

Appendix

Appendix A: Domestic Flight Destinations

Country	Destinations
Solomon Islands	Afutara, Atoifi, Arona, Honiara, Kirakira, Auki, Batuna, Bellona Island, Choiseul Bay, Gizo, Gatokae, Munda, Afutara, Kirakira, Marau, Munda, Ramada, Santa Ana, Santa Cruz, Sege, Suavanao, Rennell Island
Cook Islands	Aitutaki, Atiu, Rarotonga, Mangaia, Mauke, Mitiaro
FSM	Kosrae, Pohnpei, Truk
RMI	Bikini Atoll, Rongelap, Jeh, Majuro, Woja, Kwajalein Atoll
Vanuatu	Maewo, Espiritu Santo, Mota Lava, Aneityum, Tanna Island, Aniwa, Craig Cove, Lamen Bay, Norsup, Dillons Bay, Emae, Espiritu Santo, Gaua, Ipota, Lamap, Longana, Lonorore, Norsup, Paama, Port Vila, Sola, Sara, South West Bay, Tongoa, Torres, Ulei, Valesdir, Walaha.

Appendix B: International Air Services in PICs

Country	Inbound flights per week (2011)			Inbound seats per week (2011)		
	From Aus/NZ:	From Other Countries: International	From Other PICs: Intra-regional	From Aus/NZ:	From Other Countries: International	From Other PICs: Intra-regional
Cook Islands	11	2	-	2170	282	-
FSM	-	6	4	-	909	628
Kiribati	-	5	1	-	580	132
Nauru	1	-	1	132	-	444
Niue	1	-	-	152	-	-
Palau	-	-	1	-	-	157
RMI	-	5	3	-	785	628
Samoa	16	45	-	2794	1499	-
Solomon Islands	7	6	2	1096	626	180
Tonga	10	6	-	1714	386	-
Tuvalu	-	2	-	-	94	-
Vanuatu	15	7	1	2573	734	312

Sources: Flight diagnostics from Innovata LLC Consultants. March 2011. *Market Analysis Flights within the PRIF Region*. (Excludes charters and unscheduled services).

Appendix C: Main Port Details

Country	Number of Main Ports	Other details
Cook Islands	2	2 main wharves in Avatiu and Aitutaki
FSM	4	Main international seaport in Pohnpei, Deketik Island 4 wharves at Tomil Harbour, Yap Island 2 wharves at Weno, Chuuk Island
Kiribati	3	
Nauru	1	1 deep sea mooring system 1 container berth
Niue	1	
Palau	1	
RMI	3	3 main wharves each at Majoru and Kwajalein
Samoa	1	5 berths 1 tanker terminal
Solomon Islands	11	1 wharf at Yandina, Viru Harbour, Tulagi, and Malloco Bay 2 wharves at Ringi Cove, Noro, Gizo, 2 wharves and 6 jetties in Honiara Small piers at Aola Bay and Shortland harbour
Tonga	3	4 Berths in Nuku'alofa 1 wharf in Neiafu
Tuvalu	1	5 wharves
Vanuatu	3	Port Villa – 2 wharves – Star Wharf and Administration Wharf (both currently undergoing upgrades) Santo – 1 wharf

