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7 March 2018

Proposed Grants
Improving Internet Connectivity for
Micronesia Project
(Republic of Kiribati and Nauru)

1. The Report and Recommendation of the President (RRP: REG 50348-001) on the proposed grants to Kiribati and Nauru for the Improving Internet Connectivity for Micronesia Project is circulated herewith.
2. This Report and Recommendation should be read with *Regional Operations Business Plan: Pacific, 2017–2019* which was circulated to the Board on 2 December 2016 (DOC.IN.472-16).
3. In the absence of any request for discussion and in the absence of a sufficient number of abstentions or oppositions (which should be communicated to The Secretary by the close of business on 28 March 2018), the recommendation in paragraph 44 of the paper will be deemed to have been approved, to be so recorded in the minutes of a Board meeting. Any notified abstentions or oppositions will also be recorded in the minutes.

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Report and Recommendation of the President to the Board of Directors

Project Number: 50348-001
March 2018

Proposed Grants Republic of Kiribati and Nauru: Improving Internet Connectivity for Micronesia Project

Distribution of this document is restricted until it has been approved by the Board of Directors. Following such approval, ADB will disclose the document to the public in accordance with ADB's Public Communications Policy 2011.

Asian Development Bank

CURRENCY EQUIVALENTS

(as of 20 February 2018)

Currency unit	–	Australian dollar/s (A\$)
A\$1.00	=	\$ 0.7914
\$1.00	=	A\$1.2636

ABBREVIATIONS

ADB	–	Asian Development Bank
BNL	–	Bwebweriki Net Limited
C&MA	–	construction and maintenance agreement
CUA	–	capacity use agreement
DFEP	–	Department of Finance and Economic Planning, Nauru
EMC	–	East Micronesia Cable
FIRR	–	financial internal rate of return
FSM	–	Federated States of Micronesia
ICT	–	information and communication technology
km	–	kilometer
LPA	–	landing party agreement
MPA	–	master purchase agreement
MFED	–	Ministry of Finance and Economic Development, Kiribati
NCC	–	Nauru Cable Corporation
NEXT	–	Southern Cross NEXT
O3b	–	[The] Other Three Billion
PAM	–	project administration manual
PMU	–	project management unit
SXC	–	Southern Cross Cable Company
WACC	–	weighted average cost of capital

NOTE

In this report, "\$" refers to United States dollars, unless otherwise stated.

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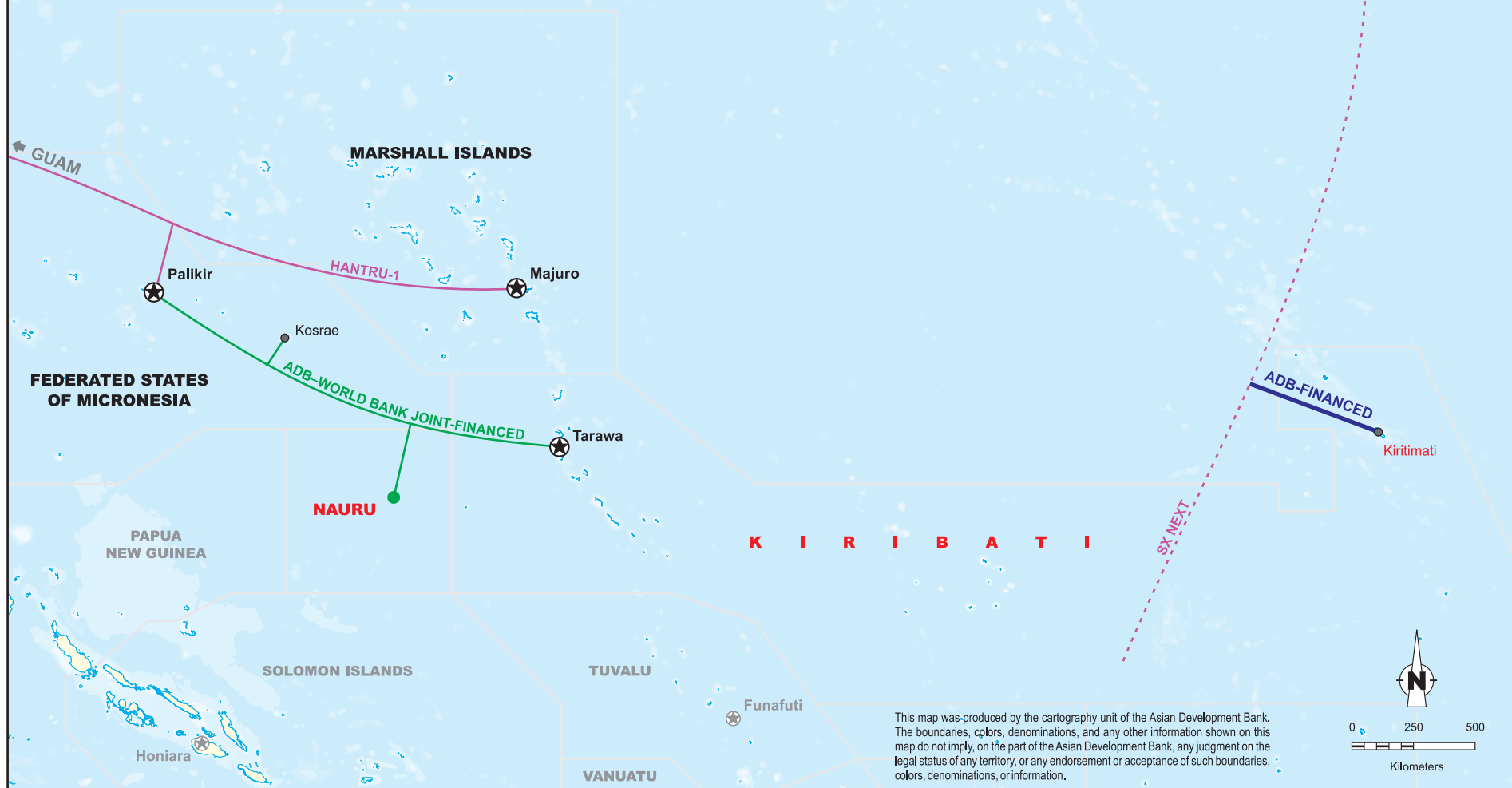
PROJECT AT A GLANCE

