as a result of decades of underinvestment in information and communication technology (ICT) infrastructure. In 2013, only 7 in 100 people had access to mobile phones, 0.5 in 100 had access to fixed-line telephones, and 0.7 in 100 had broadband internet subscriptions.¹ Given the inadequate infrastructure, the cost to access ICT was prohibitively expensive. Telecommunication services were out of reach for the typical Myanmar citizen, given call rates of nearly \$0.60 per minute, handset prices from \$450 to \$1,500, and registration costs for subscriber identity module (SIM) cards from \$150 to \$350.²

3. With assistance from the World Bank Group, the Myanmar government undertook significant ICT sector reforms such as (i) restructuring the organization of the state-owned and incumbent operator, Myanma Posts and Telecommunications; (ii) introducing legislation to facilitate competition in the ICT sector; and (iii) opening up the sector to foreign players.

4. At the time of project processing, local Myanmar banks lacked the financial and technical capacity to undertake large and complex financings. ADB and the International Finance Corporation (IFC) were ideally situated to provide the financial support and expertise required to support OML's rollout of the network.

5. To further catalyze participation from commercial banks, ADB undertook cofinancing programs through B loans. ADB also designed a technical assistance (TA) project to help OML and other industry stakeholders reduce reliance on diesel generation and minimize carbon emissions by adopting renewable energy technologies for telecommunication towers.

B. Key Project Features

6. The nationwide telecommunication network that OML envisaged for Myanmar was estimated to cost more than \$3.0 billion over 10 years. The work was divided into two phases. The first, which was the subject of the ADB financing, consisted of rolling out an advanced 3G mobile telecommunication network (UMTS900/2100), intended to enable Myanmar to leapfrog several generations of mobile technologies in a very short period. The project included installation of 10,000 kilometers (km) of fiberoptic cable and deployment of more than 7,000 telecommunication towers across the country, including in rural, remote, and low-income areas. These were to be rolled out over five years. In addition, OML was to develop several mobile applications geared toward banking, agriculture, and health, primarily to enhance citizens' access to basic services. The second phase included additional capital expenditure investments

¹ Asian Development Bank. 2015. *Report and Recommendation of the President to the Board of Directors: Proposed Loan for the Nationwide Telecommunications Project*. Manila.

² Deloitte. 2012. *Myanmar: The Next Telecommunications Greenfield?*

specifically for (i) rolling out fixed and wireless broadband services, (ii) upgrading mobile telecommunication networks, and (iii) acquiring additional spectrum and licenses in Myanmar.

7. **Spectrum and Operating Licenses.** The project was developed under a 15-year operating and associated spectrum license on a build–own–operate basis with the Ministry of Transport and Communications (MOTC). Under the license agreement, OML was able to use the 284,900 megahertz (MHz) and 2 x 10 2,100 MHz spectrums.

8. **Energy Supply and Technical Assistance.** Another constraint for telecommunication operators was the poor electricity supply and transmission infrastructure in the country. The electrification rate in 2013 was below 30%, one of the lowest in Asia. Telecommunication operators relied heavily on diesel generators to run core network equipment. This exposed operators to fuel price volatility and generated annual greenhouse gas emissions of about 300,000 tons of carbon dioxide.³ ADB extended TA of up to \$1.0 million for the deployment of renewable energy solutions on at least 1,500 rural sites, achieved through increased adoption of green power solutions for telecommunication towers by using excess power sourced from either the electrical grid or diesel generators to electrify remote villages. The TA also supported knowledge and skill transfer through training workshops, pilot project case studies, and knowledge products.

C. Progress Highlights

9. On the back of the universal service strategy of the MOTC, in which key targets were to reach 95% of the population with mobile broadband services and 99% of the population with basic mobile voice services by 2022,⁴ OML commenced its rollout of towers in 2014. The key target under the original concession agreement was to achieve coverage of 83.9% of the country by year 5. In April 2018, regulators and all operators changed the key target to coverage of 92% of the population instead. OML had achieved 92.4% coverage as of March 2020. OML was also the first operator to launch 4G in Myanmar and the first to introduce LTE (long-term evolution) and voice over LTE technologies.

10. From the outset, OML positioned itself as a premium provider. Instead of competing for customers in the 2G segment, OML made a strategic decision to gear operations toward the newer generation of networks in anticipation of Myanmar’s eventual transition to digitalization. OML is confident that as Myanmar is now converting to 3G/4G nationwide, the company is in an opportune position to address the growing requirement for faster and more widespread connections. To meet the increasing demand for data services, other operators are also upgrading their networks.

II. EVALUATION

A. Project Rationale and Objectives

11. At inception, the project’s rationale and objectives were aligned with (i) ADB’s Midterm Review of Strategy 2020,⁵ (ii) ADB’s interim country partnership strategy 2012–2014 for

³ U.S. Agency for International Development. 2015. *ICT Development for Innovation and Growth in Myanmar*. Washington, D.C.

⁴ Government of Myanmar. 2018. *Executive Summary: Universal Service Strategy for Myanmar, 2018–2022*. Nay Pyi Daw.

⁵ ADB. 2014. *Midterm Review of Strategy 2020: Meeting the Challenges of a Transforming Asia and Pacific*. Manila.

Myanmar,⁶ and (iii) ADB's private sector operational strategy, which aimed to enhance connectivity and improve access to markets and basic services, create opportunities and jobs, improve rural livelihoods, and boost domestic and cross-border trade and investment. This evaluation focuses on the project's performance: (i) its development results, (ii) ADB's investment profitability, (iii) the quality of ADB's work, and (iv) ADB's additionality.

B. Development Results

1. Contributions to Private Sector Development and ADB's Strategic Development Objectives

12. Contributions to private sector development and ADB strategic development objectives is satisfactory.

13. **Contribution to private sector development.** The project achieved most private sector development outcomes against the design and monitoring framework indicators, including (i) affordable mobile telecommunication services and (ii) increased gender inclusion. Implementation of the project reduced the cost of mobile technology services, making them more accessible. Through the capacity-building efforts of OML and other operators as well as downward pressure on prices brought about by greater competition, the cost for voice calls has been brought down. OML also surpassed initial targets for mobile data prices. OML's also entry spurred competitive pressures and helped launch an aggressive mobile price war among players in efforts to secure larger market shares. As a result, consumers benefited from significantly reduced service costs and improved service quality. The current price levels also serve as baseline costs for operators as they continue to tap into more remote areas, where income levels are generally lower. The project is one of the few ADB-funded ICT sector projects that targeted ADB's highest classification for gender impact. As of 2019, it had achieved 96% of its target of 5.0 million active female subscribers. OML is committed to reducing the digital gender divide and is investing to support Myanmar's social and economic development. Since the project's official launch in 2014, OML has invested more than \$35 million in programs and initiatives to promote empowerment and leadership opportunities for young women in digital and professional skills.

