

**PROJECT INFORMATION DOCUMENT (PID)  
APPRAISAL STAGE**

Report No.: PIDA13687

|   |  |
|---|--|
| <b>Project Name</b>                           | Pacific Regional Connectivity Program 2:Palau-FSM Connectivity Project (P130592)                         |
| <b>Region</b>                                 | EAST ASIA AND PACIFIC  |
| <b>Country</b>                                | Pacific Islands  |
| <b>Sector(s)</b>                              | Telecommunications (100%)  |
| <b>Theme(s)</b>                               | Infrastructure services for private sector development (85%),<br>Regulation and competition policy (15%) |
| <b>Lending Instrument</b>                     | Specific Investment Loan   |
| <b>Project ID</b>                             | P130592  |
| <b>Borrower(s)</b>                            | Ministry of Finance  |
| <b>Implementing Agency</b>                    | Department of Transport, Communication and Infrastructure  |
| <b>Environmental Category</b>                 | B-Partial Assessment   |
| <b>Date PID Prepared/Updated</b>              | 23-Oct-2014  |
| <b>Date PID Approved/Disclosed</b>            | 23-Oct-2014  |
| <b>Estimated Date of Appraisal Completion</b> | 24-Oct-2014  |
| <b>Estimated Date of Board Approval</b>       | 22-Dec-2014  |
| <b>Decision</b>                               |  |

## I. Project Context

### Country Context

Federated States of Micronesia

The FSM is an island nation in the northern Pacific Ocean comprising more than 600 islands and atolls with up to 1,000 miles between the farthest islands. The total population (2010) is estimated at 102,843, divided across four states: Pohnpei (36,196) Kosrae (6,616), Yap (11,377) and Chuuk (48,654). The FSM economy is based largely on natural resources (fisheries), which accounts for 70 percent of exports and external assistance, primarily through transfers from the United States Government through the provisions of the Compact of Free Association. It is dominated by a large public sector. One of the main challenges facing the FSM is to overcome its remoteness and dispersed geography by developing the infrastructure it needs to connect its people domestically and internationally, and to encourage social and economic development. The long-term viability of the FSM hinges on domestic and international economic integration. Improved connectivity and lower communications costs will contribute both to national economic development and to regional coordination and the integration of FSM in the Pacific and internationally. Broadband Internet offers improved connectivity, lowers transaction costs, creates new economic opportunities, and increases service delivery options. FSM is a lower middle income country with an Atlas GNI per

capita of \$3,430 (2013, World Development Indicators). Growth in 2013 was estimated at 0.6 percent. FSM is currently eligible for assistance from the IDA on a grant basis. This is reassessed annually.

## Republic of Palau

Palau is situated in the Micronesian group of islands in the northern Pacific with an estimated population of 17,611 (2013 World Development Indicators). Palau is the World Bank Group's second smallest member (only Tuvalu has a smaller population). Palau receives substantial financial assistance from the United States through the provisions of the Compact of Free Association. A package of renewed financial assistance for \$250 million was approved in 2010. The renewed Compact grant agreement is set to end in FY2024 and an overarching challenge for Palau is to achieve self-sufficiency when the renewed Compact grants expire. Withdrawals from the Compact Trust Fund post 2024 will not be sufficient to maintain a steady level of spending after Compact grants expire. Palau is an upper middle income country with an Atlas GNI per capita of \$10,970 (2013, World Development Indicators). External aid has made up an average of 25 percent of Palau's GDP over the last decade. The principal source of growth and revenues is tourism, followed by fishing. Annual tourism receipts amount to about 50 percent of GDP, more than twice the Pacific island average and amongst the highest in the world. Visitors from Taiwan, China; China, Japan, and Korea account for the bulk of tourist arrivals. Palau was hit hard by the global economic crisis in 2008; however, economic growth rebounded in 2011-2013 owing to increased tourist arrivals as a result of new flight routes from Asian countries. After two years of strong expansion, growth is estimated at around zero in fiscal year ending September 2013 owing to declines in construction and tourism. Growth is however projected to pick up to around 1.8 percent in 2014 driven by the recovery in tourism and infrastructure developments.

## Sectoral and institutional Context

### Federated States of Micronesia

FSM faces a significant “digital divide” which compounds the development challenges of this dispersed archipelagic nation. While access to basic telephony is slowly improving across the country, access to high-speed Internet and its associated value-added services is limited, costly and unevenly-distributed. Pohnpei is the only FSM state with submarine cable connectivity.