1. Basic Data		Project Number: 50348-001	
Project Name	Improving Internet Connectivity for Micronesia Project (formerly Improving Internet Connectivity for FSM, Kiribati, and Nauru)	Department /Division	PARD/PAUS
Country Borrower	REG (FSM, KIR, NAU) The Governments of Nauru and Kiribati	Executing Agency	Ministry of Finance, Nauru Ministry of Finance and Economic Development, Kiribati
2. Sector	Subsector(s)	ADB Financing (\$ million)	
✓ Information and communication technology	ICT infrastructure	36.60	
		Total	36.60
3. Strategic Agenda	Subcomponents	Climate Change Information	
Inclusive economic growth (IEG)	Pillar 1: Economic opportunities, including jobs, created and expanded	Climate Change impact on the Project	Low
Regional integration (RCI)	Pillar 1: Cross-border infrastructure Pillar 2: Trade and investment		
4. Drivers of Change	Components	Gender Equity and Mainstreaming	
Governance and capacity development (GCD)	Client relations, network, and partnership development to partnership driver of change	No gender elements (NGE)	✓
Knowledge solutions (KNS)	Application and use of new knowledge solutions in key operational areas		
Partnerships (PAR)	Commercial cofinancing Private Sector Regional organizations		
Private sector development (PSD)	Public sector goods and services essential for private sector development		
5. Poverty and SDG Targeting		Location Impact	
Geographic Targeting	No	Regional	High
Household Targeting	No		
SDG Targeting	Yes		
SDG Goals	SDG4		
6. Risk Categorization:	Low		
7. Safeguard Categorization	Environment: B Involuntary Resettlement: C Indigenous Peoples: C		
8. Financing			
Modality and Sources		Amount (\$ million)	
ADB		36.60	
Sovereign Project Grant, Asian Development Fund, Kiribati		21.60	
Sovereign Project Grant, Asian Development Fund, Nauru		15.00	
Cofinancing		0.00	
None		0.00	
Counterpart		3.40	
Government		3.40	
Total		40.00	

KIRIBATI AND NAURU IMPROVING INTERNET CONNECTIVITY FOR MICRONESIA PROJECT

- National Capital
- Reef/Atoll
- Country Groupings
- ADB Asian Development Bank
- ADB-Financed
- ADB-World Bank Joint-financed
- Existing Third Party Cable
- Planned Third Party Cable

Boundaries are not necessarily authoritative.



This map was produced by the cartography unit of the Asian Development Bank. The boundaries, colors, denominations, and any other information shown on this map do not imply, on the part of the Asian Development Bank, any judgment on the legal status of any territory, or any endorsement or acceptance of such boundaries, colors, denominations, or information.

I. THE PROPOSAL

1. I submit for your approval the following report and recommendation on proposed grants to the Republic of Kiribati and to Nauru for the Improving Internet Connectivity for Micronesia Project.

2. The Government of Kiribati and the Government of Nauru have requested the Asian Development Bank (ADB) to support a submarine internet cable project connecting the Micronesian subregion with the world. The project will finance (i) the submarine cable connection between Kiritimati island of Kiribati to a proposed transpacific cable system connecting Australia and Hawaii and (ii) Nauru's share of the East Micronesia Cable (EMC) system. The EMC system will be cofinanced by the World Bank and ADB, and will connect Tarawa, Kiribati; Nauru, and Kosrae State, Federated States of Micronesia (FSM) to Pohnpei, FSM.¹ The Kosrae and Tarawa portions of the EMC system will be financed by the World Bank.² The project will complement the ongoing and existing cable systems connecting all the major islands in the North Pacific region.³

II. THE PROJECT

A. Rationale

3. **The economy.** The Micronesian countries participating in the project (FSM, Kiribati, and Nauru) are highly dependent on official development assistance, external fund flows, and rents from a limited set of natural resources such as oceanic fisheries and phosphate (for Nauru, and previously, Kiribati). Small and dispersed populations and geographic isolation limit the opportunities for productive business activity.

4. **Internet promoting connectivity and growth.** A submarine cable would provide higher capacity and quality broadband internet at much lower cost to the Micronesian subregion, making the internet more accessible and affordable to the impacted population (about 75,000). Harnessing information and communication technology (ICT) could facilitate education and training for the labor force, raise overall efficiency in the delivery of basic public services, and open new business opportunities. Lower internet costs would boost regional trade (in services such as tourism and back-office functions, for example) and allow the region to form a sizable market for digital products and services.⁴ It would also strengthen the existing regional public goods and encourage new ones by allowing countries to share the limited knowledge and human resources available in the Pacific. Moreover, a regional initiative will help the countries achieve significant savings compared with individual cable investments by each state.⁵

5. **Structure and governance of the information technology industry.** In all three participating countries, telecommunication (or telecom) services are relatively weak, although the demand for cellular phones (the primary form of internet connection) and internet services is

¹ Pohnpei, FSM is already connected to the international cable hub in Guam via Hantru-1 submarine cable system.