14. **Direct Impacts.** The following development impacts are attributed to the project: (i) Installation of tower sites and thousands of kilometers of fiberoptic cable. (ii) Development applications for maternal health care, mobile financial services, and agriculture. (iv) Creation of 16 primary health care facilities in rural communities, in partnership with the United Nations Office for Project Services, and set up mobile health clinics in 112 villages in the Madaya–Mandalay region. (v) Job creation, many of which were filled by women.

2. Environmental, Social, Health, and Safety Performance

15. The project's environment, social, health, and safety performance is satisfactory (Appendix 3 and Appendix 4).

16. To meet ADB's 2009 Safeguard Policy Statement (SPS) requirements for general corporate finance transactions, OML established and maintained an integrated environmental and social management system (ESMS). This review confirmed the adequacy of the ESMS in managing and mitigating environmental and social (E&S) impacts in line with ADB's SPS

⁶ ADB. 2014. *Interim Country Partnership Strategy: Myanmar. 2012–2014*. Manila.

requirements. This review also validated (on the basis of desk reviews) the implementation of the ESMS across OML's subprojects throughout the project's life cycle. OML also created a corporate E&S team to manage its E&S operations. The team also led coordination efforts with the E&S teams of the various tower companies.

17. The project was approved as environment category B. The ESMS developed by OML contained the elements of an initial environmental examination, as detailed in Appendix 3. These elements are documented and reflected in a range of project documents.⁷ A review of a sample of these documents identified no significant impacts as environmental impacts from telecommunication towers are limited and, in many cases, rooftop installations and individual tower sites would be classified as category C for environment.

18. To avoid potential subprojects being classified as environmental category A, OML chose sites to avoid locating towers in or adjacent to sensitive ecosystems. No construction activities could commence on sites without confirmation from the landowner, neighbors' consent as proof of social acceptability, and approved government permits and clearances.

19. Construction and operational impacts were generally site-specific, largely reversible, and readily addressed through mitigating measures and good engineering practices. OML implemented initiatives to reduce reliance on diesel generators. Reported site pollution due to fuel and engine oil spills has been rectified, and a clean-up program was implemented in November 2018. OML's annual monitoring reports from 2016 to 2019 indicated no record of any fatality. OML also confirmed its full compliance with applicable laws for environmental protection and for the health, safety, and welfare of workers and communities. The government did not cite any violations by OML or impose any fines on the company. OML required tower companies and contractors to prepare and submit regular monitoring reports, which OML kept track of and evaluated for each site's environmental, health, and safety (EHS) performance. The project adhered to international standards such as the IFC's EHS Guidelines for Telecommunications Facilities.

20. The project was categorized as C for both involuntary resettlement and indigenous peoples on the basis of the SPS. OML's ESMS had a strict site selection guideline to avoid involuntary land acquisition and/or restrictions and impacts on indigenous peoples. OML's towers are on building rooftops, co-located in existing towers, or constructed on leased properties that were acquired on the basis of arms-length negotiations and commercially agreed terms. OML's selection criteria are prescribed in the ESMS and were not subject to any land disputes. Documentation of the land use rights acquired through the lease agreements and the necessary consents were submitted to government authorities as part of the permitting requirements.

21. OML's operations contribute to employment generation in Myanmar. OML developed and adopted a set of human resource policies that follow national labor laws and are consistent with ADB's Social Protection Strategy (2001) and IFC's Performance Standard 2—Labor and Working Conditions. Tower companies and other contractors and subcontractors engaged by OML also ensure their compliance with national labor laws and their adherence to internationally recognized core labor standards, as committed to in signed master lease agreements (MLA) and master service agreements.

⁷ They include the master lease agreement (MLA), site acquisition report (SAR), technical site survey, EHS risk assessment, ESMS checklist report, and grievance log registry.

22. OML is also taking bold steps to contribute to community development and socioeconomic growth across Myanmar through its corporate social responsibility (CSR) programs. Since 2014, the company has spent MK53 billion on implementing projects in health, education, and digital development. It carries out these projects in partnership with government agencies and local and international organizations. OML also launched “The more you speak, the more Ooredoo will donate,” a nationwide CSR campaign to support education programs for underprivileged children, donating MK1 per minute of voice calls. OML also provides free digital services to its customers to access radio programs, music, and astrological and agricultural information.

3. Gender Action Plan and Achievements

23. Under the Gender Action Plan, the project had achieved 100% (6/6) of the quantitative targets, implemented 80% (4/5) of the activities, and provided sex-disaggregated data on beneficiaries as of March 2020 (for details, see Appendix 9). The project significantly contributed to achieving gender equality by narrowing gender disparities, by increasing access to mobile and internet services for women.

24. OML was the first infrastructure project in ADB’s Private Sector Operations Department categorized as having gender equity as a theme (GEN). It implemented the majority of the measures outlined in the Gender Action Plan to expand women’s access to and use of mobile phone services and mobile internet applications, to close gender gaps in the ICT sector, and to generate socioeconomic benefits for women, including employment opportunities. In addition, the project produced strategic and practical gender benefits that align with the pillars in ADB’s Strategy 2030 Operational Plan for Priority 2: Accelerating Progress in Gender Equality⁸ on increasing women’s economic empowerment, enhancing gender equality in human development, and enhancing gender equality in decision-making and leadership. Further details and discussion appear in Appendix 5.

4. Business Success

25. OML (i) launched 2G services to target rural consumers, to supplement its core premium market; (ii) implemented a regionalization strategy to strengthen its distribution network; (iii) continued its strong pace of investment to maintain its competitive edge in 4G and its reputation as the fastest and best data provider in Myanmar; and (iv) implemented operational cost management programs.

26. The adoption rate of 3G/4G technology is largely influenced by income levels. Because of the wide disparity in income between urban and rural areas, operators initially mobilized resources to urban areas, causing rapid saturation. In rural areas, a 2015 study showed that many citizens lacked a full appreciation of the value of mobile data services, particularly given the price difference between 2G and 3G services.⁹ Previous poor access to technology in Myanmar has limited the ability of consumers to use more sophisticated mobile services (that is, mobile applications and the internet).

27. Notwithstanding, OML continues to see the merits of focusing on 3G and 4G services, given its long-term vision that citizens will eventually shift to the faster networks. In line with this expectation, OML has consistently focused on 3G/4G infrastructure. With improving technical literacy, enhanced distribution in rural areas through partnerships with local organizations, and

⁸ ADB. 2019. *Strategy 2030 Operational Plan for Priority 2: Accelerating Progress in Gender Equality, 2019–2024*. Manila.

