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**PACIFIC ISLANDS  
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**The ICT Infrastructure 2004-2006**

Although significant developments have taken place in the ICT sector in the Pacific Islands, the general perception is that the development of the ICT Infrastructure is still very slow and behind the rest of the world in most of the countries. There is wide disparity between and within countries. The information below is from reports by the Pacific Islands Forum Secretariat, 2002-2004 and the Research and Market survey on the South Pacific Islands, 2006 (For details, see the annexes attached) :

- PC ownership is very low – in 2003, it was around 21.88%.
- Around 25% of Pacific Islands people have Internet access. Services are mainly at workplaces, educational institutions and public facilities, such as Internet cafes in urban centres and telecentres in rural communities. Many government offices still lack access.
- Almost all Internet services are through satellite and dialup. Fiji, Guam and PNG are serviced by undersea cables. Tokelau, Fiji and Tonga have broadband services.
- Internet subscriptions range from 1 to 5 in Niue (where Internet is free as a benefit from revenue from the sale of the nu.com domain) and 1 to 1000 in Solomon Islands. Average cost of Internet is US\$50 per month (ranging from US\$3 to US\$175 per month). Few have a choice of service providers though a few new providers have entered the market.
- Telecom penetration is relatively low (around 42.84% of the population in 2003). Most in urban areas have access (e.g. via public phones, shared lines, mobile phones, etc.) but this may not be the case in rural areas, particularly in small outer islands. Mobile phones have exceeded land lines in some countries (e.g. Fiji in 2002). Most countries are served by monopoly providers but other players are now entering the market in some countries.
- Wireless technology has been introduced in many countries.
- Some countries have innovative implementations to raise revenue: e.g. Tonga has a lucrative business in the leasing of the orbital satellite slots (worth at least US\$100 million); Tuvalu, Tokelau and Niue raise needed revenue through the sale of their respective Internet domains (tv.com, tk.com and nu.com). Some positive examples of e-community projects (e.g. women in Navua, Fiji, who usually sell their home-made chutney by the roadside, have used Internet to successfully market their products)
- Trained human resource is a problem. Training is expensive and retention of trained personnel is a problem due to migration/brain drain
- There is a gender disparity. Few women involved professionally as engineers, computer scientists, etc. But women are prominent users of word-processing, email, telecentres, etc.
- Although the literacy rate is very high in most Pacific Island nations (94% for Females and 93% for Males in 2000-2004), most archives and libraries are still in a dismal state with little formal support (see Williams 2002<sup>1</sup>). The situation has not improved much since, although there have been a few significant changes in Fiji (see below) & PNG.

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<sup>1</sup> Williams, Esther. *Digital Community Services: Pacific libraries and archives: future prospects and responsibilities: a report*. [New Delhi] : Unesco, 2002.

## Major ICT Developments since 2004

### The Pacific Regional Digital Strategy

- One of the four pillars of *The Pacific Plan* that was endorsed by leaders at the Pacific Islands Forum meeting in October 2005 as the framework for regional development to enhance and stimulate economic growth, sustainable development, good governance and security.
- Based on previous plans such as the *Communication Action Plan (CAP)* and *Pacific Islands Information and Communications Technologies Policy and Strategic Plan (PIIPP)*
- Establishes the priorities for the region: Improve access to ICT, Reduce costs, Establish higher bandwidth to the global ICT backbone, Remove inappropriate regulatory environments to foster higher levels of investment, Strengthen ICT skills.
- The *Taskforce on Regional Approaches to Information and Communications Technologies (ICTs) in the Pacific* was established in March 2006 to develop regional approaches to further the implementation of this *Digital Strategy*. It remains to be seen how the *Digital Strategy* will be implemented at local and national level.

