



# Report and Recommendation of the President to the Board of Directors

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Project Number: 44382  
September 2012

## Proposed Loan and Grant Solomon Islands: Broadband for Development Project

## CURRENCY EQUIVALENTS

(as of 22 August 2012)

Currency unit	–	Solomon Islands dollar/s (SI\$)
\$1.00	=	SI\$6.99
SI\$1.00	=	\$0.14

## ABBREVIATIONS

ADB	–	Asian Development Bank
ADF	–	Asian Development Fund
ANZ	–	Australia and New Zealand Banking Group
CEO	–	chief executive officer
GB	–	gigabyte (1GB = 1,000,000,000 bytes)
Gbps	–	gigabits per second (1 Gbps = 1,000,000,000 bits per second)
GDP	–	gross domestic product
IRU	–	Indefeasible Right of Use
Mbps	–	megabits per second (1 Mbps = 1,000,000 bits per second)
PPC-1	–	PIPE Pacific Cable 1
PSOD	–	Private Sector Operations Department
SCS	–	submarine cable system
SDR	–	special drawing right
SOCC	–	Solomons Oceanic Cable Company

## NOTES

- (i) In this report, “\$” refers to US dollars unless otherwise stated.

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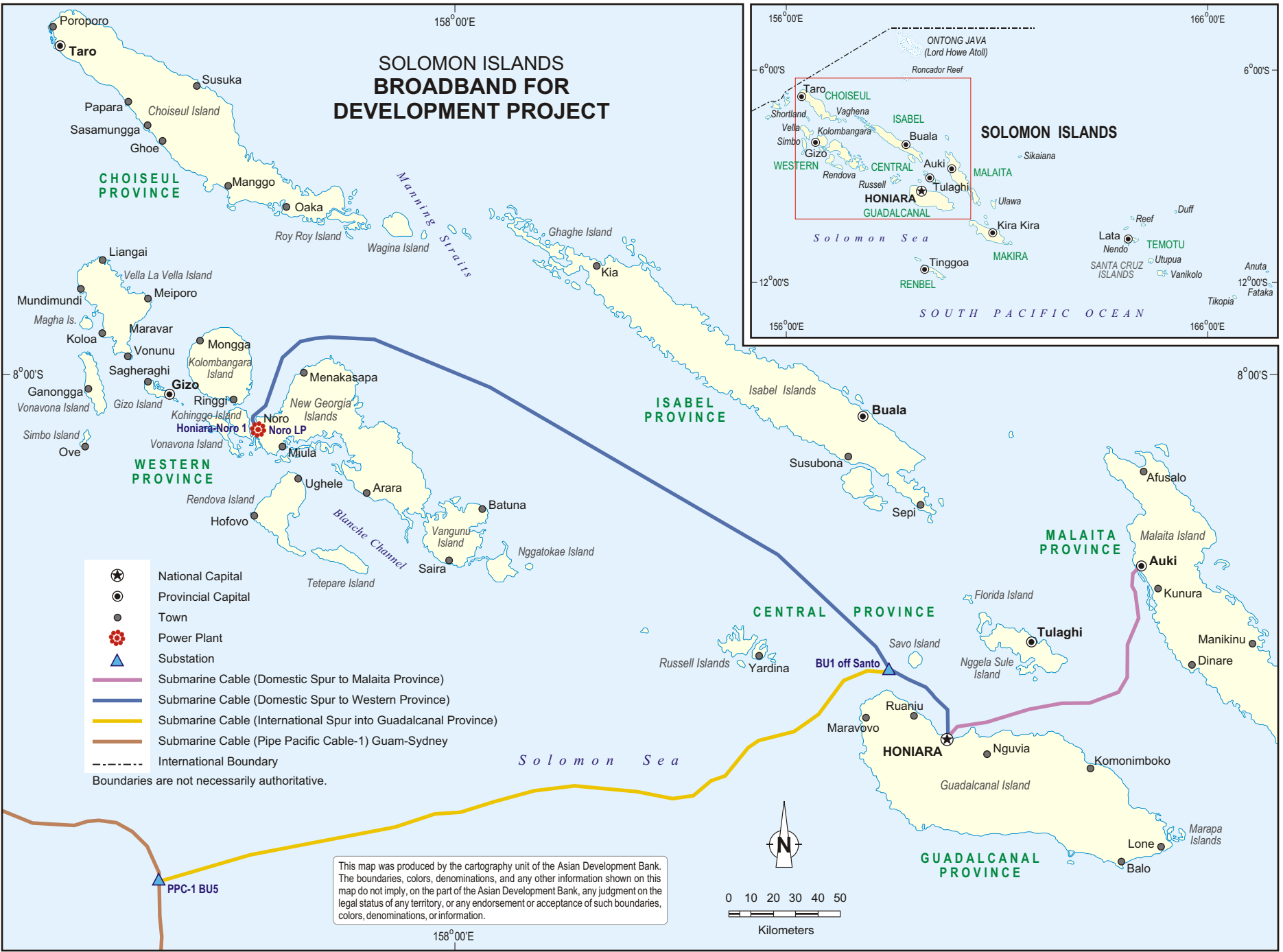
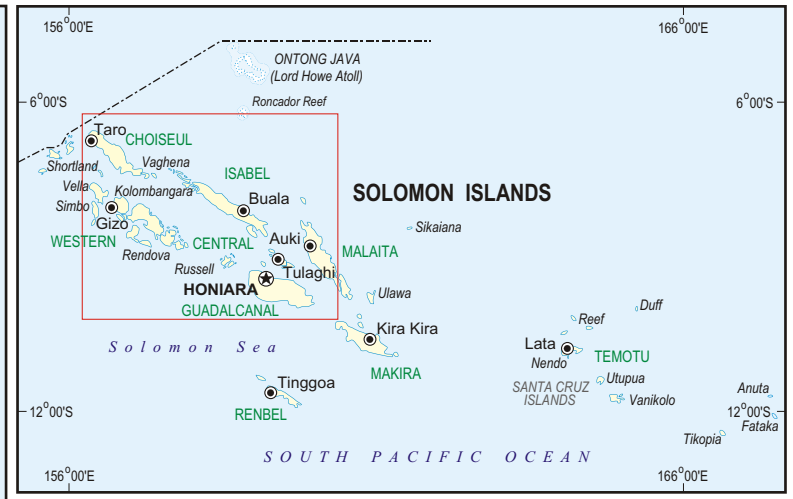
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## PROJECT AT A GLANCE