⁹ GSMA. 2015. *Connected Women. Case Study–Ooredoo Myanmar: Myanmar, Mobile and Maternal Health*.

long-term positive rates of growth in gross domestic product of 6%–7%, OML expects that demand for its 3G/4G network to likewise rise.

C. ADB's Additionality

28. **Financial additionality.** ADB played a catalytic role in reform of the ICT sector and in OML's growth by (i) extending midterm financing, (ii) facilitating a B loan program to enable sizable participation by local commercial lenders, and (iii) providing TA to help manage the carbon footprint of telecommunication towers. The B loan program signaled ADB's confidence in the project, which helped commercial banks overcome hesitations in funding a nascent sector with an untested framework. ADB's presence was thus critical for the project to obtain a significant amount of foreign currency financing.

29. **Nonfinancial additionality.** ADB's rigorous due diligence contributed to commercial lenders' comfort with this project. The ADB safeguard requirements incorporated in the project's environment and social plan were later adopted by the regulator for other telecommunication operators, raising the environmental compliance requirements for the entire industry. ADB's intervention helped open the market for private sector investment in telecommunication, especially foreign investment. Myanmar enjoyed a fast transition from a government-dominated, inefficient telecommunication market with low coverage and poor service to a well-served market with good service quality and low prices. The market has become more competitive. Consumers benefit not only from higher quality but also from lower prices. The price of voice calls also dropped significantly. The intervention enabled Myanmar to leap to the latest technology. OML geared its operations and infrastructure toward the new generation of networks (3G/4G). OML is well positioned to capture future market share. Myanmar benefits intensely from this technology leap.

D. ADB's Investment Profitability

30. The weighted average all-in margin is above the cost recovery price generated by ADB's pricing tool. The loan margin and fees yielded a gross contribution to ADB income that fairly matched the loan tenor, the project's credit risk profile, the amount compatible with the direct transaction cost, and the country risk at the time of investment.

E. ADB's Work Quality

31. **Screening, appraisal, and structuring.** ADB closely monitored the project's implementation since its inception. Because it was the first infrastructure project in Myanmar with a gender theme, intensive collaborative efforts were made among various ADB internal stakeholders, leading to significant preparatory work on commercial and safeguards aspects. ADB also offered a B loan program as part of its financing package, although it was not ultimately implemented. ADB played a key role in working with other lenders to make available substantial amounts of capital and to mobilize external debt finance for this project.

32. **Monitoring and supervision.** ADB managed the loan disbursements and consented promptly to OML's requests. Ultimately, the B loan program was canceled because of the imposition of a stamp duty tax on onshore agreements, resulting in an additional cost to OML. Likewise, the proposed TA was ultimately not mobilized as construction of tower sites was not considered a core business of OML.

33. ADB remained updated on the project's performance through monitoring reports submitted by OML. OML affirmed its satisfactory working relationship with ADB, as evidenced by a \$500 million follow-on project with OQSC (Phase 2).

III. ISSUES, LESSONS, AND RECOMMENDED FOLLOW-UP ACTIONS

A. Issues and Lessons

34. **Development indicators need recalibration to align with market changes and realities.** At the time of project approval, Myanmar was considered a frontier ICT market. Predicting demand for mobile telecommunications would have been very difficult. Key development indicators relied on certain market assumptions established at the initial stage but never recalibrated over the life of the project, despite indications that important baseline assumptions were no longer realistic. Part of the monitoring process should be an assessment of market realities, including variables not within the control of projects. ADB should have actively considered course adjustments and recalibrating development indicators, which could have led to the establishment of more realistic goals. Future projects would benefit from regular reassessment of development indicators, especially for projects in frontier markets, as unrealistic targets can discourage implementation efforts by making goals appear unreachable.

35. **Gender inclusion is possible in ICT sector projects.** The project was ADB's first ICT project with gender-specific objectives. Despite early challenges, the experience showed that it is possible to use ICT projects as a catalyst for gender inclusion and to narrow the ICT gender gap by cascading ADB's safeguard requirements to OML's strategies. The project also generated socioeconomic benefits for women by increasing women-specific employment opportunities.

36. **ADB's relationship management is pivotal for future projects.** ADB has built a strong relationship with OQSC, which culminated in a follow-through Phase 2 project. Gender-themed development objectives for Phase 2 are expected to build on the solid foundation laid by the project.

B. Recommended Follow-up Actions

37. **Future monitoring and deal structuring.** ADB will closely monitor the Phase 2 project's implementation as part of the Portfolio Management Division's annual credit monitoring, as Phase 2 is meant to bolster the gains achieved in this project. For future ICT projects in Myanmar, ADB should determine more precisely how to trace and track gender-related indicators on employment and subscriptions.

PROJECT-RELATED DATA

A. Investment Identification

Country	Myanmar
Loan number	LN3269 and CF72
1. Sector / industry	Information and Communication Technology
2. Project title	Nationwide Telecommunications Project
3. Borrower	Ooredoo Myanmar Limited
4. Amount of ADB assistance	ADB direct loan – \$150.0 million

B. Investment Data

1. Concept clearance approval	25 October 2013
2. Date of ADB approval	30 June 2015
3. Signing of legal documents	1 October 2015
4. End of availability period	1 October 2017
5. Number of extensions	None
6. Disbursements	First disbursement: 3 February 2016 Last disbursement: 25 April 2016
7. Repayment	Initial repayment date: 15 December 2017 Final repayment date: 15 December 2020