### Wireless technology

- Some countries are installing wireless broadband, highspeed ADSL2, WiFi WIMAX, etc.
- WiFi was introduced in Rarotonga through the Cook Islands' Oyster Net division and Auckland's Network Service Providers
- In 2005 Unwired Fiji launched its first privately-owned broadband wireless network. 3G mobile services are planned in Fiji, 2007.
- Internet Users Society-Niue (IUS-N): provides free Wifi Internet access using funds from the nu domain registrations. The Niue Computer Society, established in November 2004, trains people in the use of computers
- Vanuatu IT Users Society: wireless email networking in the HF band in the capital (Port Vila) as well as in the rural areas. Its Telecom launched high-capacity data radio late 2006.
- Samoa: Wireless broadband connections installed for some remote schools and communities during the PacINET Conference in 2006

### New players

- VoIP and Skype are becoming popular and forcing telcos to upgrade to new technologies.
- Digicel Pacific (cellular services provider) entered the Pacific market with its acquisition of 90% shareholding in Telecom Samoa (from Telecom NZ) in September 2006. The Samoan government owns the remaining 10%. Digicel Samoa will replace the TDMA (Time Division Multiple Access) network with the GSM (Global System for Mobiles) services for its 30,000 subscribers and will bring mobile phone services to an extra 180,000 people. Digicel Pacific has also been awarded licenses in PNG and Solomons (now on hold due to political problems), and a license in Fiji (only on principle and was very controversial). It is planning to also move into Tonga, Nauru and Kiribati.

### Telecentres

- Solomons: The *People First Network (PFnet)* operates an email network with 17 rural access points (2005); it is also establishing a VSAT network of distance learning centres in rural communities.
- Samoa: Through the Fesootai Project, a network of telecentres is being established. They are run mostly by women's committees with ITU support.
- Fiji: the Ministry of Education has collaborated with government's IT Centre (in partnership with private sector) to launch the "*Fiji e-Community Learning Centre Project*" whereby

networked computers are located in rural schools and public libraries for the use of schools and its communities. The first e- learning centre opened in Nadogo Secondary School, Macuata on 20 November 2005. E-learning centres were established at 12 rural schools in 2006<sup>2</sup>. As connectivity was restricted in some schools, Vsat dishes and routers were installed as well PCs and printers. ICT training for users has also been planned.

#### E-government

- Governments in the region are implementing e-government initiatives to improve functionality, enable better policy outcomes, improve service delivery and enable better interaction with citizens.
- For example, prior to the December 2006 coup, the Fiji Government had borrowed US\$20 million through the China Exim Bank for its *e-government project* covering an e-government Blueprint, e-government applications, government data centres, government information communication infrastructure, ICT competency development and training.

#### Tax-free zones

- The Fiji Government has designated two tax-free zones for IT business, one of which is located at the USP Statham Street campus.

#### Free and Open Source Software

- FOSS is becoming popular in the Pacific Islands nations. Applications have been implemented for libraries (koha and Greenstone), reporting tools, web content management, GIS, etc.

#### Archives and Libraries

- The *Fiji Public Records Act Cap 108 of 1970* has been amended to meet the record management needs of the 21<sup>st</sup> Century as a result of technological, legislative and administrative changes. The amendment covers all recording mediums (traditional and electronic/digital mediums).
- Also in the pipeline prior to the December 2006 coup was the *Freedom of Information (FOI) Bill* which will impact on more public records being made available for public scrutiny.
- The Fiji National Archives building is being extended and upgraded to address long-term needs for storing records in all formats, including electronic/digital records and audio visual materials (total estimated project cost is \$3.8m). The new complex is expected to be completed by December 2007.
- The Fiji Government had also announced in September 2005 that it is planning to build a National Library. However, no definite plans have so far emerged in the public domain.
- PNG: The National Library (a 1995 Independence gift from Australia) will be renovated at the cost of 7 million kina (approx. US\$3m) as a 30<sup>th</sup> Independence anniversary gift by Australia. To be completed by Sept. 2007.

#### ICT Developments at USP (serves Cooks, Fiji, Kiribati, Marshalls, Nauru, Niue, Samoa, Solomons, Tokelau, Tonga, Tuvalu, Vanuatu):

- USPNet Upgrade: The USPNet has been upgraded with new-generation ground equipment technology. USPNet is a Wide Area Network (WAN) incorporating a 5MHz IP Satellite technology to deliver and integrate distance learning, educational and administrative services throughout USP's 12 member countries. The "Hub" is in Suva (Fiji) with a 7.6m antenna,

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<sup>2</sup> Ra High School, Vunidawa District School, Namosi Secondary School, Vunisea Secondary School, Navosa Central College, Nadarivatu High School, Magodro District School, Bua College, Saqani Junior Secondary School, Nadogo Secondary School, Nabala Junior Secondary School, Rotuma High School

with maximum transmit power of 100 watts. Students and staff participate in interactive audio/video lectures and tutorials, communicate by e-mail, access the WWW and in-house online services, access multimedia material via server downloads. To enable a uniform VSAT platform for ALL remote sites, there is an option to migrate the whole USPNet to operate on New Skies' Global Beam. Further changes will take place in the near future.