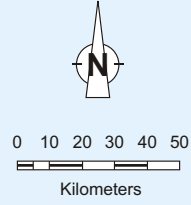
<b>1. Project Name:</b> Broadband For Development Project (formerly Pacific Regional ICT Connectivity Project – Phase 2)		<b>2. Project Number:</b> 44382	
<b>3. Country:</b> Solomon Islands		<b>4. Department/Division:</b> Pacific Department/Urban, Social Development & Public Management Division	
<b>5. Sector Classification:</b>			
<b>Sectors</b>		<b>Primary</b>	<b>Subsectors</b>
Transport, and information and communication technology		√	Information and communication technology
<b>6. Thematic Classification:</b>			
<b>Themes</b>		<b>Primary</b>	<b>Subthemes</b>
Economic growth		√	Widening access to markets and economic opportunities
Private sector development			Private sector investment
Regional cooperation and integration			Cross-border infrastructure
<b>6a. Climate Change Impact</b> No Climate Change Indicator available.		<b>6b. Gender Mainstreaming</b>	
		Gender equity theme (GEN)	
		Effective gender mainstreaming (EGM)	
		Some gender elements (SGE)	
		No gender elements (NGE) <span style="float: right;">√</span>	
<b>7. Targeting Classification:</b>		<b>8. Location Impact:</b>	
General Intervention	Targeted Intervention		
	Geographic dimensions of inclusive growth	Millennium development goals	Income poverty at household level
√			
		National <span style="float: right;">High</span>	
		Rural <span style="float: right;">Low</span>	
		Urban <span style="float: right;">High</span>	
<b>9. Project Risk Categorization:</b> Low risk			
<b>10. Safeguards Categorization:</b>			
Environment		B	
Involuntary resettlement		B	
Indigenous peoples		C	
<b>11. ADB Financing:</b>			
Sovereign/Nonsovereign	Modality	Source	Amount (\$ Million)
Sovereign	Project loan	Asian Development Fund	10.5
	Project Grant	Asian Development Fund	7.5
Total			18
<b>12. Cofinancing:</b>			
Financier	Category	Amount (\$ Million)	Administration Type
Commercial financier	Commercial debt	25.7	Not ADB Administered
Total		25.7	
<b>13. Counterpart Financing:</b>			
Source		Amount (\$ Million)	
Solomons Oceanic Cable Company		10	
Solomon Islands Government (tax and duties exemption)		6.3	
Total		16.3	
<b>14. Aid Effectiveness:</b>			
Parallel project implementation unit		No	
Program-based approach		No	

# SOLOMON ISLANDS BROADBAND FOR DEVELOPMENT PROJECT



- National Capital
  - Provincial Capital
  - Town
  - Power Plant
  - Substation
  - Submarine Cable (Domestic Spur to Malaita Province)
  - Submarine Cable (Domestic Spur to Western Province)
  - Submarine Cable (International Spur into Guadalcanal Province)
  - Submarine Cable (Pipe Pacific Cable-1) Guam-Sydney
  - International Boundary
- 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 (i) a proposed loan, and (ii) a proposed grant, both to Solomon Islands for the Broadband for Development Project.<sup>1</sup>

## II. THE PROJECT

### A. Rationale

2. **Geography and economy.** Solomon Islands is one of the largest countries in Melanesia, with a land area of about 28,000 square kilometers. The country comprises six large islands, dozens of smaller islands, and hundreds of islets and atolls. About 85% of the population of 550,000 lives in rural areas spread across the islands, living in widely dispersed villages, most of which have a few hundred inhabitants. The economy is based on primary commodities from agriculture, forestry, and fishing; alternative income-generating opportunities are scarce, especially in rural areas.

3. **Disparity and isolation.** Solomon Islands has the second-lowest average income in the region, with an estimated gross domestic product (GDP) per capita of \$1,347 in 2010 (current prices). Income distribution is uneven, with rural expenditure levels significantly below expenditure levels in urban areas. Social indicators are improving, but remain among the worst in the region. Electricity, water, transport, and telecommunication services are not available to a large percentage of the population.<sup>2</sup> Lack of access to markets and services,<sup>3</sup> combined with high transport and communication costs, leaves much of the geographically isolated portion of the country economically isolated from national and regional markets.<sup>4</sup> These factors also limit provision of access to basic services, a situation which is exacerbated by the lack of affordable, fast and reliable data traffic. Investments in submarine cables for the smaller islands of the Pacific have meanwhile been limited, primarily due to (i) the requirement for large up-front capital investments, (ii) a long period of return on investments, and (iii) the inability of the small private sector to mobilize the large investment that is required.