INDUSTRY AND OPERATIONS REVIEW

A. Sector Framework

1. The Ministry of Transport and Communications (MOTC), the oversight authority for the telecommunication sector in Myanmar, oversees licensing rules and regulations as well as the implementing regulations of the Telecommunication Law.
2. Myanma Posts and Telecommunications, under the MOTC, is responsible for issuing and renewing service provider licenses; regulating the frequency spectrum, including allocation and numbering plans; ensuring consumer protection; inspecting and supervising service providers; and instituting administrative actions against service providers. In 2017, the Myanmar Communications Regulatory Commission replaced Myanma Posts and Telecommunication as the regulatory oversight body.
3. Myanmar used to be a centrally directed economy but embarked on liberalizing key sectors such as telecommunication to attract foreign investors and to support growth. Prior to 2013, the telecommunication sector was effectively a monopoly, serviced and tightly controlled by the state through Myanma Posts and Telecommunications. The World Bank assisted the reform process as well as providing input to the Telecommunication Law.
4. In 2013, after decades of underinvestment, the government announced an international bidding processes for two international licenses. It received 91 expression of interests from which 12 companies were shortlisted. Ultimately, it selected two bidders: Qatar's Ooredoo Group and Norway's Telenor Group. The MOTC approved 100% foreign ownership for these two global operators. Myanma Posts and Telecommunications was likewise corporatized and announced a memorandum of understanding with Japanese telecommunication providers KDDI Corporation and Sumitomo Group for a third license.
5. The target for licenses was set to expand access to more than 90% of the population. The operating and associated spectrum license is structured on a build, own, and operate basis, allowing operators to provide a full range of fixed and mobile telecommunication services nationwide for a period of 15 years, with an option to renew for another 15 years.
6. In 2015, the MOTC invited applications from domestic public companies to participate in a special purpose vehicle in partnership with a foreign firm for a fourth license. It selected 11 local companies to partner with Viettel, a Vietnamese telecommunication operator, to form Mytel.
7. As part of the government's master plan to further reform the sector, Myanma Posts and Telecommunications published the Universal Service Strategy 2018–2022 for Myanmar. The strategy stipulates key targets for 2022 of reaching 95% coverage of the population for mobile broadband services and 99% coverage for mobile signal and basic mobile voice services, as well as geographic coverage for 28 major highways and roads.

B. Demand Drivers and Supply Constraints

8. Growth in the telecommunication sector is interdependent with the country's overall economic growth. Myanmar's population in 2011 was estimated at 50–60 million people, with an annual growth rate of 1%–2%. The national poverty rate was estimated at 25%. However, the economy had been steadily growing, with gross domestic product increasing at 6% per year with an expected growth rate of 7%–8%. High growth rates were attributed to the significant

reforms, the substantial increase in foreign direct investment, and increased rates of job creation and productivity.

9. Owing to underinvestment in the past, Myanmar had the lowest penetration of telecommunication infrastructure among Southeast Asian countries. With mobile, fixed-line, and internet penetration below 10% (versus the regional average of about 90%), the growth potential in information and communications technology (ICT) services was vast. In 2013, the mobile subscriber base was at 4 million, a penetration rate of 7%. There was also a great disparity between urban centers and the rest of the country in terms of mobile line capacity. The mobile penetration rates were highest in Nay Pyi Taw (32%) and Yangon (25%), while in the rest of the country the rate averaged 5%.

10. Similarly, the penetration rate of fixed telecommunication infrastructure was less than 1% in 2011, with a total capacity of 604.5 lines. Most villages in rural areas still lack fixed-line service.

11. Another key challenge in operating a telecommunication network was the availability of electricity supply. Telecommunication networks must run 24/7 and thus consume substantial amounts of power. In 2011, Myanmar was the least electrified country in Southeast Asia, with less than 30% of the population having access to electricity. As of 2012, the total installed power generation capacity in Myanmar was 3.9 gigawatts, two-thirds of which was provided by hydroelectric plants.

C. Telecommunication Growth and Forecast

12. As a result of the telecommunication reform, Myanmar leapfrogged the implementation of fixed broadband access and instead experienced very rapid growth in the mobile market from 2013 to 2017. With the entry of Ooredoo and Telenor, and subsequently, Mytel, penetration rates rose from about 2% in 2011 to 105% in 2019, translating to an estimated total number of subscribers of 59.0 million. As a result, mobile-related indicators improved, albeit remaining at a substantially lower level than in neighboring member countries in the Association of Southeast Asian Nations.

Table A3: Regional Comparison of Telecommunications Penetration Rates

Country	Global ICT Development Index (IDI) Ranking	Networked Readiness Index Ranking	Mobile Penetration Rate (%)	Fixed Broadband Penetration Rate (%)
Myanmar	135	133	105	0.1
Thailand	78	62	122	10.7
Indonesia	111	73	126	1.9
Singapore	18	1	145	25.4
Malaysia	63	31	142	8.7
Viet Nam	108	79	152	9.9

ICT = information and communications technology.

Source: Telenor. 2018. *Realising Digital Myanmar*. <https://www.telenor.com/wp-content/uploads/2018/02/Telenor-Realising-Digital-Myanmar-Report-06-February.pdf>.

13. Following exponential growth from 2014–2019, the mobile market has now slowed down and is close to reaching maturity. In its December 2019 report, BuddeComm predicted that the mobile penetration rate would be at 104% by 2020 and 112% by 2023, or about 63.0 million subscribers.¹ Furthermore, as a result of the 2018 entry of the fourth operator, Mytel, increased competition on data prices as well as reduced average revenue per user are predicted. Myanmar

¹ BuddeComm. 2018. *Myanmar (Burma) Telecoms, Mobile and Broadband – Statistics and Analysis*.

is still a promising market, however, as income levels are expected to rise steadily in line with economic growth and productivity forecasts, so spending on basic and discretionary goods and services—including telecommunication usage—is also expected to rise.

14. Nevertheless, the fixed broadband market remains highly underdeveloped. Fixed broadband availability and affordability have improved somewhat in Yangon and Mandalay, yet the penetration rate nationwide is still less than 2%.² Such a low penetration level results mainly from the dominance of the mobile platform and operators' lack of willingness to invest in fixed broadband infrastructure.³

15. Internet usage has largely focused on data consumption, such as for social media, communication, and entertainment, rather than on economic or social development. Such issues are more pronounced in lower socioeconomic groups in rural areas because of the lack of both supply of and demand for digital skills. About 78% of internet users in Myanmar have poor digital literacy and have never used internet browsers or application stores. Digital services focus on the urban middle classes and largely exclude the rural poor. Enhancing digital skills among those excluded is a crucial hurdle to overcome. As the country develops, demand for fixed broadband infrastructure and services will grow. Fixed broadband will become increasingly important as small and medium-sized enterprises digitalize.⁴

16. Given the importance of telecommunication infrastructure for supporting economic growth and digital inclusion, opportunities exist to develop both mobile and fixed broadband infrastructure to improve data connectivity in Myanmar.

² The Economist. 2017. *Building Myanmar: Bridging the Infrastructure Gap*. https://www.bakermckenzie.com/-/media/files/insight/publications/2017/11/br_myanmar_bridginginfrastructuregap_oct17.pdf?la=en.

³ B. Shadrach. 2018. Upgrading Myanmar's internet access. *Myanmar Times*. 21 June.

⁴ Telenor. 2018. *Realising Digital Myanmar*. <https://www.telenor.com/wp-content/uploads/2018/02/Telenor-Realising-Digital-Myanmar-Report-06-February.pdf>.