- Global Development Learning Network: USP will host the Fiji hub of GDLN
- AARNet: USP was finally granted a license in September 2004 by the Fiji Government to link directly to the Australian Academic Research Network (AARNet). The link was inaugurated on 4 March 2005. Bandwidth increased dramatically from 1mbps to 155mbps. With improved Internet access, the Library made a strategic decision to purchase online resources (over print) for equal access across the 12 countries.
- Japan-Pacific Centre for ICT: JICA and USP will develop a F\$30m centre (building and equipment) as bilateral aid between Fiji and Japan. It will have teaching spaces, laboratories, offices, incubator space, a digitization unit (to be coordinated by the Library), and a state-of-the-art multi-purpose theatre. It will bring together USP units that teach, research and work in ICT and develop partnerships with industry and SME's. Completion scheduled January 2008, but plans now suspended indefinitely due to Fiji's current political problems.

### **Special ICT problems, constraints and/or challenges encountered**

The ICT problems and constraints faced in the Pacific are similar to those in other developing countries:

- Limited infrastructure development and connectivity issues (e.g. basic limitations such as unreliable power supplies)
- Limited human resource development and institutional capacity in ICT
- Difficulties in adapting and using new technologies due to lack of expertise
- High costs of access and equipment (Internet, equipment, licensing agreements, etc.)
- Outdated regulatory frameworks
- Lack of awareness and political will, as other priorities are seen as more urgent
- Little attention to content and information/library issues – the focus of discussion is still very much on technology issues
- Lack of participatory processes in decision-making so that communities feel that they are partners rather than merely recipients of government services or aid projects
- Political factors (e.g. instability in several countries such as Timor Leste, Solomons, Tonga and Fiji, resulting in riots and in the case of Fiji, the 4<sup>th</sup> coup in 20 years).

### **Need for bilateral or regional collaboration within ICT**

In the face of limited resources and capacity, the Pacific Island countries badly need bilateral or regional cooperation to improve ICT within their countries. As already pointed out before, the Pacific Island nations are too small to be able to implement developments on their own and need strategic partners to assist. To help each other, they have formed the *Taskforce on Regional Approaches to ICTs in the Pacific* in 2006 and have endorsed a proposal for a regional ICT resource centre for the Pacific. This Centre would advance regional and sub-regional cooperation between member countries in ICT matters, and work towards regulatory development and harmonization. Note that this Centre would have different functions from the Japan-Pacific ICT Centre located at USP (essentially a teaching and research institution). Some areas of assistance are:

- Technical assistance

- Training and staff development
- Practical attachments
- Research, surveys and reviews

### **Prospect of ICT projects at present**

The prospects of ICT projects are constrained by the problems already mentioned, such as lack of economies of scale, geographical isolation, limited resources, lack of trained human resources, high costs, etc. Political problems have added to the constraints faced by Pacific Island nations. For example, the telecom infrastructure of Timor Leste was destroyed during the political crisis of 1999. A temporary operation by Telstra lasted until 2003 when Timor Telecom (50.1% owned by Portugal Telecom) began operating fixed ( confined to the capital and then expanded to the capitals of each district) and mobile services. In 2006, Solomon Islands, Tonga, Fiji suffered major political upheavals resulting in severe economic downturns and uncertainties that will impact on the viability of projects in all areas, including ICT. Lack of awareness, political will, consultation, etc are other problems that will impact negatively on the prospect of ICT projects. Most projects are from a top-down approach and there is a need to involve people as partners rather than recipients of aid. Hence more dialogue and consultation is needed. Research, surveys and reviews may help to clarify needs and priorities.