² <http://projects.worldbank.org/P161363?lang=en> and <http://projects.worldbank.org/P159632?lang=en>.

³ The North Pacific system comprises the ADB-financed connection for Palau, the World Bank-financed connections for Yap and Chuuk States of FSM, and the Government of the United States-financed connections for the Republic of the Marshall Islands and Pohnpei State, FSM.

⁴ ADB. 2015. *Aid for Trade in Asia and the Pacific: Thinking Forward About Trade Costs and the Digital Economy*. Manila. <https://www.adb.org/publications/aid-trade-asia-and-pacific-thinking-forward-about-trade-costs-and-digital-economy>.

⁵ ADB. 2016. *Pacific Approach, 2016–2020*. Manila.

strong and growing. In Kiribati, basic cell phone penetration is more than 34% of the population, spread over eight (of the 22 inhabited) islands, including Tarawa and Kiritimati; however, only 2G is available on six of these islands. Cell phone use is widespread in Nauru (Digicel provides about 17,000 cell phone connections for a population of 10,000).⁶ Internet access in Kiribati, Nauru, and Kosrae, FSM is via satellite—including [The] Other Three Billion (O3b)—with limited bandwidth. Pohnpei is the only state in the FSM with submarine cable connectivity, while the islands of Yap and Chuuk are in the process of connecting via submarine cables, funded by the World Bank.⁷ In the interim, FSM Telecommunication Corporation has contracted O3b to provide internet service to Yap and Chuuk. Competition in the sector is limited in all three countries: the FSM is reliant solely on FSM Telecommunications Corporation, although legislation allows for new entrants; in Kiribati, Amalgamated Telecom Holdings Kiribati Ltd is the main telecom provider in Tarawa, while Kiribati's second mobile service licensee, Ocean Links, is about to set up its operation; and in Nauru, services are provided by government-owned Cenpac Net Incorporated and Digicel.

6. In 2013, the World Bank assisted Kiribati in setting up a telecom regulator, the Communications Commission of Kiribati, responsible for the full range of services.⁸ In May 2017, the Government of Nauru passed the Telecommunications and Regulatory Affairs Act 2017 and established the Department of Telecommunications and Regulatory Affairs under the minister of telecommunications.⁹ The minister appointed the head of the department. The department head also plays the role of a telecom regulator. In 2014, the FSM enacted the FSM Telecommunication Act, which provides for an independent telecom regulator. Continued technical assistance from the World Bank and ADB will facilitate the operating environment needed to pass on cost reductions to the final consumer.

7. The affordability and quality of the service limits internet usage. The use of O3b provides some interim relief in countries, but limited bandwidth capacity and weather disruptions are still major constraints. The retail internet prices are still significantly above those achievable with service provision based on a fiber-optic cable.¹⁰

8. **Regional approach to internet connectivity.** The distance from the nearest internet hub has been the major cost constraint for Kiribati and Nauru when it comes to installing and operating independent submarine cable systems for their limited demand. In 2016, the FSM, Kiribati, and Nauru agreed to explore a technical solution for a regional cable system to connect Kosrae in the FSM, Tarawa in Kiribati, and Nauru; and set up a steering committee to prepare legal and technical details for the cable solution. The World Bank supported consultants for the FSM (for the Kosrae connection) and Kiribati (Tarawa connection). ADB funded a project coordination team to support the steering committee as well as technical and legal consultants to support Nauru in its participation in the steering committee.¹¹ The technical team under the steering committee recommended the EMC system, connecting Tarawa and Nauru to Pohnpei (which is already connected to the internet hub in Guam via the Hantru-1 cable system), with a spur to Kosrae in the FSM. The regional approach will help the countries share the capital and operational cost

⁶ Digicel Nauru is 20% government-owned and the dominant service provider in Nauru.

⁷ <http://projects.worldbank.org/P130592?lang=en>.

⁸ The Communications Commission of Kiribati is responsible for operator licensing, type approval, radio communication licensing, Kiribati Radio Frequency Spectrum Plan, numbering rules (8-digit-based services and number portability), and universal access.

⁹ http://ronlaw.gov.nr/nauru_lpms/index.php/act/view/1218.

¹⁰ The affordability index for broadband in Micronesia is more than 20.00% of gross national income based on the average price of a 1GB (monthly package, computer-based) broadband plan, compared with 4.88% in Australia.

¹¹ ADB. 2013. *Pacific Information and Communication Technology Investment Planning and Capacity Development Facility*. Manila.

proportionately, as set out in the construction and maintenance agreement (C&MA), which details the organizational structure, cost-sharing mechanism, and roles and responsibilities for the consortium members to run the EMC system.¹²

9. Kiritimati in Kiribati is about 2,000 kilometers (km) east of Tarawa, making extending the EMC system to connect Kiritimati financially unviable. An independent cable system to the nearest internet hub in Hawaii (about 2,000 km away) is also too costly to be financially viable. In January 2017, Southern Cross Cable Company (SXC) announced a new cable system, Southern Cross NEXT (NEXT), which will pass within approximately 400 km of Kiritimati. This provides an opportunity for Kiritimati to connect via a spur and branching unit.¹³ ADB funded technical consultants to help Kiribati negotiate the technical configuration, bandwidth capacity, and operational agreement with SXC for the connection (footnote 11).