4. **Expected benefits from broadband connectivity.** Such constraints to economic and social development can be mitigated by improved access to more affordable telecommunications, particularly high-speed (broadband) internet, that offers new economic opportunities domestically, as well as connections to larger markets, and new avenues for the delivery of key social services.<sup>5</sup> In addition to the expected positive socioeconomic impact in Solomon Islands, improved broadband connectivity is also expected to increase the frequency and quality of communications among the countries in the region, facilitating a growth in trade-related services such as tourism and back-office functions. A recent World Bank study indicates that a 10% increase in broadband penetration results in a 1.38% increase in GDP growth in low- and middle-income countries.<sup>6</sup> Such impacts result from (i) reduced transaction costs for business, government, and household communications; (ii) new business opportunities such as

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<sup>1</sup> The design and monitoring framework is in Appendix 1. The project is phase 2 of the Pacific Regional Information and Communications Project, which seeks to improve connectivity in selected Pacific countries. Under phase 1, ADB and the World Bank supported the development of a submarine cable system (SCS) linking Tonga to Fiji (ADB 2011. Tonga-Fiji Submarine Cable Project. Manila).

<sup>2</sup> Solomon Islands has also been identified as a core fragile state since 2007.

<sup>3</sup> Government of Solomon Islands. 2011. *National Development Strategy, 2011–2020*. Honiara.

<sup>4</sup> ADB. 2012. *Country Partnership Strategy: Solomon Islands, 2012–2016*. Manila.

<sup>5</sup> The Central Bank of Solomon Islands estimates the share of the information and communication technology sector at 1.5% of GDP in 2011.

<sup>6</sup> World Bank. 2009. *Information and Communications for Development 2009: Extending Reach and Increasing Impact*. Washington, DC.

investments in e-commerce and business process outsourcing facilities; and (iii) improved public service delivery, in particular through (a) the introduction of e-education and e-health services; (b) the remote delivery of agricultural extension, policing, judicial, employment, disaster management and other public services; and (c) mobile banking. As an immediate result of the SCS, wholesale bandwidth prices are expected to halve, leading to a conservatively estimated retail price reduction of 20%.

5. **Telecommunications market.** Solomon Islands introduced a second mobile operator in 2010, and competition has already resulted in a 29% reduction in mobile telephony prices and an improvement in the quality of services.<sup>7</sup> Access to affordable, good quality broadband internet-based services, however, has so far remained out of reach (Table 1). The limited capacity and high cost of international bandwidth is caused by a total dependence on satellite connectivity, which is also the principal constraint to higher broadband penetration, the introduction of new telecommunications services, and new market entrants.

**Table 1: Market Indicators**

Item	2009	2011
<b>Mobile network</b>		
Subscribers	57,000	274,872
Penetration rate (%)	11	53
Network coverage (%)	10	67
<b>Internet / broadband</b>		
Subscribers	1,276	21,133
Penetration rate (%)	<1	4

Source: Telecommunications Commission of Solomon Islands. 2012. *Annual Report 2011*. Honiara.

6. The 2012 wholesale price for two-way satellite capacity is roughly \$3,600 per megabit per second (Mbps) per month. With normal growth, bandwidth demand in Solomon Islands is projected to increase to 1.243 gigabits per second (Gbps) by 2032. It would be impossible to meet the growing demand using the current satellite capacity and price. The submarine cable system (SCS) will provide substantially higher initial capacity of 10 Gbps and is expected to reduce international connectivity costs by more than 60%.<sup>8</sup> In 2012, the cheapest broadband internet subscription costs roughly \$60 per month, which is about 28% of average monthly income (approximated using GDP per capita in 2010).

7. **Government policy and strategy.** Following endorsement of the government's debt management strategy in June 2012, Solomon Islands is resuming its first borrowing since 2005. The government considers the SCS a national asset and an immediate investment priority, thus recognizing the potentially significant contribution that improved broadband connectivity can make in addressing the constraints imposed by geographic and economic isolation, and promoting inclusive growth.<sup>9</sup> The Government is currently developing a national ICT strategy, which is expected to be adopted by 31 December 2013.

8. **Asian Development Bank (ADB), development partner, and private sector support.** Supporting inclusive growth and investment in information and communication technology are important elements of ADB's Pacific Approach (which provides broad operational focus) and the country operations business plan, 2012–2014 for Solomon Islands.<sup>10</sup> ADB's sovereign financing has leveraged roughly \$33 million of commercial financing for the Solomons Oceanic Cable

<sup>7</sup> Telecommunications Commission of Solomon Islands. 2012. *Annual Report 2011*. Honiara.

<sup>8</sup> ADB estimates, based on regional references.

<sup>9</sup> Correspondence from Ministry of Finance and Treasury to the Solomon Islands National Provident Fund, dated 25 November and 13 December 2011, respectively.

<sup>10</sup> ADB. 2009. *ADB's Pacific Approach, 2010–2014*. Manila; ADB. 2011. *Country Operations Business Plan: Solomon Islands, 2012–2014*. Manila.

Company (SOCC), thereby minimizing public debt liabilities. ADB's investment support is complemented by World Bank technical assistance to support the Telecommunications Commission of Solomon Islands, which has regulatory responsibility for telecommunications, and the Ministry of Communication and Aviation, which is developing a national ICT strategy.<sup>11</sup>

## **B. Impact and Outcome**

9. The impact will be increased broadband-based economic opportunities, and broadband-based improvements in the inclusive delivery of social services. The outcome will be that the population of Solomon Islands increasingly uses good quality broadband internet services at affordable prices.