### **Recommendation on decisions to be taken during the APIN Session**

Priorities: In my paper to the last APIN meeting, I stated that a special effort needs to be made to bring about greater participation of libraries in the ICT sector. I feel that this is still very much a priority for the Pacific Islands. Whilst much attention has been given to technology issues, library and content issues have still been left out. This need was identified by the Pacific IFAP meeting as well as the National Symposium held in Fiji. Within the Pacific region, we have called for library and content issues to be added to the agenda of the next Pacific ICT Ministers' Meeting (expected to be held in the second quarter of 2007). I reiterate the priorities that I had identified in my previous paper:

- Basic information needs survey
- Assistance in planning and development of library services
- Awareness raising and mobilising the support of government and community leaders
- Assistance in implementing technology, integrated systems, etc. including reduction of costs by lowering tariffs, cost of equipment, etc.
- Assistance in human resource development, collection development (e.g. consortium arrangements for online databases), capital projects (physical space upgrade, etc.)
- Assistance with Information Literacy programmes
- Assistance with Digitisation programmes. Many cultural heritage collections are under threat due to deterioration. Digitisation would help to preserve them as well as make them more accessible.

### Action Plan to Establish IFAP (Information for All Programme) National Committees:

- Pacific countries have found it difficult to establish national IFAP committees due to limited resources. Assistance in doing this will be appreciated.
- The Fiji Library Association and USP Library organized the *Information for All: National Symposium* on 19<sup>th</sup> September 2006 with funding assistance from Pacific Unesco. It aimed to develop an understanding of IFAP; to encourage government, policy makers, educators and civil society to be active participants in information initiatives in Fiji; and to develop strategies and directions to develop Information for All in Fiji.
- Meanwhile, a Pacific IFAP Committee has been formed by broadening the scope of the New Zealand IFAP Committee to include participation from the Pacific region. This move was

initiated and supported by the Pacific Office for Unesco in Samoa. A Pacific participant has been funded to attend each of the two meetings held last year and there are plans to enhance participation through audio-conferencing. The inaugural meeting (that I attended, sponsored by Pacific Unesco) held in May 2006 has urged the Pacific ICT Ministers to add content/library issues to the agenda of their next meeting. Pacific IFAP has chosen to focus on a "Pacific Memory" project to identify, preserve and make accessible the "founding documents" of Pacific Island nations (e.g. Fiji's Deed of Cession 1874, Independence documents, Constitutional documents, etc.). The project aims to develop its own *Pacific Memory-of-the-World Register* since it was so difficult to get documents registered in Unesco's MOW Register. Pacific Unesco has contracted the NZ Electronic Text Centre of the Victoria University of Wellington to develop a website. An initial list of documents and their locations has been drawn up but much work still needs to be done to locate some of the original documents.

#### Unesco's Medium Term Strategy 2008-2013 and APIN's role:

- APIN can play a significant role in helping to achieve their strategic programme objectives. A lot more attention needs to be given to the important roles that libraries can play in achieving the strategic objectives that have been defined
- APIN should support the call for the *Unesco Programme for Small Island Developing States* to continue into the 2008-2013 strategy. This would assist ICT development in the Pacific Island countries.
- In the area of Education, APIN can play a big role in helping to achieve quality education for all through improved access to information, free flow of information, excellent library services, improved media, improved ICT, the development of knowledge societies, etc.
- It could also play a significant role in the promotion of increased understanding of cultural diversity, preservation of cultural heritage, tolerance, etc. through the provision of information for all, etc.
- The promotion of good governance, democracy, etc. are other areas that APIN should play a role in achieving.

#### Human Resources Development:

- The need for human resources development is a priority for the Pacific Islands. USP and other educational institutions have successful training programmes in computer science and plans have been put in place to develop further the IT skills of talented young people. A major aim of these programmes is to try to retain talented people in the Pacific as the brain drain of qualified and skilled people to neighbouring countries such as Australia and NZ is a big problem. There is a need to institute scholarships, sponsorships, etc. for needy students who would not be able to afford to enrol
- There is an acute shortage of trained librarians and archivists in the Pacific. Urgent attention is needed. USP runs a para-professional course in library and information studies but professional studies must be done abroad. Very few Pacific Islanders can afford to study abroad on their own, so again we are very dependent on scholarships and sponsorships for training personnel. We have also been collaborating with Parbica (Pacific Region Branch of the International Council of Archives) in developing a Certificate in Records Management but have been hampered by lack of finance to move the project forward.