10. Kiribati and Nauru have set up Bwebweriki Net Limited (BNL) and Nauru Cable Corporation (NCC), their respective state-owned enterprises, to prepare, install, operate, and own their portion of the EMC system in Kiribati and Nauru, and manage the Kiritimati connection. BNL will be responsible in Kiribati and NCC in Nauru to provide wholesale internet capacity to local telecom players in an equitable and nondiscriminatory way.

11. The project is included in ADB's regional operations business plan¹⁴ and is consistent with the national development plans and strategies of Kiribati and Nauru.¹⁵

B. Impact and Outcome

12. The project is aligned with the following impact: improved telecommunications in the Micronesian subregion.¹⁶ The project will have the following outcome: low-cost and high-quality internet service in Kosrae (FSM), Kiribati, and Nauru, achieved.

C. Outputs

13. **Output 1: EMC system connecting the islands of Kosrae (FSM), Tarawa (Kiribati), and Nauru to Pohnpei in the FSM.** ADB will be financing Nauru's share of output 1, which will be achieved through (i) the construction of the EMC system and landing station in Nauru, (ii) efficient and effective operation of NCC by the Government of Nauru, and (iii) timely negotiation and signing of the C&MA between the consortium members. Nauru will be supported by a project management unit (PMU), funded under the project to implement output 1.

14. **Output 2: Submarine cable connection from Kiritimati (Kiribati) to the NEXT cable system.** Output 2 will be achieved through (i) the construction of a spur, branching unit, and landing station in Kiritimati by SXC; (ii) efficient and effective operation of BNL by the Government of Kiribati; and (iii) timely negotiation and signing of the master purchase agreement (MPA), landing party agreement (LPA), and capacity use agreement (CUA) between BNL and SXC. These agreements will give Kiribati the right to use the spur, branching unit, and landing station

¹² BNI, NCC, and FSM Telecommunications Cable Corporation will set up the consortium under C&MA to implement and operate the EMC system.

¹³ <https://www.southerncrosscables.com/>.

¹⁴ ADB. 2016. *Regional Operations Business Plan: Pacific, 2017–2019*. Manila.

¹⁵ Kiribati. 2016. *Kiribati Development Plan 2016–2019*. Kiribati; and Republic of Nauru. 2009. *Nauru National Sustainable Development Strategy 2005-2025*. Nauru.

¹⁶ The design and monitoring framework is in Appendix 1.

for 25 years, and require SXC to provide operation and maintenance for 15 years. ADB will be financing such use by Kiribati. Kiribati will be supported by a PMU, funded under the project to implement output 2.

D. Summary Cost Estimates and Financing Plan

15. The project is estimated to cost \$40.0 million (Table 1). Detailed cost estimates by expenditure category and financier are included in the project administration manual (PAM).¹⁷ In Kiribati, ADB will fund the leasing, by the Government of Kiribati from SXC, of the branching unit, spur, and capacity in NEXT cable for Kiritimati. In Nauru, ADB will fund Nauru's portion of the EMC supply and installation, and construction of the cable landing station in Nauru. ADB will also fund the PMUs in Kiribati and Nauru.

Table 1: Summary Cost Estimates (\$ million)

Item	Amount
A. Base Cost^a	
1. Output 1	
East Micronesia Cable supply and installation – Nauru	13.5
Cable landing station and fitout – Nauru	1.0
Project Management Unit – Nauru	0.5
2. Output 2	
Lease payments for Kiritimati spur, branching unit, landing station, and capacity	20.0
Project management unit – Kiritimati	0.5
Subtotal (A)	35.5
B. Contingencies^b	1.1
C. Cable Company Cost and Taxes and Duties^c	3.4
Total (A+B+C)	40.0

^a In January 2018 prices.

^b Physical and price contingencies are considered together given the large turnkey contract, and are computed at 3% for civil works and cable implementation.

^c Taxes and duties of \$3.0 million to be financed by the Government of Kiribati (\$1.0 million) and the Government of Nauru (\$2.0 million) through exemption. Such amount does not represent an excessive share of the project cost. The Asian Development Bank will finance taxes and duties for project management unit costs.

Source: Asian Development Bank estimates.

Table 2: Summary Financing Plan

Source	Amount (\$ million)	Share of Total (%)
Asian Development Bank		
Special Funds resources (ADF grant) – Kiribati	21.6	54.0
Special Funds resources (ADF grant) – Nauru	15.0	38.0
Government of Kiribati ^a	1.0	2.7
Government of Nauru ^a	2.4	5.7
Total	40.0	100.0

ADF = Asian Development Fund.

^a The Government of Kiribati and the Government of Nauru will contribute in the form of taxes and duties. The cost of running Bwebweriki Net Limited during project implementation is covered under the East Micronesia Cable implementation. The Government of Nauru will finance the cost of operating the Nauru Cable Corporation during the project construction period and until revenues can sustain this cost.

Source: Asian Development Bank estimates.

16. The Government of Kiribati has requested a grant not exceeding \$21.6 million and the Government of Nauru has requested a grant not exceeding \$15.0 million from ADB's Special

¹⁷ Project Administration Manual (accessible from the list of linked documents in Appendix 2).