HANTRU1 provides 80 Gigabits per second (Gbps) of total capacity to the FSM

Telecommunications Corporation (FSMTC), a Government corporation that currently is the sole provider of telecommunications services in FSM. This cable links the islands of Pohnpei (FSM), Majuro (Marshall Islands) and Kwajalein (Marshall Islands) to the United States territory of Guam, the Internet hub for the northern Pacific region (numerous cables ex-Guam link East Asian economies with the United States west coast).

Broadband Internet access in Pohnpei State. The FSM section of the HANTRU1 cable was financed by a loan to FSMTC from the United States Department of Agriculture's (USDA) Rural Utilities Service (RUS). Cable capacity is presently under-used, in part due to sector structure, the costs associated with financing the installation of the cable, and the limited potential demand that is available while only Pohnpei is connected to the cable. Two Gbps of total cable capacity is in service. Monthly bandwidth demand for Pohnpei [95th percentile, based on monthly 5 min cycle averages] is approximately 240/25Mbs total capacity. Currently the costs incurred by FSMTC in supplying this bandwidth is approximately \$460Mpbs/month (comprising \$375Mpbs/month in

fixed costs and \$80Mbps/month in variable operating costs). The variable cost of transit in Guam on the cable decreases as utilization increases. The price per megabit for 1Gbps, for example, would decrease to approximately \$30 Mbps/month. FSMTC has recently launched a 3G service which will initially cover the most populated northern part of Pohnpei, or almost half of the population. Pohnpei is also covered by an ADSL service which reaches almost 95 percent of the population, although there are only around 1,000 active subscribers.

There is very limited Internet penetration outside Pohnpei. The other three states use approximately 50Mbps total capacity, comprising Chuuk 15/5Mbps, Yap 15/5Mbps and Kosrae 8/2. The average price per Mbps to FSMTC over satellite is approximately \$1,800. However, FSMTC has recently entered into agreements with O3b, a medium-earth orbit low-latency satellite service provider, for capacity for Yap and Chuuk at contract prices which would reduce the cost of supply by approximately half for Chuuk and by 66% for Yap—O3b services are expected to begin in the fourth quarter of 2014. The mobile service outside Pohnpei state is largely limited to voice. While there are plans to roll out 3G across Chuuk, Yap and Kosrae, FSMTC is constrained by the cost of international bandwidth to these states and the lack of capital funds to finance its network roll-out. ADSL services are available in each of these states, although it is also severely constrained by the costs and latency of international bandwidth via traditional geosatellite services. ADSL subscriber numbers across all three states (outside Pohnpei) is approximately 900 people.

Among the main reasons for the limited and costly services outside Pohnpei is the high cost of connecting remote and sparsely populated islands. The monopolistic market structure, until recently prescribed by law, has also foreclosed new non-incumbent investment to improve access to services. While FSM has recently enacted a new, modern, legal framework, further work is needed to give effect to the law to support the entry of new operators and establish a level playing field for all market participants. Rules and regulations are needed to provide for basic telecommunications market oversight, licensing, interconnection, universal access, service and coverage obligations, numbering, tariffs, and competitive behavior. Regulations also need to be put in place for open access or wholesaling capacity on the existing HANTRU1 cable or new cable systems, and for dealing with convergence issues.

The Government has taken steps to introduce competition in order to stimulate additional investment. The Government issued its first National Information and Communication Technology and Telecommunications Policy in September 2012 with the goal of secure, efficient and affordable services to achieve equitable access to communications for all. The policy calls for sector reforms to increase private participation and investment in the provision of ICT services, strengthening the incumbent operator, and opening the sector to competition. The Government recognizes that urgent changes are needed in terms of market structure, regulation and the capacity of institutions to lead and implement the Government's vision for the sector. The liberalization and licensing processes, and the restructuring and strengthening of FSMTC, supported by technical assistance under the Project, will also focus on options for dealing with legacy issues including the costs and debt associated with the Pohnpei cable.

A landmark decision—the enactment of the FSM Telecommunications Act of 2014—was taken on April 3, 2014 to give effect to the Government's September 2012 policy. The new law ends FSMTC's right to be the sole provider of telecommunications services and allows for licenses to be issued to new network operators and other service providers. It is envisaged that FSMTC will be one of a number of service providers competing to provide retail services to customers. The law

also provides for the creation of an independent regulator of the telecommunications sector responsible for issuing licenses, ensuring that competing networks are interconnected on fair terms and that where practicable expensive infrastructure is shared, protecting consumers, and overseeing the universal access scheme. Under the Telecommunications Act of 2014, FSM has a modern legal framework that will support the development of the telecommunications sector and is consistent with international best practice, as modified to reflect the unique challenges of small island states remote from major population centers.