Appendix D: PIPs Master Tables

I Energy

Indicators	Year	Cook Islands	FSM	Kiribati	Nauru	Niue	Palau	RMI	Samoa	Solomon Islands	Tonga	Tuvalu	Vanuatu	Avg	Medn.	Comments/Descriptions
Access to electricity (% of total households)	2005	99	54	29	100	100	97	80	99	7.6	78.1	100	19	71	89	Population having access to basic electricity supply, gas cooking stoves. Improved wood-stoves and other modern energy services/ technologies.
Electricity production capacity kW per capita	2002 2008	0.75	0.32	0.06	0.47	1.14	0.97	0.50	0.13	0.02	0.14	0.19	0.10	0.40	0.25	
Electricity production (actual) kWh per capita	2002 2008	2865	927	244	1433	2410	5035	1260	476	118	467	376	270	1323	702	
Total fuel imports (% of GDP)	2005 2010	28.8	14.4	13.6	4.5	-	26.5	18.2	8.1	6.1	16.1	12.6	4	14	14	
Average end-user electricity tariffs (US cent/kWh) (residential)	2010 2011	48.5	42.6	31.9	10.1	49.7	25.6	29.8	40.5	50.5	50	83.0	72.1	44.5	45.6	
Average end-user electricity tariffs (US cent/kWh) (commercial)	2010	54.9	46	49.9	21.1	48.5	38.1	35.8	42.2	55.5	50	94.3	50	49	48.5	Determined by the power generation mix, degree of subsidies between residential and commercial users) & system efficiency
Average fuel cost (diesel prices US\$ per liter)	2010	1.55	-	-	-	-	1.44	1.33	0.81	0.88	1.22	1.31	-	1.22	1.31	Local prices for petrol, diesel and kerosene are converted to US dollars and averaged into a comparable composite price for each country
System generation losses (% total generation)	2010	-	-	-	-	-	-	-	-	16	17-18	-	-	-	-	
Distribution losses (% of output)	2010	-	-	-	-	12	-	29	16.02	28	28	16.66	-	21.61	22	12.34% and 8.02% are the avg. Pacific distribution and transmission losses respectively. Figures based on ADB 2002 BM study but countries and utilities were not identified.

Indicators	Year	Cook Islands	FSM	Kiribati	Nauru	Niue	Palau	RMI	Samoa	Solomon Islands	Tonga	Tuvalu	Vanuatu	Avg	Medn.	Comments/Descriptions
Electricity Outage time (hours of lost supply per customer per year)	2004	-	-	-	-	-	-	-	-	100	-	-	-	-	100	592 hours is the avg. Pacific SAIDI. Figures based on ADB 2002 BM study but countries and utilities were not identified.
Growth rate of volume of fuel imports (%)	2002	-	-	-	-	-	-	-	-	16.21	-	-	-	-	0	Determines a country's reliance on imported fuel
Cost recovery	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Revenue from electricity charges, CSO/subsidies contributions from government, annualized capital cost and operating costs. No comparable dataset exists.
Total fuel imports (% of total national imports)	2006	-	-	-	-	-	-	-	-	21.70	-	-	-	-	0	Determines a country's vulnerability level to oil price
Tons of oil equivalent (TOE)	2003	9,400	73000 (2002)	16200	15000	2300 (2002)	93600	81800	73200	68310 (2001)	34200 (2000)	3400	37000	-	35600	Approximate amount of energy extractable from one ton of crude oil.
Tons of Oil Equivalent (TOE) per capita	-	1.46	0.36	0.20	1.27	-	2.84	1.00	0.39	0.13	0.44	-	0.13	-	0.41	
Renewable Energy Share (%)	2009 2011	<1	0.45	<1	.20	2.6	3	1	42	.04	<1	2.1	19	5.94	0.7	Percentage of generation of renewable energy Figures not considered highly accurate but is indicative sourced from SPC (2009) and IRENA (2011).
Clean Electricity Contribution (%)	2009	-	-	-	-	2	-	0.18	36	0.64	0.64	1.40	-	-	1.02	

2 ICT

Indicators	Year	Cook Islands	FSM	Kiribati	Nauru	Niue	Palau	RMI	Samoa	Solomon Islands	Tonga	Tuvalu	Vanuatu	Avg	Medn.	Comments/Descriptions
Fixed lines per 100 persons	2009 2008	34.7	8	4	18	66	70	7	18	2	25	15	3	22.47	16.45	
Mobile subscriptions per 100 persons	2009 2008	35.1	34.3	1.04	14.9	38.5 (2004)	66.6	1.68	84.4	5.87	48.73	20.2	15.39	30.56	27.25	
Internet users per 100 people	2008	30.3	15	2	30	66	27	4	5	2	8	43	7	19.95	11.71	
Total teledensity per 100 population	2008 2009	54	22	5	29	95	96	9	85	7	73	-	20	41.43	25.50	
Fixed broadband subscribers per 100 people	2008 2009	7.4	0.10	-	-	-	0.48	-	0.10	0.29	0.70	4.60	0.07	1.72	0.39	Fixed broadband subscribers are users of the Internet who subscribe to paid high-speed access to the public Internet. High-speed access is at least 256 kilobits per second in one or both directions.
Telecommunications service price as % of avg. monthly income (high usage)- Fixed telephone	2008	-	64.6 (2010)	93.3	-	-	1.5	19.9	21.3 (2010)	-	17.5	4.6	12.8 (2010)	33	20	
Telecommunications service price as % of avg. monthly income (high usage)- Mobile	2008 2010	15.20	15.30	67.20	38.00	-	7.60	-	14.10	53.50	11.90	-	19.11	27	15	
Telecommunications service price as % of avg. monthly income - Internet	2008	3.9 (2010)	10.8 (2010)	10.9	-	-	4	-	3.1 (2010)	-	9.0	-	11 (2010)	8	9	Wi-Fi internet access free in Niue. Dial-up internet: 10 hours per month
Competition – Number of service providers for phones, mobile and Internet	2008 2010	1	1	1	1	1	2	1	2	2	2	1	2	1.42	1	