Funds resources (Asian Development Fund) to help finance the project (Table 2). The World Bank will provide joint grant financing of \$36.2 million to the project (footnote 2) to fund the Tarawa and the FSM component of the EMC system. The Government of Kiribati and the Government of Nauru will make the proceeds of the grants available to the cable operating companies, BNL in Kiribati and NCC in Nauru, through onlending arrangements.¹⁸ The Government of Kiribati and the Government of Nauru will exempt taxes and duties of \$3.0 million. The Government of Nauru will also support the operation of NCC during project implementation with a cash contribution of \$0.4 million.

E. Implementation Arrangements

17. The Ministry of Finance and Economic Development (MFED) in Kiribati and the Department of Finance and Economic Planning (DFEP) in Nauru will be the executing agencies for the project. The Government of Kiribati has established BNL, which will work with NCC and the FSM Telecommunications Cable Corporation, to install and operate the EMC system for the Tarawa portion of the EMC system, and will directly contract SXC (justified in para. 9) for the internet service for Kiritimati island. NCC as the cable operating entity for Nauru will implement and operate the submarine cable with respect to the Nauru portion of the EMC system, in collaboration with other consortium members.

18. For the EMC system, the three cable companies of Kiribati, Nauru, and the FSM (NCC, BNL, and FSM Telecommunications Cable Corporation) will sign a C&MA to formalize the operating and cost-sharing mechanism for the EMC system. NCC and BNL will be the implementing agencies¹⁹ and wholesale providers of the submarine internet bandwidth in their respective countries. NCC and BNL will be responsible for the procurement and financial management activities outlined below.

19. The consortium members, under the supervision of the steering committee, will implement the EMC system. For this, ADB and the World Bank will enter into a memorandum of understanding that sets out detailed collaboration and coordination arrangements in relation to this procurement, and the project more generally. The World Bank will be the coordinating cofinancier. Pursuant to the memorandum of understanding, the World Bank's guidelines and standard bidding documents will be used, but all procurement decisions will be taken by mutual agreement between ADB and the World Bank. The World Bank's and ADB's procurement guidelines are largely harmonized, except for references to debarment lists. The final bidding documents will be agreed between ADB, the World Bank, and the respective governments. ADB will be involved throughout the review process and exercise procurement oversight in accordance with its usual procurement procedures and practices to ensure that the procurement is also undertaken in accordance with ADB's Procurement Guidelines (2015, as amended from time to time), and that no company on ADB's sanction list participates in the bidding process. The World Bank and ADB will use their best efforts to give effect to the other's eligibility requirements and debarment lists. Further, contracts between the bidder and the borrower will contain a provision permitting the World Bank and ADB to inspect the project and to inspect and audit all records and accounts of any bidders, contractors, suppliers, or service providers as they relate to the project in accordance with their respective policies and procedures.

20. NCC will be responsible for the procurement of a civil works contractor to build the landing station facilities in Nauru. Procurement will be conducted in accordance with ADB's Procurement

¹⁸ The terms and conditions of the subsidiary grant agreements will be subject to ADB's endorsement.

¹⁹ ADB will enter into project agreements with NCC and BNL.

Guidelines. NCC will set up a PMU to coordinate with other steering committee members, vendors, and the financier.

21. As permitted under ADB's Procurement Guidelines (para. 3.6[c]), using direct contracting with SXC of Australia as the only service provider for a contract of about \$20 million, BNL will sign a service agreement covering MPA, CUA and LPA for the right to use for 25 years the branching unit and spur connecting Kiritimati island to SXC's NEXT system, the landing station, as well as the terminal equipment in Kiritimati. BNL will have a capacity of 30 gigabits per second on NEXT for the next 15 years through the CUA. The CUA will also include SXC's provision of operation and maintenance for the branching unit and spur for 15 years. Kiribati will have a PMU to coordinate the work in Kiritimati. The PMUs will also help the executing agencies and implementing agencies to meet all the technical and safeguard-related project covenants.

22. Two consulting firms will be recruited to support NCC and BNL in the implementation of the respective components of the project for a total of about 100 person-months of inputs. Consultants will be recruited using the quality- and cost-based selection method (with a quality–cost ratio of 90:10), in accordance with ADB's Guidelines on the Use of Consultants (2013, as amended from time to time).

23. **Retroactive financing and contracting.** The Government of Kiribati has requested ADB's approval of retroactive financing for the reimbursement of \$0.35 million paid to SXC in May 2017 for marine surveys needed to better understand technical specifications and improve the negotiation position for the Kiritimati connection. SXC conducted surveys for the entire length of its cable, and inclusion of the Kiritimati section obviated the costs for a separate survey. Retroactive financing will be less than 2% of the total ADB grant amount and is for eligible expenditures incurred prior to grant effectiveness, but not earlier than 12 months prior to the signing of the grant agreement. The Government of Kiribati understands that approval of this retroactive financing does not commit ADB to finance the project. Following SXC's requirement, Kiribati has signed the contracts with SXC in November 2017 (before ADB Board of Directors consideration) to allow SXC to finalize the selection of the cable supplier. Kiribati requested ADB to allow the retroactive contracting.