#### National Information Policies:

- Fiji adopted the *National Information Communications and Technology Policy* in 2005, based on three platforms: E-Government, E-Commerce and E-Community. The Minister promised

to provide at least one telephone in every village and claimed to have achieved this in 64% of villages in Fiji. The focus is more on technology issues rather than “information” issues.

- Samoa adopted its national ICT strategy in 2004 with the vision “Information and Communications Technologies for Every Samoan”<sup>3</sup>

#### Content Development & Knowledge Management:

- Most governments have official websites and most news agencies (newspapers, radio, tv) have also developed websites. Commercial sites (e.g. real estate, accommodation, tours, etc.) marketing products are also on the increase. Some of the larger libraries are digitizing heritage materials, research, etc. More attention needs to be given to content issues.

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<sup>3</sup> Purcell (2005) p.152

**Annex 1 : Pacific Island Nations : Country Profiles**

Country	Political Status	Population Est. (2006)	Urban Population (% of Total 2004)	Land Area Sq. km	EEZ Sq. km	Economy	GDP Per Capita US\$
American Samoa	US Territory	66,000		199		Canned tuna	9,041
Commonwealth of the Northern Marianas	C'wealth in political union with US	84,487		477		Tourism, garments. Substantial assistance and subsidies from US	8,047
Cook Islands *	Self governing, Free Assoc with NZ	20,300	70.2	240	1.8m	Agriculture, Black Pearls, Offshore banking, Tourism	8,821
Federated States of Micronesia	Independent, Free Assoc with US	110,218	23.3	704.6	2.9m	Agriculture, Fisheries	1,951
Fiji *	Independent, Ousted from Brit. C'wealth	846,085	51.7	18,333	1.26m	Tourism, Agriculture (Sugar), Garments, Fisheries, Forestry	5,085
French Polynesia	Overseas French Terr since 1946	260,338		3,660		Tourism, Agriculture (copra, vanilla, vegetables, fruit, timber, fish, cobalt); black pearls	15,637
Guam	Unicorporated US Territory	167,371		549		Tourism, US military base presence and other US federal spending	22,661
Kiribati *	Independent	93,706	47.4	811	3.6m	Copra, Fisheries, Seaweed	673
Nauru *	Republic	10,131	100	21	320,000	Phosphate	6,133
New Caledonia	French Territory since 1956	238,035		18,575		Nickel	15,000
Niue *	Self governing, Free Assoc with NZ	1,679		259	390,000	Agriculture, Banking, Telecommunications (nu domain), Tourism	5,800
Palau	Independent, Free Assoc with US	20,600	68.6	458	600,900	Fisheries, Tourism	7,600
Papua New Guinea	Independent Brit. C'wealth	5,620,000	13.2	452,860	3.1m	Agriculture, Fisheries, Forestry, Mining	560
Republic of Marshall Islands *	Constitutional Govt, Free Assoc with US	56,242	66.4	181	2.1m	Agriculture, US Military	2,142



Samoa *	Independent from NZ 1962	185,234	22.3	2,850	120,000	Agriculture, Fisheries, Manufacturing, Tourism	2,307
Solomon Islands *	Independent Brit. C'wealth	487,237	16.5	27,540	1.6m	Agriculture, Fisheries, Forestry	302
Timor Leste	Independent (from Portugal)	947,000 (Est.2005)	7.6	14,609		Devastated economy due to political instability; Petroleum & natural gas being developed; potentially lucrative coffee industry (esp. organic coffee)	400
Tokelau *	Self-admin. Territory of NZ	1,152		12		Stamps, copra, handicrafts. Remittances and subsidies from NZ.	612
Tonga *	Constitutional monarchy	101,800	33.4	747.34	700,000	Agriculture	1,614
Tuvalu *	Independent	11,200	55.2	26	757,000	Agriculture, Fisheries, Philatelic Sales, Telecommunications (tv domain)	1,374
Vanuatu *	Independent Republic. Brit C'wealth	221,417	22.8	12,200	680,000	Agriculture, Fisheries, Tourism	1,571
Wallis & Futuna	Overseas French Terr.	15,260		274		Subsistence agriculture; French Government subsidies, licensing of fishing rights to Japan and South Korea, import taxes, and remittances from expatriate workers in New Caledonia	3,800