ENVIRONMENTAL IMPACT

A. Project Overview

1. Ooredoo Myanmar Limited (OML) is a wholly owned subsidiary of Ooredoo Qatari Shareholding Company, a Qatar-based company that provides domestic and international telecommunication services in the Middle East and North Africa and in Asia. OML holds a license to install facilities and provide telecommunication services throughout Myanmar. OML's operational activities in Myanmar primarily involve the construction, maintenance, and operation of telecommunication facilities in urban and rural environments, as well as the installation of fiberoptic cable.¹ From 2015 to 2019, OML deployed more than 15,000 kilometers of cable and more than 6,000 telecommunication towers and in-building solutions, extending coverage to 94% of the population including in rural, remote, and low-income areas. The project was processed as general corporate finance, wherein ADB funds were not specifically earmarked for implementing specific subprojects, as OML operates at multiple sites across Myanmar. To meet ADB's 2009 Safeguard Policy Statement (SPS) requirements for general corporate finance transaction, OML established and maintained an integrated environmental and social management system (ESMS) that aligned with ADB's safeguards requirements. The ESMS defines the procedures and institutional arrangements at the corporate and subproject levels for managing the environmental and social (E&S) risks associated with OML's telecommunication rollout and operations. The project was classified as category B for environmental impacts and category C for involuntary resettlement and indigenous peoples impacts.

2. Because of the COVID-19 pandemic, ADB did not conduct a mission or site inspection for the extended annual review of the project. Instead, ADB held a virtual conference meeting with OML staff on 6–8 April 2020. Meetings and interview sessions were conducted with OML senior management and staff representatives from the ESMS team, the Legal and Regulatory Office, the corporate social responsibility team, and the human resources department. Before the virtual meeting, ADB sent a set of environmental, social, and gender questionnaires to OML to gather relevant data and information needed as input for the extended annual review report. The review findings confirmed that OML had implemented the required E&S mitigation measures, reporting mechanism, and monitoring program from site acquisition to technical site survey, to health, safety and environment risk assessment during construction, site-sharing, and operations as required in the ESMS and master lease agreement.

B. Review Findings

3. **Site Selection Criteria and Procedures.** The review of technical reports confirmed that OML applied logical and sequential site selection procedures to balance economic, engineering, environmental, and social considerations and optimize telecommunication operation. Sites were chosen so as to avoid locating towers in or adjacent to sensitive ecosystems such as wetlands, national parks, sanctuaries, protected or reserve forests, or areas with archaeological, historical, cultural heritage site, or recreational value, and thereby avoid having potential subprojects classified as environmental category A.² Also, no potential involuntary resettlement issues were encountered and no site with traditional or customary rights was selected. Other site selection

¹ ADB loan proceeds were not used for the fiberoptic cable installation but were used for the spectrum license fee and telecommunication equipment.

² The site selection considered the following setbacks and clearances for environmentally sensitive receptors: a clearance setback of 165 feet (50 meters) from temples, churches, mosques, and hospitals, an environmental setback of 45 feet (14 meters) from lakes and rivers; and a municipal setback from residences, equivalent to 10% of the tower height from the outer edge of the infrastructure to the property boundary.

criteria considered were (i) the availability of reliable grid connection, (ii) the status of site accessibility during regular operation and maintenance (O&M) activities, (iii) historical flood occurrence data with at least 3 to 5 years of records, and (iv) physical obstructions (such as power lines, buildings higher than the rooftop tower site, and so on) that might hamper construction and operation activities. A site acquisition report was prepared to recommend the best candidate site that satisfied the criteria and was later approved by OML. No construction activities on sites were allowed to begin without securing the following documents: (i) confirmation from the landowner; (ii) confirmation from neighbors' or neighbors' consent,³ as proof of social acceptability; and (iii) necessary permits and approvals from the concerned national and local government authorities, to avoid any conflict within the community and among landowners.

4. Compliance with ADB and national governmental regulatory requirements.

The review confirmed the adequacy of the ESMS in managing and mitigating E&S impacts in line with ADB's SPS requirements. The review also validated (as based on desk reviews) the implementation of the ESMS across subprojects throughout the project cycle. The project was approved as environment category B. OML developed and established the ESMS, which contained the elements of an initial environmental examination, from site screening and selection to technical site survey, identification of potential impacts during construction and operation, land acquisition and leasing, neighbors' consultation and acceptability confirmation, legal provisions, and formulation of E&S management actions. These elements are documented and reflected in project documents such as site acquisition reports, the technical site survey, the environmental, health, and safety (EHS) risk assessment during construction, the ESMS inspection report, the grievance log registry and the master lease agreement. A review of a sample of these documents identified no significant impacts, because (i) environmental impacts from telecommunication towers are limited, (ii) in many cases, towers involved rooftop installations, and (iii) individual tower sites would be classified as category C for environment. OML's annual monitoring reports from 2016 to 2019 as submitted to ADB and the International Finance Corporation indicated that there were no records of fatalities in operations. The reports also confirmed OML's full compliance with applicable laws for environmental protection and for the health, safety, and welfare of workers and communities. Tower companies submitted copies of certificates and/or permits and other related documents to OML. The project adhered to international standards such as the International Finance Corporation's EHS Guidelines for Telecommunications Facilities. The government imposed no fines or violations during operations. For the site-sharing arrangements, basic due diligence was undertaken to identify any outstanding permitting, design, EHS, or social issues at the sites prior to project implementation.

5. Environmental, Health, and Safety Impacts and Mitigation Measures. No significant earthmoving and civil works activities took place during construction. Clearing of vegetation for site expansion and extension of access roads (if required) was minimal. Construction impacts such as noise, soil erosion, and air and water pollution that are short-term and temporary were readily mitigated through good engineering practices. Traffic management of vehicle and pedestrian movements during the delivery of construction materials and equipment was strictly enforced to avoid any accident or injuries within villages. Operational environmental impacts such as solid and hazardous waste,⁴ soil and surface water, airborne emissions and noise from

³ Before obtaining neighbors' consent, OML and tower companies conduct project briefings on potential radiation impact from the sites and the lack of high-level noise emission from diesel generators equipped with silencers or other soundproofing measures.

⁴ The waste management plan for the contracted activities addressed solid waste removal from the site, oil leaks from generators, battery handling, and disposal and safe management of used batteries. Also covered were the procedures for transportation, handling, and storage of hazardous substances including diesel and used batteries at workshops, depots, base transceiver stations, and other facilities.

generator sets,⁵ and occupational and community health and safety were mitigated by applying tested engineering and technical procedures.⁶ OML management has gradually implemented EHS initiatives to reduce heavy reliance on operating diesel generators, such as (i) deployment of a solar solution to 103 cell sites; (ii) enhancement of a battery backup at 1,335 off-grid sites and (iii) electrification of 3,748 sites near grid connections. In the 2017 annual monitoring report, OML noted that 319 sites had pollution from fuel and engine oil spills. OML rectified and cleaned up the affected sites in November 2018. To avoid future oil and/or fuel spill incidents, OML provided staff with guidance on how to improve procedures for refueling and for changing oil filters for diesel generator sets. After the 2017 event, no other noncompliance issues were identified and reported by OML. The annual monitoring reports from 2016 to 2019 indicated that there were no records of fatalities during construction. For security purposes, OML equips all telecommunication infrastructure with adequate access control measures, such as fencing and locked gates, to prevent any public entry to the tower sites.