24. The implementation arrangements are summarized in Table 3 and detailed in the PAM.²⁰

Table 3: Implementation Arrangements

Aspects	Arrangements
Implementation period	January 2018–June 2022
Estimated completion date	30 June 2022
Estimated grant closing date	31 December 2022
Management	
(i) Oversight body	Steering committee Government of the Federated States of Micronesia (chair) Government of Kiribati and Government of Nauru (members)
(ii) Executing agencies	Ministry of Finance and Economic Development, Kiribati and Department of Finance and Economic Planning, Nauru
(iii) Key implementing agencies	Nauru Cable Corporation and Bwebweriki Net Limited
(iv) Implementation unit	PMUs in Kiritimati and Nauru, each with three staff (project manager, technical engineer, and accountant)

²⁰ Project Administration Manual (accessible from the list of linked documents in Appendix 2).

Aspects	Arrangements		
Procurement	International competitive bidding	2 contracts	\$14.5 million
	Direct contracting	1 contract	\$20.0 million
Consulting services	International firm, QCBS	50 person-months	\$0.5 million
	International firm, QCBS	50 person-months	\$0.5 million
Retroactive financing and advance contracting	The grant will reimburse \$0.35 million to Kiribati, for Kiribati's payment to Southern Cross Cable in May 2017 for the marine survey. Retroactive financing will be less than 1% of the total ADB grant amount for eligible expenditures incurred prior to grant effectiveness, but not earlier than 12 months prior to the signing of the grant agreement. Bwebweriki Net Limited has signed the master purchase agreement, landing party agreement, and capacity use agreement before ADB Board of Directors approval of the grant, as required by Southern Cross Cable.		
Disbursement	The grant proceeds will be disbursed following ADB's <i>Loan Disbursement Handbook</i> (2017, as amended from time to time) and detailed arrangements agreed between the governments and ADB.		

ADB = Asian Development Bank, QCBS = quality- and cost-based selection.

Source: Asian Development Bank.

III. DUE DILIGENCE

A. Technical

25. A submarine cable is the preferred, most cost-effective, and most sustainable method for internet connectivity, with well-established and proven technology. In both Kiritimati and Nauru, the cable landing stations will be connected to the existing local networks for internet service to the public, offices, and institutions. The EMC system will interconnect to Hantru-1 cable system in Pohnpei, FSM to reach Guam. The regional approach will help NCC share significant capital and operational costs. NEXT brought a cost-effective opportunity to connect Kiritimati through a branching unit and spur. This will significantly reduce the cable operating risk and cost for Kiritimati.

26. NCC and BNL will act as wholesale internet bandwidth providers and sell to local telecom operators in an equitable and nondiscriminatory way, following the telecom regulatory policy in their country. The telecommunication regulators will be responsible for maintaining the quality and price of internet service.

B. Economic and Financial

27. **Financial.** The financial viability was assessed based on the financial sustainability of the cable wholesale providers over the cable's estimated life (2 years of system implementation, 15 years of right of use for Kiritimati, and 25 years of full operation for Nauru). A top-down methodology is used to predict adoption rates by benchmarking other broadband connectivity projects in the Pacific region that correspond to the islands' current demand distribution across its telecommunication services. Price per Megabits per second was set to ensure cost recovery and competitiveness of high-speed satellite services, passing on potential financial benefits to customers through wholesale price reductions. Tourist subscribers, particularly in the case of Kiritimati, were also considered in the analysis.

28. The financial internal rate of return (FIRR) is estimated at 8.2% for the Kiritimati, Kiribati component and 8.3% for the Nauru connection. Each is about equal to the respective weighted average costs of capital. Cash flows for both components are sensitive to revenue and cost shocks, but risks are considered low because (i) demand and resulting revenue projections were considered at a growth rate well below similar implementations in the Pacific; and (ii) cable system cost and operating cost estimates are based on similar cable project developments in the region.

29. **Economic.** The project's economic benefits largely arise from an expansion in internet penetration facilitated by improvements in coverage (i.e., Kiribati's current O3b system does not reach the outer islands including Kiritimati) capacity, reliability, and affordability. Benefits are valued based on consumers' willingness to pay, which corresponds to the entire area under their demand curve. This is the sum of two components: (i) the annual consumer surplus and (ii) the annual revenue per user for retail internet services.²¹

30. Evaluating project costs against benefits, the economic internal rate of return (EIRR) under the base-case scenario is estimated at 14.0% for the Kiritimati connection and 10.3% for the Nauru component.²² Both are above the minimum required EIRR for ADB investment projects of 9%. Sensitivity analysis confirms that economic viability is maintained even with a 20% lower projected benefit, a 10% capital cost overrun, or a 10% increase in operating expenditures.

C. Governance

31. **Financial management.** Public financial management performance in Kiribati—including budgeting management, monitoring, and evaluation—has improved with broader economic reforms.²³ Nauru has an underdeveloped Public Finance Management system, though significant improvements were made in some of the Public Finance Management indicators since the initial assessment in 2010.²⁴ In May 2017, the Audit Office tabled public accounts for fiscal year 2014 during a parliamentary session, closing a 15-year audit gap.

32. BNL and NCC are newly established, so the financial management risk is assessed as high. During implementation, both BNL and NCC will be supported by PMUs with an experienced finance and accounting specialist to manage accounting and reporting within 6 months of the project effectiveness date. A comprehensive time-bound action plan has been developed in the PAM to mitigate the risk.