The new regime is focused on ensuring that the responsibility and costs of providing services across the FSM is shared equitably by all service providers. As the sole service provider FSMTC is expected to invest in providing access to telecommunications services for remote communities, even where such investment is not commercially viable. There are significant shortcomings with this approach. There is no definition as to the scope of FSMTC's obligation, no agreed standard as to the coverage to be achieved and the services to be provided, and no mechanism for setting priorities as between groups of potential users and geographic areas. Nor has there been any form of explicit subsidy provided to FSMTC to compensate the corporation for uneconomic infrastructure investments or insufficient service revenues. Instead, FSMTC is compensated on an ad hoc basis, such as by Government appropriation for specific activities or through cross-subsidies from revenues earned in lower-cost urban areas, with the result that urban connection and usage charges are higher than is needed to meet service provision costs in those areas. The regulator will be responsible for ensuring that license terms and obligations, and other universal access mechanisms, will maximize access for remote customers who would not otherwise receive services on purely commercial terms.

Sector experience in comparable countries supports an assessment that new licensees will likely enter the market. The Government acknowledges that the small size of the addressable customer base, comprising individuals, businesses, government and visitors, means that it will be challenging to attract new market entry. Experience elsewhere is that, in such environments, it is essential to maximize the attractiveness of market entry through clear and predictable regulatory oversight of the market, strong rules against anticompetitive behavior, fair and equal opportunities for all market participants, and the availability of shared access to high-cost essential infrastructure that cannot be economically replicated. This has been the experience in other small island economies in the Pacific, such as Vanuatu, Fiji and Solomon Islands, for example where market liberalization has gone hand in hand with programs to improve the capacity of regulatory institutions.

Existing World Bank support for the ICT Sector in Palau and FSM. The World Bank is providing assistance to the Government regarding the development of the regulatory framework including the operationalization of the independent regulator. The FSM-Palau ICT TA Project (P132686) will help the Government to develop a sustainable, workably competitive marketplace for ICT and maximize the attractiveness of the ICT sector as an investment opportunity. It can also be expected that the prospect of new competitive entry and the introduction of effective regulatory oversight will encourage FSMTC to position itself for future competition by improving the availability and attractiveness of its services in advance of that competition occurring.

#### Republic of Palau

Telecommunications sector. There are three service providers, each serving targeted, though overlapping, market segments. The state-owned Palau National Communications Corporation

(PNCC) provides fixed line services (6,000 subscribers), GSM 900 mobile service (about 14,000 subscribers), and Internet access (about 1,500 subscribers, mostly dial-up). The privately-owned Palau Mobile Communications (PMC) targets the overseas business and expatriate worker market and offers lower-cost international GSM 1800 service (though its operations were suspended in August 2014). PMC and PNCC have no technical or commercial network interconnection arrangements in place, so traffic cannot be exchanged between the two networks. As a result, there are weak incentives for the two operators to compete for the other's customers. The privately-owned Palau Telecom offers a WiFi Internet service. Subscriber numbers are not available for PMC or Palau Telecom. Each operator is looking to expand/diversify its service. An additional Internet service provider, Palau WiFi, commenced services in 2013.

Palau relies entirely on satellite links for international connectivity. The high cost and limited availability of this international bandwidth represents a major constraint to future development of the sector, particularly to broadband Internet access, where growth in data demand is currently suppressed by expensive and restricted international transmission. While significant price and performance gains are promised by new medium earth orbit solutions such as that offered by O3b, there is keen interest by Government and operators to utilize the lower marginal cost and greatly increased capacity that will be provided by a submarine fibre-optic cable to connect Palau to Guam, the regional hub for international data traffic to and from major Asian, European and American markets.

The legal and regulatory framework for ICT in Palau is limited and deals only with radio spectrum regulation. It is therefore unsuitable to support market competition. There are no laws covering basic telecommunications market oversight, in particular: network interconnection (with serious consequences in a market that has multiple operators), numbering, wholesale or retail tariffs, and competitive behavior. Moreover, as the Government and industry contemplate investment in a fibre-optic submarine cable to provide low-cost international bandwidth, there are no regulations in place for open access or wholesaling, or convergence issues. The Division of Communication under the Ministry of Public Infrastructure, Industries and Commerce (MPIIC) comprises a division chief, two staff and a technical specialist. Technical assistance is required to build capacity and support skills development for implementing and managing a modern regulatory framework.