\* Member countries of the University of the South Pacific

**Sources:**

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**Annex 2: Pacific Island Nations : Communications Infrastructure**

Country	Literacy Rate (15 years and over %) 2000-2004		Top Level Domain	Telephones (Per 100 population 2003)	PCs in Use (Per 100 population 2003)	Internet Users (Per 100 population 2003)	Radio	TV	Magazines, Newspapers	ISPs
	F	M								
American Samoa			as	Land lines: 10,663 Mobiles: 8,065 (2005)			AM1, FM4. Shortwave0 (2006)  Radios: 57,000 (1997)	TV4: Govt KVZK-TV; Private AS Cable Vision, Malama, Cable PCS-TV  TVs: 14,000 (1997)	Samoa News, Samoa Tribune	3 ISPs: AS Telecom Authority, Blue Sky Comm., Pacifica IT  1 Domestic Comsat & 1 Internat. Intelsat.
Commonwealth of the Northern Marianas			mp	Land lines: 15,000 Mobiles: 1,200 (1995)			AM2, FM3, Shortwave 1 (1995)	1 on Saipan; 2 planned on Rota; 2 cable on Saipan	American Pacific Business, Hafa Adai, Island Locator, Saipan Tribune, Marianas Variety, Pacific Daily news, Pacific Times, North Star	PTL, Saipan Datacom, Saipan Cellular and Paging, I Connect, AAA Cellular, Saipan Cell  2 Intelsat
Cook Islands *	94	93	ck	42.84  Land lines: 6,200 (2003) Mobiles: 1,500+ (2006) GSM 900 MHz being put in place 2004-	21.88	20.11	AM1, FM2  Radios: 14,000 (1997)	2 TV stations plus 8 low-power repeaters (1997)  TVs:4,000	CI news, CI Herald, CI Times	1 ISP: Telecom Cook Islands  Domestic: network of satellite, microwave, VHF and HF radiophone. International: 1 Intelsat
Federated States of Micronesia	94	96	fm	15.77  Land lines: 8,000 (1995)		9.27	AM5, FM1	3 stations including Cable	Kaselehlie Press	1 ISP: FSM Telecom  4 Intelsat
Fiji *	91	95	fj	25.66  Land lines: 65,000 (1995)  Mobiles: >200,000 (2006)	5.09	6.66	AM13, FM40, Shortwave0 (1998)  Radios 500,000 (1997)	Fiji TV One, Sky Pacific (12 channels), 2 Christian stations  TVs 21,000 (1997)	Fiji Times, Fiji Daily Post, Fiji Sun, Islands business, Fiji Living, Marama, Turaga, Living in Fiji, Teivovo, Nai Lalakai, Shanti Dut, Volasiga, Chinese Daily Post	3 ISPs (2006) incl. Connect, Unwired.  Wire/Radio integrated telephone system; Southern Cross Cable link to US, Canada, NZ and Aust.; Intelsat