6. Environmental, Health, and Safety Staff Resources and Training Programs. In line with ESMS requirements, OML also established a corporate E&S team with qualified and dedicated personnel to manage E&S operations in coordination with subproject E&S staff. OML engaged a local senior ESMS manager to oversee implementation and monitoring of the ESMS across the organization under the supervision of OML's chief legal and regulatory officer. The ESMS-EHS manager is supported by EHS staff covering the Yangon, Upper Myanmar 1, Upper Myanmar 2, and Lower Myanmar sites. Tower companies and contractors also have dedicated, well-trained EHS staff to supervise, monitor, and periodically report on the implementation of the EHS provisions in the construction contracts and master lease agreements. OML, in close coordination with the tower companies and contractors, has undergone several rounds of site inspection, monitoring, and checking of EHS compliance, as documented in the ESMS checklist and EHS checklist and also has performed actual maintenance checks. In keeping with OML's license commitment, EHS-related training programs have been offered to staff at OML, tower companies, and contractors, to equip them with technical skills. Relevant EHS training programs, risk and hazard assessments, and evacuation drills have been conducted regularly. OML has provided and implemented an in-house clinic at its headquarters, collaborating with International SOS, and has provided first-aid kits and health talk sessions with the in-house doctor. Tower companies have deployed trained personnel to do site inspection, accomplish the ESMS checklist, and perform maintenance checks in accordance with contract obligations and ESMS requirements.

7. Operation Manual and Standard Operating Procedures and Reporting Mechanism. A formal procedure developed by OML for comprehensive EHS management is embedded in the relevant operation manuals and standard operating procedures. It covers (i) general safety,⁷ (ii) electromagnetic emissions, (iii) site safety equipment for field staff covering both mandatory and optional site safety equipment, (iv) confined-space safety procedure checklists, (v) field maintenance forms, (vi) personal protection equipment for construction management engineering field staff, (vii) work on rooftops, (viii) antenna-mounting structures, and (ix) accident

⁵ The generators installed at sites are equipped with silencers and rated at no higher than 55 dB(A) at 1 meter (50 Hertz). This rating ensures that noise standards are maintained at the nearest off-site receptors.

⁶ Potential occupational health and safety issues that are inspected and monitored include (i) falls, (ii) electrocution, (iii) fire, (iv) confined spaces, (v) radio frequency exposure, (vi) hazardous materials handling, and (vii) mechanical hazards. The new equipment installed at each site is certified as being free of ozone-depleting substances and polychlorinated biphenyls.

⁷ The General Safety Manual includes procedures on occupational health and safety, unexpected circumstances, emergencies, fire protection and prevention, security control, training, and the like to be carried out at each site, to establish good working practices and achieve the highest health and safety standards.

reporting. These operation manuals and standard operating procedures provide technical guidance for tower companies, contractors, and subcontractors. In 2017, OML hired a third-party consultant to conduct an independent audit to improve the general occupational health and safety procedures.⁸

8. **Monitoring and Reporting Mechanism.** To keep track of and evaluate the EHS performance of tower companies and contractors, regular monitoring reports are prepared. They include reports on (i) ESMS annual risk assessments; (ii) emergency evacuation drills; (iii) natural resources management facilities; (iv) annual random inspections (of at least 25% of the sites) of the actual construction stage, refueling and maintenance of generators, security site conditions, use of appropriate safety gear and materials, and cleanliness;⁹ and (v) accident investigations, including records of investigated accidents and the actions required to prevent their repetition.

C. Conclusion and Recommendation

9. All relevant project-related documents—such as annual E&S monitoring reports, site inspections, and supervision and audit records—were reviewed. Consultations through virtual meetings with OML's E&S team and the chief legal and regulatory officer were also undertaken, to understand the status of compliance and management of subprojects. These reviews confirmed the adequacy of the ESMS in managing and mitigating E&S impacts in line with ADB's SPS requirements. The review also validated (on the basis of desk reviews) the implementation of the ESMS across subprojects throughout the project life cycle. OML has reiterated its committed to the continuous improvement of its staff capacity and maintains close collaboration with the tower companies and O&M contractors, government regulatory bodies, and host communities to ensure the smooth operation of all telecommunication facilities.

⁸ A third party and independent company—Green EHSS Consultancy Co. Ltd.—conducted the occupational health and safety (OHS) audit on 25–27 January 2017. It concluded that OML meets OHSAS 18001:2017 requirements in its OHS documentation. OML's OHS performance in the Yangon and Mandalay offices, data centers, and rooftop and ground-site tower facilities mainly comply with and conform to applicable acts and the OHS management system. The OHS performance of OML's contractors should be monitored and reviewed before and during works.

⁹ In 2019 OML and contractors jointly conducted a random site inspection and found no outstanding EHS issues.

SOCIAL IMPACT

A. Introduction

1. Ooredoo Myanmar Limited (OML) used the loan proceeds from the Asian Development Bank (ADB) to cover spectrum fees and to establish telecommunication network towers across Myanmar. It had installed 5,940 towers as of the first quarter of 2020. Of these, 86% were leased from licensed tower companies, while the rest were built by OML in the initial years of the rollout. More than half (54%) are greenfield sites or build-to-suit sites, and more than a quarter (28%) are co-located sites (Table A8). From 2014 to 2016, only a few tower companies were licensed to build towers and provide services to telecommunication operators; consequently, to meet geographical commitments, OML had to construct its own towers. When the government started to ramp up the issuance of licenses for tower companies, OML engaged with those companies to search for tower site locations, acquire ground or site leases, construct towers, and install equipment at both new and existing co-located sites. Master lease agreements document those engagements, typically under 15-year terms that can be extended for up to another 15 years.

Table A8: Telecommunication Network Towers

Type of Tower	No. of Self-Built Towers	No. of Towers Leased from Tower Companies	Total (%)	
Colocated, shared with other operators	0	1,639	1,639	(28)
Rooftop	596	242	838	(14)
Greenfield/build-to-suit	26	3,188	3,214	(54)
Rapid design unit	165	22	187	(3)
Others: monopole, tree towers, cell on wheels, or mounted on existing structure	28	34	62	(1)
Total (%)	815 (14)	5,125 (86)	5,940	(100)

() = negative.