The Government of Palau adopted a National ICT Policy in November 2013 to guide sector reforms. The policy recognizes the importance of competitive telecommunications markets that will encourage investment, improve service quality and choice, and lead to efficient pricing. The policy recognizes that in order to achieve these outcomes, updated ICT policies, laws and regulations to support a competitive market must be put into place and that an independent regulator must be established to provide oversight of the sector. Such a regulator will have power to issue licenses, ensure network interconnection and access for all service providers to key wholesale inputs such as international connectivity, and prevent anticompetitive behavior. The FSM-Palau ICT TA Project (P132686) will provide advice and drafting support to the Government for the preparation of legislation required to support the sector reforms.

## **II. Proposed Development Objectives**

The development objective of the Project is to reduce the cost and increase the availability of ICT services needed to support social and economic development.

## **III. Project Description**

**Component Name**

Component 1. International connectivity infrastructure

**Comments (optional)**

IDA financing for FSM:

Subcomponent 1A: Palau-Yap-Guam Cable System (US\$22.5 million)

Subcomponent 1B: Chuuk-Pohnpei Cable System (US\$18.5 million)

Subcomponent 1C: Kosrae Connectivity (US\$3.5 million)

**Component Name**

Component 2. Technical Assistance

**Comments (optional)**

Component 2 will finance advisory services and training for:

(a) Design and ownership structure of existing and infrastructure connectivity. The intention is to maximize usage of international bandwidth in FSM.

(b) Reform and development of FSM Telecommunications Corporation

(c) Sector regulation and regulatory capacity development.

**Component Name**

Component 3. Project management support

**Comments (optional)**

Component 3 will finance project management and coordination, financial management, audit, general project reporting, monitoring and evaluation, and administrative costs associated with project implementation.

**IV. Financing (in USD Million)**

|   |       |                       |               |
|---|-------|-----------------------|---------------|
| Total Project Cost:                         | 72.50 | Total Bank Financing: | 47.50         |
| Financing Gap:                              | 0.00  |                       |               |
| <b>For Loans/Credits/Others</b>             |       |                       | <b>Amount</b> |
| BORROWER/RECIPIENT                          |       |                       | 0.00          |
| International Development Association (IDA) |       |                       | 47.50         |
| Asian Development Bank                      |       |                       | 25.00         |
| Total                                       |       |                       | 72.50         |

**V. Implementation****A. Institutional and Implementation Arrangements**

FSM has established by Presidential Directive the Telecommunications Broadband Task Force (TBTF), comprised of representatives from DTCI, Department of Finance, Department of Justice, Department of Resources and Development, Department of Foreign Affairs and FSMTC. TBTF reports to the President and is the overall steering committee for the Project for FSM. DTCI serves as secretariat for TBTF and is the point of contact for stakeholders including the World Bank. In addition, FSM and the Republic of Palau, by Memorandum of Understanding executed by the Presidents of each country, created the MicroPal Committee. The MicroPal Committee consists of three representatives from each country, and serves as steering committee for the Palau-Yap-Guam cable segment and single point of contact for the shared FSM and Palau elements of Component 1A.

MicroPal has retained a Project Manager, reporting to the MicroPal Committee, to support implementation of Component 1A and manage technical issues. MicroPal is also responsible for assisting in the creation of the Palau Cable Company and FSM Cable Companies.

The FSM Cable Company, one once it is established and made operational, will take over responsibility for FSM connectivity infrastructure financed under Component One. Palau will also establish Palau Cable Company which will be responsible for Palau's interests on the Palau-Yap-Guam segment. It is envisaged that each cable company will undertake procurement of the entire cable system jointly, including the Pohnpei to Chuuk segment, according to their respective financial obligations as specified in a Joint Venture Agreement (JVA) and Construction and Maintenance Agreement (CMA), executed by the two companies. All rights and obligations under the regional cable consortium (as described in the JVA and CMA) will be transferred to and assumed by the FSM and Palau cable companies once construction is complete. At that point, FSM Cable Company will (i) hold and manage an undivided one half interest in the Palau-Yap-Guam cable system, excluding the onshore FSM system assets; (ii) own and manage the onshore FSM cable system assets in Yap, primarily the Landing Station and the point of interconnection for domestic operators to interconnect with the cable system; (iii) own and manage the Chuuk cable system assets; and (iv) own and manage the O3b contract and related system assets for Kosrae. These arrangements will require the following legal documents: (a) a Grant Agreement between IDA and the Recipient; (b) a subsidiary agreement between the Recipient and the FSM Cable Company; and (c) a Project Agreement between IDA and the FSM Cable Company.

DTCI will be responsible for Component 2(a) (TA for the design and ownership structure of existing and new submarine cable infrastructure) and Component 2(b) (TA for the reform and development of FSMTC). It will also be responsible for Component 2(c) (sector regulation and regulatory capacity development) until such time as the Regulator is established and ready to assume its statutory duties.