33. **Procurement capacity.** Overall, the procurement risk in Nauru is high.²⁵ The steering committee has been supported by a consulting firm, funded by ADB, to prepare the procurement documents and conduct the bidding process for the EMC. Kiribati's procurement governance is inadequate with thin distribution of limited procurement skills, incomplete scope of audit, and variations in policies and practices.²⁶ The Kiritimati component of the project will be procured through a direct lease from SXC. ADB funded a technical consultant to support the Government

²¹ For conservative valuation, benefits are considered to grow in line with real gross domestic product growth (assumed at 2.0% per annum) and capped between 2.5% and 3.5% of gross domestic product.

²² Economic analysis of the project was undertaken on the basis of constant 2017 prices and a world price numeraire, using a standard conversion factor of 0.83 for Kiribati and 0.89 for Nauru, and a shadow wage rate factor of 0.90 for Kiribati and 0.85 for Nauru. The methodology is detailed in Economic and Financial Analysis (accessible from the list of linked documents in Appendix 2).

²³ Kiribati. 2014. *Assessment of National Systems - Kiribati*.

²⁴ Nauru. 2016. *Public Expenditure Financial Accountability (PEFA) Self-Assessment*. Nauru.

²⁵ ADB. 2017. *Country and Sector/Agency Procurement Risk Assessment – Final Report*. Manila.

²⁶ Kiribati. 2017. *Public Procurement Reform Program (KPPRP) Final Report*. Tarawa.

of Kiribati in negotiating the MPA, CUA, and LPA with SXC. ADB has reviewed and endorsed the agreements before BNL signed them in November 2017.

34. NCC and BNL will recruit permanent staff—including a chief executive officer, technical engineer, and accountant—to run their business before the cable systems become operational. There will be sufficient overlap between the permanent staff and PMU consultants to maintain an uninterrupted business operation.

35. ADB's Anticorruption Policy (1998, as amended to date) was explained to and discussed with the governments, MFED, and DFEP. The specific policy requirements and supplementary measures are described in the PAM (footnote 20).

D. Poverty, Social, and Gender

36. In Kiribati and Nauru, causes of poverty and hardship include limited access to basic social services and limited access to opportunities for gainful income. Better internet access can introduce new livelihood opportunities for women who tend to stay on their island, whereas many young men travel overseas. More reliable internet will also offer the potential to improve delivery of government and social services through ICT application in health, education, and governance.

E. Safeguards

37. In compliance with ADB's Safeguard Policy Statement (2009), the project's safeguard categories are as follows.²⁷

38. **Environment (category B).** Laying the cable on the seafloor will affect a narrow corridor and the project will have site-specific impacts that can be readily mitigated and/or managed. The project will impact a corridor about 0.3–0.5 meters wide on the seafloor and, in some locations, up to 0.75 meters beneath the sediment. An environmental and social impact assessment was prepared for the main part of the cable (Kosrae–Nauru–Kiribati) and an initial environmental examination was undertaken for the Kiritimati section. A detailed oceanographic survey of the alignment will be completed during the design period and will include updating of the environmental and social impact assessment, initial environmental examination, and environmental management plan, and integration of the updated environmental management plan in the contract specifications. Compliance will be monitored by the PMUs. Overall project progress reports will include safeguard matters and be submitted to ADB each quarter.

39. **Involuntary resettlement and indigenous peoples.** The project has been classified as category C on involuntary resettlement and indigenous peoples. Due diligence confirmed that the project components in Kiribati and Nauru do not require land acquisition and resettlement, and do not impact any distinct and vulnerable group of indigenous peoples.

F. Summary of Risk Assessment and Risk Management Plan

40. Significant risks and mitigating measures are summarized in Table 4 and described in detail in the risk assessment and risk management plan.²⁸

²⁷ ADB. Safeguard Categories. <https://www.adb.org/site/safeguards/safeguard-categories>.

²⁸ Risk Assessment and Risk Management Plan (accessible from the list of linked documents in Appendix 2).

Table 4: Summary of Risks and Mitigating Measures

Risks	Mitigating Measures
Lack of technical experience in government relating to submarine cable projects in Kiribati and Nauru.	Nauru Cable Corporation and BNL will be supported by an experienced PMU to manage day-to-day activities during implementation. Moreover, BNL will leverage the experience of SXC in managing its responsibilities.
Implementation of SXC NEXT cable system is delayed.	SXC has 15 years of experience in operating a cable system. Any delay in implementation of the NEXT system will have a severe impact on SXC's contracts with private telecom providers and is highly unlikely to happen. BNL is in touch with SXC on the progress of the NEXT system, and it is on track to date.
Lack of staff to manage finance and accounting.	The PMUs will have experienced financial management consultants to support the cable companies to set up practices, systems, and procedures to manage accounting. A time-bound action plan was prepared to ensure proper handover of documents and training for permanent staff.

BNL = Bwebweriki Net Limited, SXC = Southern Cross Cable Company.

Source: Asian Development Bank.

IV. ASSURANCES AND CONDITIONS

41. The Government of Kiribati, Government of Nauru, DFEP, and MFED have 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 grant documents.

42. The Government of Kiribati, Government of Nauru, DFEP, and MFED have agreed with ADB on certain covenants for the project, which are set forth in the draft grant agreements and project agreements.