Note: Excludes 62 In-building solution sites established by OML.

Source: OML response to ADB's E&S XARR Questionnaire, April 2020.

B. Review Findings

2. **Involuntary resettlement and indigenous peoples.** The establishment of OML's towers did not involve any involuntary land acquisition or restrictions on land access and did not entail any impacts on indigenous peoples. All OML towers and facilities are located on land that was leased from landowners who willingly entered into a lease agreement based on commercially acceptable terms. The environmental and social management system (ESMS) has strict site selection guidelines that ensure the process is based on the principle of a willing lessor and a willing lessee and complies with related national regulations. According to the prescribed site selection criteria, towers and facilities must be sited on land that (i) does not conflict or interfere with historical locations or terrain, biodiversity, or social, archaeological, or cultural qualities, such as indigenous people's sites and cultural heritage sites; (ii) does not require economic or physical displacement, and/or resettlement of people; and (iii) is not located in or in the immediate vicinity of an environmentally or culturally sensitive area. OML has the flexibility to locate the towers only at sites that fully met the site selection criteria and were not subject to any land disputes. Considering these criteria, OML and/or the tower company selects the most appropriate site to be leased within identified search rings.¹ A site acquisition report assesses the suitability of the site in terms of technical, environmental, and social considerations. Essential aspects of the report include information on the ownership and type of the property or land, legal ownership, site history

¹ A search ring is a radio frequency area which OML requires to build or lease a tower to install its telecommunication equipment.

including any disputes, site specifications, agreed lease terms and rents, presence of any ethnic groups near and adjacent to the site, and proximity of the site to a nationally declared cultural heritage site. Site lease agreements, with more than a 1-year term, are submitted to the Myanmar Investment Commission for approval. Necessary consents or nonrefusal letters obtained from neighboring households for greenfield/build-to-suit sites and by tenants residing in the building for rooftop sites are submitted to government authorities as part of the permitting process. If the site acquisition process is to be undertaken by tower companies, the people undertaking the services must be experienced, qualified, competent, and trained on the site acquisition procedure prescribed in OML's ESMS.

3. **Public Consultation and Grievance Redress Mechanism.** Consultations with landowners and project stakeholders are integral to the site acquisition process of OML. During consultations, OML informs the community about the intention to lease or build a tower in the area, and discusses information on standards for electromagnetic emission, radiation, and other health and safety protection measures. Site acquisition reports provide full documentation of the consultations. OML reported a few occasions on which they received grievances related to site acquisition, and concerns received were immediately addressed on-site. Tower companies are required to report grievances to OML within 5 days of receipt. The grievance report should include details of the concerns and actions taken. The grievance mechanism, which is strategic to OML operations, is integrated into the customer-support call center. Action tickets on environmental and social concerns are forwarded to the ESMS manager for resolution. The typical grievances registered in the customer-support ticketing platform related to tower operations were cases of oil spills, air pollution, and noise pollution from diesel generators. OML addressed these concerns by minimizing diesel generator running time, installing silencers to reduce noise levels, and ensuring proper procedures are followed during refueling to avoid any oil or fuel spills. OML's strategic measure to solve these problems is to convert the power source for sites to grid connection or solar energy where possible.

4. **Labor Management.** OML has developed and adopted a set of human resource policies, which are communicated to all employees during the onboarding process. OML's recruitment and promotion policies are based on equal opportunity and fair treatment principles. Wages and benefits of employees are within or above the national minimum requirements stipulated in the Minimum Wage Law, the Leave and Holidays Act of 1951, the Social Security Law of 2012, the Workmen's Compensation Act, and the Employment and Skills Development Law. Policies on regular work hours and rendering of overtime work are consistent with Myanmar's Shop and Establishment Act of 1951. Local regulation requires OML to document employment of workers through employment contracts submitted to the Township Labour Office for approval. OML revised the employment contract in 2018 to abide by the new local legislation amendments. An internal grievance mechanism is also included in the set of policies.

5. In the establishment and operations of towers, recruitment of workers or laborers is the responsibility of the tower company and the contractor, in close coordination with the local community. At least five workers were recruited from local communities to work on tower construction. Workers were required to be at least 18 years old, and OML monitored this requirement during site inspections. Contractual obligations of tower companies and other contractors and subcontractors to OML included compliance with national labor laws and core labor standards, as indicated in the master lease agreement and master service agreements.

6. OML has consistently received distinctions and awards for human resource management. In each year since 2017, OML has received the Asia's Best Employer Brand Award, the Myanmar

Employer Award by JobNet, the Global Human Resources Excellence Award, and Great Place to Work Certification.

7. **Corporate social responsibility activities.** OML implements a robust corporate social responsibility (CSR) program to maintain its brand reputation as a socially responsible telecommunication company that cares about the Myanmar community. From 2014 to 2019, OML spent almost MK53 billion on CSR programs focusing on health, education, and digital development. It implemented projects and activities in partnership with government agencies as well as local and international organizations. OML worked with the United Nations Office for Project Services in constructing 21 primary health care facilities across nine states and provinces. The facilities were turned over to the Ministry of Health and Sports for sustained management, providing primary health services to people in need, especially women and young children. OML also funded mobile health clinics to support Pact Myanmar's program providing free health care and laboratory services in areas with a very low doctor-population ratio. It also implemented clean water initiatives with the Myanmar Red Cross Society as emergency aid and rehabilitation measures in flood- and drought-prone areas. The largest hackathon project in Myanmar was initiated by OML and the United Nations Development Programme; it fostered youth involvement in developing mobile applications as solutions to development challenges in the country. OML also implemented digital literacy training with Google, Facebook, and the GSMA in partnership with the Ministry of Education. With the Myanmar Book Aid and Preservation Foundation, OML supported connectivity and provided digital devices for 210 digital libraries. The initiative includes funding the Tech Age Girls program, which trains teenage girls in improving their leadership skills for community development using mobile and computer technology. OML's most recent initiative and partnership with the United Nations Development Programme—the Sustainable Enterprises and Agricultural Development Project—aims to provide mobile information and communication technology extension services, digital literacy training, and access to financial services to farmers situated in the dry zone. In 2019, OML launched the nationwide CSR campaign, “The more you speak, the more Ooredoo will donate.” For every minute of voice calling, OML donates MK1 to support education programs for underprivileged children in monastic schools and orphanages across Myanmar. OML also provides free digital services through Ooredoo Swel Sone, a mobile radio application that offers free music, astrology, and agricultural information. Agricultural News, commodity price updates, and weather information are popular among OML's customers from farming communities.