## **C. Outputs**

10. The output will be a fully operational Solomon Islands SCS, linked to an existing international submarine cable network that runs between Guam and Sydney (PIPE Pacific Cable 1, or PPC-1).<sup>12</sup> An international spur<sup>13</sup> into Guadalcanal (landing in Honiara) and two domestic spurs linking Guadalcanal with Malaita (landing in Auki) and the Western Province (landing in Noro) will have jointly opened telecommunications access to roughly 72% of the country's population. The SCS is expected to be ready for service by December 2013, operated by the SOCC.

## **D. Investment and Financing Plans**

11. The project is estimated to cost \$60 million.<sup>14</sup> The financing is structured to include Asian Development Fund (ADF) loan and grant funds, commercial financing, and equity brought in by SOCC. ADB sovereign financing and SOCC equity cover about 50% of the total financing required for the project, while SOCC is in an advanced stage of negotiations over commercial debt financing. The investment plan is summarized in Table 2. Detailed cost estimates by expenditure category and by financier are in the project administration manual.<sup>15</sup>

12. To demonstrate the government priority and commitment to foster the private sector led operation of the SCS, and to help leverage the required commercial funds, the government requested a loan from the ADB in various currencies equivalent to Special Drawing Rights (SDR) 6,997,000 from ADB's Special Funds resources to help finance the project. The loan will have a 32-year term, including a grace period of 8 years, an interest rate of 1.0% per annum during the grace period and 1.5% per annum thereafter, and such other terms and conditions set forth in the draft financing and project agreements. Under the recently endorsed debt management strategy,<sup>16</sup> Solomon Islands can only afford to take on limited borrowing. Therefore, the government has also requested a grant not exceeding \$7.5 million from ADB's Special Funds resources to help finance the project. The financing plan is in Table 3.

<sup>11</sup> As anchored in the Telecommunications Act, 2009.

<sup>12</sup> Submarine Cable Map. <http://www.submarinecablemap.com/>

<sup>13</sup> PIPE Networks (the owners of PPC-1) have confirmed in writing that connecting the international spur must coincide with repair work on PPC-1 for which the cable needs to be lifted (scheduled for July 2013). Consequently, not meeting this timeline poses a major risk to the project, including the economic loss of existing investments.

<sup>14</sup> Inclusive of \$6.3 million taxes and duties on capital goods, which is expected to be exempted by the government.

<sup>15</sup> Project Administration Manual (accessible from the list of linked documents in Appendix 2).

<sup>16</sup> Government of Solomon Islands, Ministry of Finance and Treasury. 2012. *Debt Management Strategy*. Honiara. The project meets key borrowing criteria from the strategy: the sovereign share contains a 42% grant component (requirement: 35%); the rates of return are high: 22% financial, 37% economic; and it addresses a critical constraint that has been identified in the National Development Strategy.



**Table 2: Project Investment Plan<sup>17</sup>**  
(\$ million)

Item	Amount <sup>a</sup>
<b>A. Base Cost</b>	
1. Civil works <sup>a</sup>	0.7
2. Submarine cable system (international spur) <sup>a</sup>	22.5
3. Submarine cable system (domestic spurs) <sup>b</sup>	11.9
4. Indefeasible right of use <sup>b</sup>	5.5
5. Connectivity costs <sup>a</sup>	0.9
6. Permits and fees <sup>a</sup>	2.9
7. Consulting services <sup>a</sup>	2.9
8. Solomons Oceanic Cable Company management <sup>a</sup>	3.4
<b>Subtotal (A)</b>	<b>50.7</b>
<b>B. Contingencies<sup>c</sup></b>	<b>3.0</b>
<b>C. Taxes and duties<sup>d</sup></b>	<b>6.3</b>
<b>D. Financing charges during implementation<sup>e</sup></b>	<b>0.1</b>
<b>Total (A+B+C+D)</b>	<b>60.0</b>

<sup>a</sup> Equity and/or commercial debt.

<sup>b</sup> ADF loan (58%); ADF grant (42%).

<sup>c</sup> Contingency for domestic spurs (estimated at \$500,000) financed from ADF loan (58%) and ADF grant (42%).

<sup>d</sup> Expected to be exempted by the government.

<sup>e</sup> To be charged to the loan account.

Source: Asian Development Bank estimates.

13. The government will make the proceeds of the loan and grant available to SOCC through an onlending arrangement.<sup>18</sup> SOCC will provide counterpart financing equivalent to \$10.0 million; \$25.7 million will be financed through commercial debt incurred by SOCC, and the government is expected to contribute \$6.3 million through tax and duty exemptions on imported capital goods. This means that more than 50% of the project is commercially financed.

**Table 3: Financing Plan<sup>19</sup>**

Source	Amount (\$ million)	Share of Total (%)
Asian Development Fund (loan)	10.5	17
Asian Development Fund (grant)	7.5	13
Commercial debt	25.7	43
Solomons Oceanic Cable Company (equity)	10.0	17
Government of Solomon Islands (taxes and duties exemption)	6.3	11
<b>Total</b>	<b>60.0</b>	<b>100</b>

Source: Asian Development Bank estimates.

## E. Implementation Arrangements

14. The Ministry of Finance and Treasury will be the executing agency responsible for the overall administration of the project. SOCC will be the implementing agency. SOCC was

<sup>17</sup> Exclusive of the following non-core project funding: (i) Senior Secured Loan of \$2 million (Debt Service Reserve Account); (ii) Senior Secured Loan of \$1 million (Maintenance Reserve Account); (iii) Senior Secured Contingent Construction Facility of \$3 million; and (iv) Senior Secured Revolving Working capital Facility of \$1 million), all of which will be financed through the commercial debt component. Transport and insurance costs may be financed by ADB.