DTCI will also be responsible for the overall coordination, implementation, and supervision of the Project. It will recruit and supervise under Component 3 the activities of a Project Coordinator who will support DTCI, DOFA, the FSM Cable Company, and the Office of the Regulator as needed. The Project Coordinator will coordinate with the entities responsible for implementation; prepare annual work programs and procurement plans; disseminate internal and external audit reports; and lead the interaction with the World Bank for procurement documents, evaluation reports, etc. The Project Coordinator will seek inputs from the Department of Finance and Administration (DoFA) for overall Project financial management and financial reporting. A financial management specialist will be retained by DoFA to assist with the additional workload required of the DoFA to complete budgets, audits and financial reporting under the Project.

In addition to the management and fiduciary support envisaged under this Project, the World Bank will provide intensified implementation review support through a World Bank-executed PRIF grant covering Palau, FSM, and the Marshall Islands. This will entail engagement of dedicated consultants for regular country visits and policy dialogue.

#### B. Results Monitoring and Evaluation

The Project Coordinator will be responsible for Project monitoring and evaluation (M&E) of progress and outcomes. The Project Coordinator will establish a standard format and guidelines for data collection and reporting and will submit to DCTI the M&E quarterly report that will include the

updated Results Framework and the Action Table, listing the corrective actions to be implemented with deadlines and persons responsible clearly identified. A copy of the report will be provided to the World Bank.

The views of direct beneficiaries will be brought into the monitoring and evaluation process. Inputs also will be sought from other beneficiaries such as telecommunications operators and private ICT firms, which ultimately are the main beneficiaries of the proposed Project's outcomes. This will be done through periodic consultations and routine reporting. Once established input from the Office of the Regulator will be sought and incorporated in the M&E report.

Implementation support missions will be conducted at least twice a year. It is expected that the Government of FSM will perform evaluations jointly with the World Bank team and conduct supervision or implementation support missions at least twice a year.

### C. Sustainability

The Government of FSM has placed ICT at the center of its new growth strategy, as demonstrated in its 2012 ICT policy. FSM has already landed a submarine cable for Pohnpei, which demonstrates the Government's commitment to the transformational potential of investments in ICT infrastructure. Additional commitment to telecommunications reform is evident in the Government's recent support for the enactment of the new FSM Telecommunications Act of 2014.

Legal and regulatory reform is a critical component to promote long-term sustainability. Predictability and transparency of the legal and regulatory framework that is conducive to private sector participation and competition will increase the demand for affordable quality ICT services, including advanced applications. The regulatory authority will be supported under this Project during its initial establishment phase. Longer term, the regulator is expected to generate sufficient resources and capacity through license and regulatory fees to become a self-funded institution and sustain the required regulatory capacity to supervise sector development; sustainability will be enhanced if a regional approach is adopted which enables cost-sharing of the regulatory function across the Republic of the Marshall Islands, FSM and/or Palau.

Pooling the assets under the same corporate entity would improve the attractiveness of the three contemplated connectivity projects compared to running the projects severally. The strong cash flows delivered by the Chuuk component would be mainly used to compensate the limited profitability of the Yap and especially the Kosrae components. The profitability surplus redistribution and the cross-subsidies benefits would also allow an attractive price for bandwidth across the three states.

Improved coverage and prices will be sustained through the implementation of increased demand for international bandwidth. Improved service coverage and quality at more competitive prices for international connectivity and for data services will be sustained as it will create opportunities for increased use and the introduction of applications which depend upon high speed bandwidth. With the focus on building sustainable capacity in the Regulator and FSMTC, as key participants in the sector, the benefits of the proposed Project are expected to last beyond Project completion.

## VI. Safeguard Policies (including public consultation)

| Safeguard Policies Triggered by the Project | Yes | No |
|---|-----|----|
|---|-----|----|



|  |   |   |
|--|---|---|
| Environmental Assessment OP/BP 4.01            | x |   |
| Natural Habitats OP/BP 4.04                    | x |   |
| Forests OP/BP 4.36                             |   | x |
| Pest Management OP 4.09                        |   | x |
| Physical Cultural Resources OP/BP 4.11         | x |   |
| Indigenous Peoples OP/BP 4.10                  |   | x |
| Involuntary Resettlement OP/BP 4.12            |   | x |
| Safety of Dams OP/BP 4.37                      |   | x |
| Projects on International Waterways OP/BP 7.50 |   | x |
| Projects in Disputed Areas OP/BP 7.60          |   | x |

**Comments (optional)**

**VII. Contact point**

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