C. Conclusion

8. OML avoided involuntary land acquisition and impacts on indigenous peoples in the establishment and operation of telecommunications towers and facilities, as it and the tower companies engaged strictly followed the site acquisition procedures in the ESMS. It complied with local employment regulations and fulfilled its commitment to adhere to core labor standards. Overall, OML has contributed to the socioeconomic growth of Myanmar through employment generation and implementation of CSR programs while providing better telecommunication services.

IMPLEMENTATION OF GENDER ACTION PLAN AND ACHIEVEMENTS

A. Introduction

1. The project was categorized as having gender equity as a theme (GEN). OML's Nationwide Telecommunications Project in Myanmar was the first infrastructure project of the Private Sector Operations Department of the Asian Development Bank (ADB) to have a GEN classification. The project aimed to increase women's access to and use of mobile phone services and mobile internet applications, to close gender gaps in the ICT sector and to generate socioeconomic benefits to women, including employment opportunities. In response to the identified objectives of the project, a comprehensive set of time-bound measures was captured in the Gender Action Plan,¹ with the following key activities, indicators, and targets: (i) increase access to mobile and/or internet services; (ii) promote greater economic and social inclusion of women through mobile services and internet applications; (iii) increase women's digital awareness through educational outreach programs to raise technology literacy levels and internet awareness; (iv) increase gender equality in OML's workforce and development opportunities; (v) increase entrepreneurship opportunities for women in rural areas by supporting them in becoming distributors and sales agents for OML; and (vi) document and disseminate OML's good practices in bridging the gender divide in the sector. The details of these activities and concrete targets are reported here and in Table A9.

B. Key Gender Issues

2. The project identified the following key gender issues:²

- (i) Universal access to ICT is critical in fostering a country's socioeconomic growth by improving business opportunities and trade facilitation, reducing urban-rural and gender gaps, and enhancing the delivery of public services such as health, education, and security.
- (ii) After decades of isolation, Myanmar remains one of the poorest and least connected countries in Southeast Asia with 90% of its population lacked access to phones and has never been connected to the internet.
- (iii) In Myanmar, the lack of investment and competition in ICT infrastructure meant it was prohibitively expensive for an average citizen to own and use a mobile phone and that coverage was biased toward larger cities although the majority of the population lives in rural areas. This lack of investment in ICT infrastructure was apparent in the low penetration rate of telecommunication services, with only 7 people in every 100 having access to a mobile phone, 0.5 people per 100 having a fixed telephone line, and 0.7 per 100 having broadband internet subscriptions in 2013.
- (iv) A digital gender gap also exists in terms of basic access to and usage of mobile phone and of internet services. This disparity denies women the significant benefits and opportunities that come from participating in today's global information society.

¹ ADB. 2015. *RRP: Myanmar Nationwide Telecommunications Project*. Gender Action Plan (accessible from the list of linked documents in Appendix 2). Manila.

² ADB. 2015. *Report and Recommendation of the President to the Board of Directors: Myanmar Nationwide Telecommunications Project*. Manila.

- (v) As part of its wide-ranging reforms, the government of Myanmar has prioritized the availability, affordability, and quality of basic ICT infrastructure throughout the country to support inclusive socioeconomic growth and poverty reduction.

C. Gender Action Plan Achievements

3. The Gender Action Plan Implementation and Achievement Matrix (Table A9) shows the project was successful in delivering the intended gender equality results, based on the following results: (i) 80% (4/5) of the activities were implemented and completed; (ii) 100% (6/6) of the quantitative targets were fully met; and (iii) sex-disaggregated data on beneficiaries were provided as of March 2020. With these results, the project significantly contributed to gender equality by narrowing gender disparities through a nationwide telecommunication network that increased access to mobile and internet services for women.

D. Strategic and Practical Gender Benefits

4. The project delivered strategic gender benefits that align with pillars in ADB's Strategy 2030 Operational Plan for Priority 2: Accelerating Progress in Gender Equality (OP2) on increasing women's economic empowerment, enhancing gender equality in human development, and enhancing gender equality in decision-making and leadership through the following activities. The project

- (i) Enabled access to mobile/internet services for 6,434,902 first-time female users by 2020. This not only increased women's overall access to mobile technologies and internet but also increased poor and rural women's awareness of opportunities that are tied to ICT. Furthermore, it provided women with greater voice and representation through equal access to communication tools.
- (ii) Developed and rolled out eight applications—M-Agri, My Ooredoo, mPitesan App, Dealer App, and Site Pyo, Ooredoo Next, and Sate Tine Kya and an application developed and partnered with four websites (shop.com.mm, Kemu.com, work.com.mm, housing.com.mm, and javago.com). This activity, linked with the remarkable increase in coverage, has benefited female users by supporting women's empowerment, brought more women in remote and far-flung communities online, and promoted greater inclusion of women through mobile services applications.
- (iii) Provided support and increased outreach to more than 500 girls age 16–20. Through the Tech Age Girls (TAG) Myanmar Project, many young girls gained specialized training in technology and learned new skills in leadership and project development from 2015 to 2019. Since 2017, OML has supported three finalists every year to implement their own projects in three categories: Digital Literacy for Women, Women's Empowerment, and Introduction to ICT. This initiative increased women's digital awareness through educational outreach programs that improved women's technology literacy, internet awareness, and capacities.
- (iv) Designed, developed, and delivered five TAG conferences and The Biggest Hackathon conference, benefiting 637 participants from 12 cities since 2016. These efforts contributed to increasing women's digital awareness by teaching women how to develop digital solutions and applications for women's empowerment, as well as for agritech. These activities helped change the lives of women in the country by offering opportunities for them to become producers of content and applications that address women's needs.

- (v) Promoted gender balance in OML's workforce, with women making up 48% of its total workforce as of March 2020.
- (vi) Enhanced talent development for female employees across OML's operations through leadership training, succession planning, career development, and open opportunities within the company since 2016 and the Talent Development Enhancement for Women Employees program since 2017. The program included the following activities in which OML's female employees participated: People Manager Program (44%); Shifting Gears (25%); Teamwork and Communication (18.75%); Leads Self Overview (60.42%); and Leads Self Track (32.61%). As of March 2020, OML had conducted a Leadership Coaching Program in which female staff constituted 57% of all participants. OML's implementation of these activities increased women's access to job opportunities, particularly in the emerging ICT sector.
- (vii) Created jobs for 30,000 women owners of 97,000 transacting outlets since 2018 and aimed to generate 30,000 jobs for rural women as distributors and sales agents by the end of 2020. This provided avenues for economic empowerment of both urban and rural women.

5. The remainder of the gender measures in this project promoted practical gender benefits that align with pillars for increasing women's economic empowerment and enhancing gender equality in human development in ADB's Strategy 2030 Operational Plan for Priority 2: Accelerating Progress in Gender Equality.