<sup>18</sup> The draft terms and conditions, which are subject to ADB endorsement, are (i) 4% interest over the loan component; (ii) 1.5% interest over the grant component; (iii) 25-year payback period, inclusive of a grace period of 8 years. This will be formalized in a subsidiary loan agreement between the Ministry of Finance and Treasury and SOCC.

<sup>19</sup> The financing plan is firm in terms of its structure, and negotiations between the prospective commercial financiers, MoFT and SOCC are at an advanced stage (a signed common term sheet is expected to be in place by 14 September). Financial closing of the commercial lending is expected by the end of November, 2012.

incorporated under the Companies Act, 2009 on 15 September 2011.<sup>20</sup> SOCC is currently owned by the Solomon Islands National Provident Fund and Solomon Telekom Company Limited. The implementation arrangements are summarized in Table 4 and described in detail in the project administration manual.

**Table 4: Implementation Arrangements**

Aspects	Arrangements		
Implementation period	October 2012–October 2017		
Estimated completion date	31 October 2017		
<b>Management</b>			
(i) Executing agency	Ministry of Finance and Treasury		
(ii) Key implementing agency	Solomons Oceanic Cable Company		
(iii) Implementation unit	One chief executive officer, one head of engineering, and one office manager. Outsourced (intermittent services): marine maintenance, Network Operations Centre, landing station management, project management, information technology support, financial accounting, auditing and legal services. All staff are located in Honiara.		
Procurement	International competitive bidding (domestic spurs)	1 contract	\$11.9 million <sup>a</sup>
	Direct contracting (indefeasible right of use)	1 contract	\$5.5 million <sup>a</sup>
	International competitive bidding (terminal equipment)	1 contract	\$0.7 million <sup>a</sup>
	Direct contracting (international spur)	1 contract	\$22.5 million <sup>b</sup>
Consulting services	International competitive bidding	2 contracts	\$2.8 million <sup>b</sup>
	National competitive bidding	1 contract	\$100,000 <sup>b</sup>
Retroactive financing and/or advance contracting	Solomons Oceanic Cable Company requested advance procurement action for the submarine cable system up to bid evaluation. Retroactive financing may be required to facilitate timely award of supply contracts. Withdrawals from the loan account and the grant account may be made for reimbursement of eligible expenditures incurred under the project before the effective date, but not earlier than 12 months before the date of the financing agreement, subject to a maximum amount equivalent to 20% of the loan amount and 20% of the grant amount.		
Disbursement	The loan and grant proceeds will be disbursed in accordance with ADB's <i>Loan Disbursement Handbook</i> (2012, as amended from time to time) and detailed arrangements agreed upon between the government and ADB.		

ADB = Asian Development Bank.

<sup>a</sup> ADB financed.

<sup>b</sup> Commercially financed.

Sources: Asian Development Bank, Solomons Oceanic Cable Company.

15. SOCC's corporate governance arrangements are defined in its company rules. SOCC is governed by a board comprising four directors, and currently led by a chief executive officer (CEO) with a long experience in the submarine cable industry (including 10 years as CEO of the Australia–Japan Cable). The board is currently assisted by an experienced financial adviser (a former ANZ staff member). A core SOCC team—consisting of the CEO, a head of engineering, and an office manager—will be based in Honiara to manage network construction and establish ongoing marketing and operations. Once a stable operating environment is established, the CEO role will be merged with the head of engineering. The following operational and business functions will be outsourced: marine maintenance, the Network Operations Centre, landing station management, project management, information technology support, financial accounting, auditing and legal services.

16. The lack of an established procurement unit in SOCC poses a risk to the project. Mitigation measures include (i) intense support from ADB in the preparation of bid documents; (ii) establishment of a bid evaluation committee, comprising SOCC's CEO and two highly

<sup>20</sup> Company Haus of Solomon Islands. <http://www.companyhaus.gov.sb/app/viewInstance/413487>

experienced consultants from the industry; (iii) strict review of the bid evaluation report by the ADB; and (iv) the establishment of a records management system at SOCC.

17. Advance action will be required for procurement of the indefeasible right of use (direct procurement) and the domestic spurs (international competitive bidding). Retroactive financing may be required to ensure mobilization payments to the suppliers of the domestic spurs.

### III. DUE DILIGENCE

#### A. Technical

18. The insertion of a new branching unit on PPC-1 with a cable spur to Honiara has been selected as the most feasible and least-cost international option (Table 5). Landing sites in Honiara, Noro, and Auki were selected based on the suitability of the shoreline, availability of land, and minimum disruption to the marine environment and human activities. The cable landing stations and auxiliary facilities will be located by arrangement with Solomon Telekom Company Limited in their existing secure telecommunication facilities near each landing site.

**Table 5: Summary of International Cable Routes Considered**

Option	Capital expenditure <sup>a</sup> (\$ million)	Recommendation
Cable to a new branching unit on PPC-1	30.0	Selected as best overall option
Cable to Coolum, Australia	60.7	Eliminated due to much higher cost
Cable to Vanuatu	44.5	Eliminated due higher cost and need for onward connection via Fiji
Spur to an existing Telikom PNG-owned BU3 on PPC-1	39.2	Would be second choice but carries significant risk of execution failure

BU3 = branch unit 3, PNG = Papua New Guinea, PPC-1 = PIPE Pacific Cable 1.

<sup>a</sup> Estimates include indefeasible right of use and required permits.

Source: Asian Development Bank.

19. SOCC will obtain all permits required for the international and domestic cables. Once the detailed cable route for the domestic spurs is confirmed by a marine survey, the government can, if necessary, declare the cable-passing area as no-anchor zone for shipping to avoid any damage from vessel activity. The viability of the system will be ensured by choosing only proven submarine cable technology from well-established and reputable suppliers. A small number of technical support staff will be fully trained in the operation of the system before the anticipated ready-for-service date (December 2013).