43. As a condition to effectiveness of the grant to the Republic of Kiribati, the subsidiary grant agreement between the Government of Kiribati and BNL, in form and substance satisfactory to ADB, will have been duly executed and delivered on behalf of the government and BNL and will have become legally binding upon the government and BNL in accordance with its terms. As a condition to effectiveness of the grant to Nauru, (i) the C&MA will have been signed on behalf of NCC, BNL and FSM Telecommunications Cable Corporation upon terms and conditions satisfactory to ADB; (ii) NCC, BNL and FSM Telecommunications Cable Corporation will have obtained approval for the financing of their respective shares of the C&MA, including cofinancing from development partners (if applicable); and (iii) the subsidiary grant agreement between the Government of Nauru and NCC, in form and substance satisfactory to ADB, will have been duly executed and delivered on behalf of the government and NCC and will have become legally binding upon the government and NCC in accordance with its terms.

V. RECOMMENDATION

44. I am satisfied that the proposed grants would comply with the Articles of Agreement of the Asian Development Bank (ADB) and recommend that the Board approve the grant not exceeding \$21,600,000 to the Republic of Kiribati and the grant not exceeding \$15,000,000 to Nauru, both from ADB's Special Funds resources (Asian Development Fund), for the Improving Internet Connectivity for Micronesia Project, on terms and conditions that are substantially in accordance with those set forth in the draft grant and project agreements presented to the Board.

Takehiko Nakao
President

6 March 2018

DESIGN AND MONITORING FRAMEWORK

Impact the Project is Aligned with			
Telecommunications in the Micronesian subregion improved			
Results Chain	Performance Indicators with Targets and Baselines	Data Sources and Reporting Mechanisms	Risks
Outcome Low-cost and high-quality internet service in Kosrae (FSM), Tarawa (Kiribati) and Nauru, achieved	By 2020: a. Retail price of fixed internet service for 2-megabits-per-second connection decreases at least 20% against 2017. c. Bandwidth availability will be increased at least 20% against 2017 baseline Availability of service will be 99% in accordance with the industry standard. d. Retail price of fixed internet service for 2-megabits-per-second connection decreases at least 20% against 2017.	a. Internet service price list published by internet service providers and telecom operators. b. 'Ping' time at consumer level as measured by tools such as web-based speed tests (e.g., www.speedtest.net)	Lack of guidelines, policy, and capacity to manage the assets around the submarine cable Monopoly or collusion between local supplier(s) prevents decrease in retail internet price.
Outputs 1. EMC system connecting the islands of Kosrae (FSM), Tarawa (Kiribati), and Nauru to Pohnpei in the FSM 2. Submarine cable connection from Kiritimati, Kiribati to the Southern Cross NEXT cable system	By 2019: 1a. Regional submarine cable system (EMC) constructed to connect Nauru 1b. Landing stations constructed in Nauru with inland cable system 1c. Submarine cable operationalized 2a. Spur and branching unit constructed to connect Kiritimati 2b. Landing stations constructed in Kiritimati with inland cable system 2c. Submarine cable operationalized	1a. Progress reporting 1b. Operational reporting logs and periodic inspection 1c. Performance testing report 2a. Progress reporting	Lack of technical experience in government relating to submarine cables

Activities with Milestones

1. EMC system connecting the islands of Kosrae (FSM), Tarawa (Kiribati), and Nauru to Pohnpei in the FSM
 - 1.1 Award contracts by Q3 2018.
 - 1.2 Carry out marine survey and complete marine operations for laying cables by Q4 2018.
 - 1.3 Install terminal equipment by the end of Q3 2019.
 - 1.4 Equip cable landing systems with the necessary cross-connect facilities for customers by Q1 2020.
 - 1.5 Train cable company staff on landing facility operation and maintenance, and update skills and knowledge periodically by Q4 2019.
 - 1.6 Put in place an appropriate cable repair and maintenance agreement for spur before completing laying of cable by Q1 2020.
 - 1.7 Achieve commissioning, provisional acceptance, and be ready for service by Q1 2020.
 - 1.8 Final acceptance by Q1 2020.
2. Submarine cable connection from Kiritimati, Kiribati to the Southern Cross NEXT cable system
 - 2.1 Sign master purchase agreement, capacity usage agreement and landing party agreement by Q1 2018.
 - 2.2 Train cable company staff on landing facility operation and maintenance, and update skills and knowledge periodically by Q3 2019.

Project Management Activities

- Continue regular monitoring and supervision until Q2 2020.
- Follow up on safeguard issues and risk management plan in a timely manner until Q2 2020.
- Manage contracts from Q1 2018 until Q2 2020.
- Provide timely progress reports until Q2 2020.
- Carry out regular accounting and annual audits until Q2 2020.

Inputs

Asian Development Bank: \$36.6 million grants

The Government of Kiribati: \$1.0 million and the Government of Nauru: \$ 2.4 million

Assumptions for Partner Financing

World Bank: \$36.2 million for FSM's and Kiribati's share of the EMC system

EMC = East Micronesia Cable, FSM = Federated States of Micronesia, NEXT = Southern Cross NEXT, Q = quarter.
Source: Asian Development Bank.

LIST OF LINKED DOCUMENTS

<http://www.adb.org/Documents/RRPs/?id=50348-001-2>

1. Grant Agreement: Kiribati
2. Project Agreement: Kiribati
3. Grant Agreement: Nauru
4. Project Agreement: Nauru
5. Sector Assessment (Summary): Information and Communication Technology
6. Project Administration Manual
7. Contribution to the ADB Results Framework
8. Development Coordination
9. Economic and Financial Analysis
10. Country Economic Indicators
11. Summary Poverty Reduction and Social Strategy
12. Initial Environmental Examination: Kiribati
13. Initial Environmental Examination: Nauru
14. Risk Assessment and Risk Management Plan