Indicators	Year													Avg	Medn.	
Reported telephone faults per 100 main telephone lines	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	No comparable dataset exists
International internet bandwidth per person or inhabitant (bits per internet user)	-	-	1053 (2007)	256 (2002)	-	-	-	1235 (2002)	750 (2007)	232.70 (2002)	1429	750	286 (2002)	748.9	750	Total capacity of international internet bandwidth in bits per internet user. This is measured as the sum of capacity of all internet exchanges offering international bandwidth.
Secure Internet servers (per 1 million people)	2009	-	9.03	-	-	-	49.03	33.52 (2008)	22.37	2.00	28.86	-	-	24.13	25.61	Secure servers are servers using encryption technology in Internet transactions.

3 Solid Waste Management

Indicators	Year	Cook Islands	FSM	Kiribati	Nauru	Niue	Palau	RMI	Samoa	Solomon Islands	Tonga	Tuvalu	Vanuatu
Access to regular solid waste collection service in urban areas (% of urban population)	-	100	Kosrae 70, Pohnpei 60, Chuuk 20, Yap 50	35 (2010)	100	100	100	80-90	100	60 (Honiara) (2010)	73	80	>50 (Port Vila)
Frequency of household collection service per week in urban areas (number)	-	1	1	1 (2010)	1	1-3	1	1	1-2	1 (2010)	1	1-2	3
Does a system exist for sorting and/or recycling (part of) solid waste? Y/N	-	Recycling of ferrous metals, aluminum cans, batteries, copper, brass, cardboard	Kosrae, Pohnpei, Yap: some collection of aluminum cans, PET, glass, batteries	Successful recycling of aluminum cans and car batteries (2010)	No	No	Yes, waste is partly recycled	Some recycling of aluminum cans and scrap metals	Recycling of bottles and cans and scrap metal	Some private sector involvement in recycling of metals (2010)	Some recycling of metals, PET bottles and aluminum cans	Recycling of aluminum cans on Funafuti	Some recycling of bottles and scrap metals
Does the landfill meet environmental standards? Y/N	-	Yes	Semi aerobic landfill in Kosrae, dumps in other states	Landfill at Betio yes, Dump in Nanikai, Landfill in Bekinebeu not used	No	No	Sanitary landfills in 2 states, dumpsites in 3 states	Well operated dumpsite in Majuro, dumpsite in other islands	Yes, landfills for Upolo and Vaia'ata	Dumpsite in Ranadi and other islands	Landfill on Tongatapu and dumpsites in other islands	Dumpsites managed by island councils	Landfill in Port Vila Dumpsites in other islands
Cost Recovery	-	Environ-mental levy for visitors and landfill tipping fees	Disposal fee on some imported items	Collection fee for HH but revenues only partly used for SWM	No	No fees	No fees	In Majuro, revenues from fees, subsidies and sales recyclables	No fees for collection, tipping fees at landfills	Council Taxes include waste management	Fees exist but only 6% is paid	Collection fees on Funafuti	Revenues from property tax, tipping fees and pre-paid bags

4 Transport

Note: Averages and Medians not provided where these figures are inappropriate measures for understanding relevant transport indicators.