#### B. Economic and Financial

20. As an immediate result of the project, i.e., reduced prices, users of existing mobile services (voice and data) will enjoy an increase in their consumer surplus. Increased affordability will also lead to an increase in the number of new users. Wholesale bandwidth prices are expected to halve, more or less, leading to a conservatively estimated retail price reduction of 20%. Other benefits may be substantial but are more difficult to analyze quantitatively. They include (i) the improved efficiency and quality of public service delivery through the introduction of broadband based delivery modalities; (ii) reduction in the cost of doing business, resulting in efficiency gains for the private sector; (iii) mobile banking; and (iv) incremental economic growth.

21. Benefits are assumed to increase over time as the population grows and incomes increase. Projected GDP growth is applied to the benefits computed in the first year the cable

comes into service. In the first year it is assumed that 50% of the computed benefits will actually accrue to beneficiaries, increasing to 100% in the third year. The project appears to be highly socially profitable, with a projected economic rate of return of 37%.

22. The cost of SOCC equity was assumed to be 15%, and the cost of commercial debt 6.5%. ADB's grant and loan to the government will be onlend to SOCC at a blended rate of 2.95%. The resulting weighted average cost of capital is 3.75%. The financial internal rate of return is 22%, calculated using a 15% hurdle rate over 18 years, including the construction period of 2 years. This far exceeds the estimated cost of capital and clearly indicates the financial viability of the project.<sup>21</sup> As the project is for a revenue-generating entity, a discount rate of 15% was used for the net present value to examine commercial viability. The financial evaluation indicates that the project has a healthy net present value, which only becomes negative when revenue decreases by 15% or more.

### C. Governance

23. **Public financial management and procurement.** The main public financial management risk concerns the capacity of the Ministry of Finance and Treasury to appropriately onlend and administer the loan and grant proceeds to SOCC. This risk is mitigated by (i) the current and ongoing capacity development support to the debt management unit within the ministry; and (ii) ADB making direct payments to the suppliers of the domestic spurs and the IRU.<sup>22</sup> Wider support for the strengthening of public financial management is provided through the ongoing Economic Recovery Support Program (Subprogram 2).<sup>23</sup>

24. At the project level, a financial assessment conducted of the implementing agency found the project's overall risk profile to be moderate, mitigated by the appointment of a firm of accountants and an office manager and bookkeeper to ensure transactions are appropriately classified and a set of accounts maintained. In addition, SOCC will recruit two highly experienced consultants to assist in managing the procurement process (bid documents are prepared as part of project preparatory technical assistance). Annual audits will be performed by a locally recruited firm.

25. The risk of excessive and/or unproductive borrowing by the government is mitigated by the endorsement of a debt management strategy in June 2012. The strategy comes with clear objectives for debt management and provides a framework for the government to resume prudent borrowing for projects that provide revenue or key infrastructure to increase the wellbeing of Solomon Islanders. Finally, the government will onlend to SOCC, so the primary debt servicing responsibility rests with the implementing agency.

26. **Corruption.** Reports on corruption throughout the public service persist. However, substantial progress has been made in developing institutional capacity to address corruption following the arrival in 2003 of the Regional Assistance Mission to Solomon Islands and reestablishment of law and order. This is reflected in the World Bank's governance indicator for the control of corruption, which shows a marked improvement from 5.9 in 2003 to 38.8 in 2010.<sup>24</sup>

<sup>21</sup> The availability of a sovereign component in the financing plan has been crucial in securing the equity and commercial debt shares.

<sup>22</sup> Regional Assistance Mission to Solomon Islands. Public Financial Management. <http://www.ramsi.org/our-work/economic-governance/public-financial-management.html>

<sup>23</sup> ADB. 2011. *Report and Recommendation of the President to the Board of Directors: Proposed Grant for Subprogram 2 to Solomon Islands for the Economic Recovery Support Program*. Manila.

<sup>24</sup> [http://info.worldbank.org/governance/wgi/sc\\_chart.asp](http://info.worldbank.org/governance/wgi/sc_chart.asp)

27. **Sector regulation.** Solomon Telekom Company Limited, which is one of the two retail providers, owns a 49% share in SOCC, which poses the risk of preferential treatment. This risk is mitigated through the implementation of the Telecommunications Act, 2009 as overseen by the Telecommunications Commission of Solomon Islands. The existence of the act and the continued presence of a fully operational telecommunications commission should provide the necessary assurance, by intervention if needed, that the owners and operator of the SCS will provide wholesale capacity on a fair and equitable basis to all its wholesale customers and that the availability of much lower-cost, higher-quality broadband internet is passed on to businesses, government, and consumers. As an additional risk mitigation measure, SOCC will publish a reference offer, setting out standard terms and conditions under which wholesale services will be provided.

28. ADB's Anticorruption Policy (1998, as amended to date) was explained to and discussed with the government and the Ministry of Finance and Treasury. The specific policy requirements and supplementary measures are described in the project administration manual.<sup>25</sup>

#### **D. Poverty and Social**

29. In addition to wider socioeconomic benefits discussed above, the immediate contribution of the project to the country's social and poverty profile lies in a substantial decrease in telecommunication costs, leading to a greater affordability of services to wider segments of the population, in particular those who are geographically and economically isolated and disadvantaged (wholesale bandwidth prices are expected to halve, leading to a conservatively estimated retail price reduction of 20%). ADB will also provide parallel support to the Government to realize the expected socio-economic and poverty benefits, through the development of broadband applications in the delivery of critical public services, including health and education services.<sup>26</sup>

#### **E. Safeguards**

30. Environment, involuntary resettlement, and indigenous peoples' impacts were assessed in accordance with ADB's Safeguard Policy Statement (2009). Proposed cable laying and minor civil works will not result in any significant adverse environmental or social impacts, and all potential environmental impacts can be adequately mitigated and managed and will be monitored. An initial environmental examination, incorporating an environmental management plan, has been prepared for the project.<sup>27</sup> The project is classified as environmental category B. The project does not involve any physical displacement, and no indigenous people issues have been identified. The cable will be laid along existing road and property boundaries on public, customary, and private land. Land access and easements across customary and private land will be obtained through negotiated agreements with the respective land owners, guided by the resettlement plan prepared in compliance with the Safeguard Policy Statement.<sup>28</sup> The project is classified under involuntary resettlement category B and indigenous peoples category C. The safeguard documents will be endorsed by the government and SOCC, disclosed locally by SOCC, and posted on the ADB website.

<sup>25</sup> Project Administration Manual (accessible from the list of linked documents in Appendix 2).

<sup>26</sup> In addition, the 2011 country performance assessment highlights critical weaknesses in the area of social inclusion and the effectiveness of the public administration.

<sup>27</sup> Initial Environmental Examination (accessible from the list of linked documents in Appendix 2).

<sup>28</sup> Resettlement Plan (accessible from the list of linked documents in Appendix 2).

## F. Risks and Mitigating Measures

31. Major risks and mitigating measures are summarized in Table 6 and described in detail in the risk assessment and risk management plan.<sup>29</sup> Significant project risk arises from the fact that the connection of the international spur to PPC-1 must coincide with the scheduled maintenance of PPC-1 in July 2013. A delay in any of the key project milestones—especially a delay in the award or execution of contracts, a failure to obtain timely commercial cofinancing resources for the project, or a delay in disbursements—could mean that the project is not implemented at all or that the economic value of certain project expenditures would be severely impaired. All parties involved in the project are keenly aware of this risk and are making every effort to adhere to project milestones so as to mitigate this delay risk. The integrated benefits and impacts of the project are expected to outweigh the costs.

**Table 6: Summary of Risks and Mitigating Measures**

<b>Risks</b>	<b>Mitigating Measures</b>
Delays in project preparation lead to missing the engineering deadline of July 2013 to install the branching unit on PPC-1	Strict process management, and strict adherence by all parties to preparation milestones, to ensure that the deadline is met
Government highly vulnerable to excessive borrowing	The project is private sector-led, through equity contributions by SOCC, and gearing with commercial debt. Government borrowing for the project is limited to \$10.5 million (or 17.5% of total financing). Primary debt servicing responsibility rests with SOCC (this is also true for the sovereign component).
Failure to reach agreement on the commercial debt component results in a financing gap	(i) the availability of a substantial sovereign component in the financing plan; (ii) political support at the highest levels of the Solomon Islands Government; (iii) a common term sheet agreed by the commercial partners; (iv) coordination of the commercial due diligence; (v) in-principle agreement on the relative share of the commercial debt to be covered
Pricing by SOCC not reflective of economic cost base  Collusion on pricing between retail operators	The existence of the Telecommunications Act, 2009 and the continued presence of a fully funded and functioning telecommunications commission should provide the necessary assurance, by intervention if needed, that wholesale capacity is provided on a fair and equitable basis and that the availability of much lower-cost, higher-quality broadband internet is passed on to businesses, government and consumers.
Weak procurement capacity in SOCC	Bid documents prepared in cooperation with ADB; strict review of bid evaluation report by ADB; establishment of records management system in SOCC

ADB = Asian Development Bank, PPC-1 = PIPE Pacific Cable 1, SOCC = Solomons Oceanic Cable Company.  
Source: Asian Development Bank.

## IV. ASSURANCES AND CONDITIONS

32. The government has assured ADB that implementation of the project shall conform to all applicable ADB policies including those concerning anticorruption measures, safeguards, gender, procurement, consulting services, and disbursement as described in detail in the project administration manual and financing agreement.

33. The government has agreed with ADB on certain covenants for the project, which are set forth in the financing agreement and project agreement.

34. Specific effectiveness conditions include the execution, on terms acceptable to ADB, and effectiveness of a subsidiary loan agreement between the government and SOCC. Special disbursement conditions include the execution, on terms acceptable to ADB, and effectiveness of (i) the financing agreement(s) with commercial lenders; (ii) an agreement between SOCC and PIPE Networks, the owner of PPC-1, regarding the insertion of the international spur on PPC-1;

<sup>29</sup> Risk Assessment and Risk Management Plan (accessible from the list of linked documents in Appendix 2).

(iii) agreement between SOCC and PIPE Networks regarding the purchase of an indefeasible right of use of bandwidth capacity on PPC-1; (iv) a landing party agreement between SOCC and Solomon Telekom Company Limited; and (v) an agreement between SOCC and Tyco Electronics Subsea Communications (supplier of PPC-1) regarding the installation of the international spur and terminal equipment.

## V. RECOMMENDATION

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

- (i) the loan in various currencies equivalent to SDR6,997,000 to Solomon Islands for the Broadband for Development Project, from ADB's Special Funds resources, with an interest charge at the rate of 1.0% per annum during the grace period and 1.5% per annum thereafter; for a term of 32 years, including a grace period of 8 years; and such other terms and conditions as are substantially in accordance with those set forth in the draft financing and project agreements presented to the Board; and
- (ii) the grant not exceeding \$7,500,000 to Solomon Islands, from ADB's Special Funds resources, for the Broadband for Development Project, on terms and conditions that are substantially in accordance with those set forth in the draft financing and project agreements presented to the Board.