Indicators	Year	Cook Islands	FSM	Kiribati	Nauru	Niue	Palau	RMI	Samoa	Solomon Islands	Tonga	Tuvalu	Vanuatu	Avg	Medn.	Comments/Descriptions
ROADS																
Total road network (km)	2011	320	240	798	24	120	-	2028	2337	1360	680	20	1070	-	-	
Paved roads (km)	2011	33	42	133	24	120	-	-	332	33	184	20	256	-	-	
Unpaved roads (km)	2011	287	198	665	-	-	-	-	2005	1327	496	-	814	-	-	
Paved roads (km) as % of total road network (km)	2011	10.3	17.5	16.7	100	100	-	-	14.2	2.4	27.1	100	23.9	-	20.7	
Road density - road kilometres per sq. km	2011	1.36	0.34	0.83	1.14	0.46	0.33	11.2	0.83	0.05	0.95	0.31	0.09	-	-	Ratio of the length of country's total road network to total land area.
Total private motor vehicle registrations	-	-	4 (2000)	13.9 (2000)	-	-	-	-	10.9 (2005)	-	-	-	-	-	-	
AVIATION																
Number of operational airports (paved/unpaved)	-	9 (8/1)	8 (6/2)	5 (4/1)	1 (1/0)	1 (1/0)	3	4(1/3)	2(1/1)	12 (11/1)	4 (3/1)	1 (1/0)	4(3/1)	-	-	Excludes airfields/coral strips used by turboprop aircraft.
Scheduled take-off and landing by airport (Inbound international flights/week)	-	87	22	6	2	1	1	28	61	105	16	2	225	-	-	
Average passenger numbers (international scheduled seats/week)	-	4356	3421	712	576	152	157	2797	4293	3948	2100	94	8677	-	-	

Indicators	Year	Cook Islands	FSM	Kiribati	Nauru	Niue	Palau	RMI	Samoa	Solomon Islands	Tonga	Tuvalu	Vanuatu	Avg	Medn.	Comments/Descriptions
Average (or range) air cost per ton-km (freight) (\$/kg)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	No comparable dataset exists
Inbound flights from Aus/NZ (per week)	2011	11	-	-	1	1	-	-	16	7	10	-	15	-	-	
Inbound flights from other international countries (per week)	2011	2	6	5	-	-	-	5	45	6	6	2	7	-	-	
Inbound intra-regional flights from other PICs (per week)	2011	-	4	1	1	-	1	3	-	2	-	-	1	-	-	
Inbound seats from Aus/NZ (per week)	2011	2170	-	-	132	152	-	-	2794	1096	1714	-	2573	-	-	
Inbound seats from other international countries (per week)	2011	282	909	580	-	-	-	785	1499	626	386	94	734	-	-	
Inbound intra-regional seats from other PICs	2011	-	628	132	444	-	157	628	-	180	-	-	312	-	-	
Air travel costs (AU\$) from: Fiji NZ Aus	2011	2166.5 765.5 1261	3177.5 4734 4579.5	360 3040.5 1622	-	279	2358 1664 1695.5	3207.5 5060 4875	1765.5 753 1338	567 1687 1150	220 672.5 795.5	368 871	1661 1690.5 297	1823	-	
Domestic air services - flights per week	2011	74	12	-	-	-	-	20	-	90	-	-	202	-	-	
Domestic air services - seats per week	2011	1904	1884	-	-	-	-	1384	-	2046	-	-	5058	-	-	
International air freight rates Standard/Min \$AU per kg	-	-	-	8	6.9	-	-	-	5.6	6.2	5.8	-	4.7	-	-	

Indicators	Year	Cook Islands	FSM	Kiribati	Nauru	Niue	Palau	RMI	Samoa	Solomon Islands	Tonga	Tuvalu	Vanuatu	Avg	Medn.	Comments/Descriptions
Annual airport throughput per capita	-	-	-	-	-	-	Koror 3.93	RMI 0.5	Faleolo 0.99	Henderson 0.13	Fua-amotu 1.27	-	Port Vila 0.59	-	-	
MARITIME																
All international container shipping services (per month)	2007	-	6	3	1	1	3	4	11	8	9	3	7	-	-	
Shipping traffic in ports (number of vessels/year)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	No comparable dataset exists
Number of main ports	2011 2007	2	4	3	1	1	1	3	1	11	3	1	3	-	-	See Appendix C for port differentiation details
Stevedoring charges (US\$/TEU)	2004	-	Kosrae 30 Pohnpei 30	Tarawa 88	-	-	-	-	Apia 16	Honiara 40	Nuku' Alofa 37	-	Santo 97 Vila 97	-	-	Twenty-foot equivalent unit (TEU) measures capacity of containers based on the volume of a 20ft long intermodal container.
Vessel turn-around times (days)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	No comparable dataset exists
Container port traffic per annum (TEU per annum)	-	-	-	-	-	-	-	381 (2010) Jan-March	-	-	-	-	-	-	-	No comparable dataset exists