Haruhiko Kuroda  
President

4 September 2012

## DESIGN AND MONITORING FRAMEWORK

Design Summary	Performance Targets and Indicators with Baselines	Data Sources and Reporting Mechanisms	Assumptions and Risks
<p><b>Impact</b> Increased broadband-based economic opportunities, and broadband-based improvements in the inclusive delivery of social services</p>	<p>By 2020</p> <p>35% increase in the information and communication technology sector's share of GDP</p> <p>(2011 baseline: 1.5%)<sup>a</sup></p> <p>Broadband applications operational in the health and education sectors</p> <p>(2012 baseline: no applications operational)</p>	<p>Central Bank of Solomon Islands</p> <p>Reports by Ministry of Health and Ministry of Education</p>	<p><b>Assumptions</b> Global and regional economy does not deteriorate into recession</p> <p>Complementary investments to ensure universal access and the development of (mobile) broadband applications</p> <p><b>Risks</b> Political and/or social unrest, particularly in light of the planned departure of the Regional Assistance Mission to Solomon Islands</p> <p>Complementary investments do not materialize</p>
<p><b>Outcome</b> The population of Solomon Islands increasingly uses good quality broadband internet services at affordable prices.</p>	<p>By 2017</p> <p>Mobile data usage increased by at least 300% (2012 baseline: 1.45 GB)</p> <p>Number of active mobile data users increased by 350% (2012 baseline: 22,479)</p> <p>Average retail price of mobile data/MB decreased from SI\$0.99 to (or less than) SI\$0.50</p> <p>SOCC achieves 99.99% system availability (30 minutes/year outage on average, excluding force majeure incidents)</p> <p>Baseline: satellite outage of 300 minutes/year (industry average)</p>	<p>Broadband internet subscription information from internet service providers and the Telecommunications Commission of Solomon Islands</p> <p>Pricelists as published by mobile operators</p> <p>Speedtest.net figures checked before SCS ready for service<sup>b</sup></p> <p>Operational reporting logs</p>	<p><b>Assumptions</b> The population coverage by mobile network operators continues to increase across all provinces.</p> <p>The government recognizes the need for regulatory vigilance and is committed to supporting the Telecommunications Commission of Solomon Islands in the implementation of the Telecommunications Act, 2009.</p> <p><b>Risks</b> Collusion on pricing between retail operators</p>



Design Summary	Performance Targets and Indicators with Baselines	Data Sources and Reporting Mechanisms	Assumptions and Risks
<p><b>Outputs</b> Establishment and efficient operation of the Solomon Islands submarine cable system by SOCC</p>	<p>By Q1 2014: Construction of about 1,000 km of submarine cable and associated civil works</p> <p>SOCC commences operations</p> <p>By 2016 SOCC has consistently achieved the debt service coverage ratio annual target of 1.2</p> <p>12 months after the cable system is ready for service, SOCC's fault handling time, as measured by mean time to recover, is equal to or better than the industry standard of 3 hours.</p>	<p>SOCC progress reporting</p> <p>SOCC progress reporting</p> <p>SOCC financial reporting</p> <p>Operational reporting logs</p>	<p><b>Assumptions</b> SOCC is allowed to function on a sound commercial basis with cost-based margins.</p> <p>SOCC has adequate financial and operational management capacity.</p> <p><b>Risk</b> Inability to meet the July 2013 deadline for insertion of branch unit 5 (engineering device used to link international spur to PPC-1) as set by PIPE Networks</p>
<p><b>Activities with Milestones</b></p> <ul style="list-style-type: none"> <li>1.1 Contracts awarded (October 2012)</li> <li>1.2 Marine survey, system manufacture and integration, and marine operations for laying cables completed (end June 2013)</li> <li>1.3 Terminal equipment installed (end June 2013)</li> <li>1.4 SOCC cable landing systems equipped with necessary cross-connect facilities for their customers (end July 2013)</li> <li>1.5 SOCC staff completed hands-on training on SCS (end August 2013)</li> <li>1.6 Appropriate cable repair and maintenance agreement for domestic cables is in place before completion of cable lay (end June 2013)</li> <li>1.7 Commissioning, provisional acceptance, and ready for service (early September 2013)</li> <li>1.8 Final SCS acceptance (early December 2013)</li> <li>1.9 Regular project performance monitoring and financial reporting (2011–2016)</li> </ul>			<p><b>Inputs</b></p> <p>ADB: \$18 million</p> <p>SOCC equity: \$10 million</p> <p>Commercial debt: \$25.7 million</p> <p>Government: \$6.3 million (tax and duty exemptions)</p> <p>Total: \$60 million</p>

ADB = Asian Development Bank, km = kilometer, GB = gigabyte, MB = megabyte, PPC-1 = PIPE Pacific Cable 1 (Guam–Sydney), Q = quarter, SCS = submarine cable system, SOCC = Solomons Oceanic Cable Company.

<sup>a</sup> To measure telecommunication activity, the Central Bank of Solomon Islands makes monetized estimates of (i) the total number of minutes used (landline and mobile) during the year; (ii) an estimate of internet usage for the year; (iii) number of telephone stations; and (iv) volume of mail handled in a year.

<sup>b</sup> Speedtest.net. <http://www.speedtest.net/>.

Source: Asian Development Bank.

**LIST OF LINKED DOCUMENTS**

<http://www.adb.org/Documents/RRPs/?id=44382-022-2>

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