5 Water and Sanitation

Indicators	Year	Cook Islands	FSM	Kiribati	Nauru	Niue	Palau	RMI	Samoa	Solomon Islands	Tonga	Tuvalu	Vanuatu	Avg	Medn.	Comments/Descriptions
Access to improved urban water source (% total population – men/women)	2008	98	95	77 (2010)	90	100	78 (2010)	92	100 (2010)	94 (2010)	100	98	96	-	-	Access to an improved water source refers to the percentage of the population with reasonable access to an adequate amount of water from an improved source, such as a household connection, public standpipe, borehole, protected well or spring, and rainwater collection. Unimproved sources include vendors, tanker trucks, and unprotected wells and springs. Reasonable access is defined as the availability of at least 20 liters a person a day from a source within one kilometer of the dwelling.
Access to improved rural water source (% total population)	-	87	92	50	90	100	95	99	100	65	100	97	79	-	-	As above
Access to improved urban sanitation (% total population)	-	100	59	47	50	100	96	83	92	98	98	88	66	-	-	Access to improved sanitation facilities refers to the percentage of the population with at least adequate access to excreta disposal facilities that can effectively prevent human, animal, and insect contact with excreta. Improved facilities range from simple but protected pit latrines to flush toilets with a sewerage connection. To be effective, facilities must be correctly constructed and properly maintained.
Access to improved rural sanitation (% total population)	-	100	16	22	50	100	52	53	88	18	96	81	48	-	-	As above
Incidence of water borne diseases (estimated deaths of diarrhea per 100,000 inhabitants)	2009	5.2	15.6	28.6	14.6	-	5.6	27.4	11.2	18.1	9.8	21.9	8.5	-	-	This indicator will measure the quality of water supply and sanitation service delivery. The number of cases of typhoid, gastroenteritis and diarrhoea per year
Availability of water supply in piped water supply systems (average hours per day)	-	24	16	Tarawa : every 2 days 1-4 hours	Supply by tanker truck	24	24	6 hours during 1-2 days per week	24	Intermittent supply in elevated areas	24	Supply by rainwater collection	24	-	-	Average number of hours that households receive water through the piped water supply system
Estimated non revenue water: Difference between water produced and water sold (%)	2010	40-60	50	30-50	No piped water supply	-	40-50	-	50-60	40-50	40	No piped water supply	24	-	-	

Appendix D: PIPs Master Tables (Water and Sanitation)

Indicators	Year	Cook Islands	FSM	Kiribati	Nauru	Niue	Palau	RMI	Samoa	Solomon Islands	Tonga	Tuvalu	Vanuatu	Avg	Medn.	Comments/Descriptions
Metered connections (%)	-	0	70	0	0	0	>90	-	50	-	100	-	100	-	-	Assess the efficiency of piped water supply services measured by the %age of connections in piped water supply systems that is metered.
Employees per 1000 connections	-	-	18	15	13	-	16	17	9	7	11	-	-	-	-	Reflect the efficiency of piped water supply services measured by the number of employees in utilities per 1000 connections
Cost recovery (revenues from tariffs/operating cost) (%)	-	0	-	50	21	-	44	77	94	92	125	-	-	-	-	Reflect the level of cost recovery of water utilities measured by revenue from water charges, CSO/subsidies contributions from government, annualized capital cost and operating costs
Average tariff (US\$ per m ³) for water and sewerage services	-	No water tariff	0.26	US\$10/HH month	2.50	No water tariff	0.22	0.375	0.25	0.96	1.03	-	0.66	-	-	Assess the affordability of piped water supply for low income groups and as an indicator for cost recovery of water utilities