French Polynesia			pf	Land lines: 32,000 Mobiles: 4,000 (1995)			AM2, FM14, Shortwave 2  Radios: 128,000 (1997)	7 (plus 17 low- power repeaters)  TVs: 40,000 (1997)	La Depeche, Les Nouvelles, Tahiti Beach Press, Tahiti Pacifique, Tahiti Press Agency	Mana (under OPT)  1 Intelsat
Guam			gu	Land lines: 70,000 (2006) Mobiles: 55,000 (1998)  1997: added to North American No. Plan			AM4, FM7, Shortwave2 (2005)  Radios: 221,000 (1997)	KUAM, ABC7, KGTF, plus Cable channels  TVs: 106,000 (1997)	Pacific Daily news, Marianas Variety	6 ISPs: MCV Broadband, GTA, IT&E, GuamCell Comm, Verizon, Broadband DSL; also access to US  2 Intelsat and submarine cables to US & Japan
Kiribati *	91	94	ki	5.68  Land lines: 3,800 (1999) Telephones only in Tarawa & Kiritimati; Radio phones elsewhere	1.14	2.28  1,000 Internet users in 2000	AM1, FM2	1 TV station (inactive)  TVs: 1000 (1997)	Kiribati Newstar	1 ISP  1 Intelsat
Nauru *	95	95	nr	28.98  Land lines: 2,000 Mobiles: 450 (1994)		2.59	AM1 (1998)  Radios: 7,000 (1997)	1 TV station  TVs: 500 (1997)		1 ISP: CenpacNet Inc. (govt. owned)  1 Intelsat
New Caledonia			nc	Land lines: 53,300 Mobiles: 116,400 (2004)			AM1, FM5 (1998)  Radios: 107,000 (1997)	6 TV stations; 25 low-power repeaters  TVs: 52,000 (1997)	Les Nouvelles Caledonniennes	2 ISPs  1 Intelsat
Niue *			nu	Land lines: 800 Fixed wireless: 300 Mobiles: Undisclosed (2003)		FREE Wifi Internet	AM1, FM1 (Radio Sunshine)  Radios: 1,000 (1997)	Niue Station	Niue Star	1 ISP operated by Emani Lui

Palau	88	94	pw				AM1, FM4, Shortwave 1	1 TV Station	Palau Horizon, Roureur Belau, Tia Belau, Island Times	1 ISP
Papua New Guinea	51	63	pg	1.41  Land lines: 62,000 Mobiles: 15,000 (2002)	5.87	1.37	AM8, FM19, Shortwave 28 (1998)  Radios: 410,000 (1997)	3 TV Stations  TVs: 42,000 (1997)	Post Courier, The National	5 ISPs: Daltron, Datec, Global Technologies, Data Nets, Telikom PNG  1 Intelsat; Submarine cables to Aust. & Guam
Republic of Marshall Islands *	92	92	mh	9.38  Land lines: 3,000 Mobiles: 280 (1994)	5.64	2.59	AM3, FM4 (1998)	3: Marshalls Broadcasting (Cable) & 2 US military stations	Marshalls Journal, www.yokwe.net	National Telec. Authority  2 Intelsat, US Govt. satellite system on Kwajalein atoll
Samoa *	98	99	ws	13.05  Land lines: 8,000 (2005) Mobiles: >30,000 (2005) Land lines cover 65% of country; GSM 90%	0.67	2.22	AM2, FM5 (Samoa Broadcastin g Corp, Radio Polynesia, Laufou)  Radios: >20,500	3 (SBC plus 2 new stations LAU TV and TV3) in the process of switching from PAL to NTSC (2005)  TVs: 15,603 (2001)	Samoa Observer, Newslite, Le Samoa, Samoa Post, Samoana, Teuila	3ISPs: Samoa Computer Services, Lesamoa, ipasifika.net
Solomon Islands *	20	38	sb	1.62  Land lines: 7,000 (1995) Mobiles: 230 (1995)	4.05	0.52	AM1, FM4, Shortwave 1 (SIBC)  Radios: 57,000 (1997)	1 news service, BBC, Australian Network relays by Solomon Telekom  TVs: 3,000 (1997)	Solomon Star, Island Sun, National Express	1 ISP (Solomon Telekom, linked to Intelsat)  People First Network (PFnet) operates an email network with 17 rural access points (2005)
Timor Leste	43	43	ti (tp being phas ed out)	Land lines: 2,100 Mobiles: 25,000 (2004)		Dialup: 2,100 users Broadban d: 50 (2004)	4 stations, plus FM transmission s from Portugal, ABC, BBC	1 TV station, plus transmissions from Portugal, ABV, BBC		2 ISPs  VOIP and Skype blocked
Tokelau *			tk				Radio Broadcast Station on each of the 3			Radio telephone service to Samoa through the government regulated Tele Tok

							islands that broadcast shipping and weather reports			
Tonga *	99	99	to	14.67 Land lines: 7,000 (1995) Mobiles 114 (1995)	2.02	2.92	AM1, FM5 (2005)  Radios: 61,000 (1997)	4 TV stations (2005)  TVs: 2,000 (1997)	The Times of Tonga. Taumu'a Lelei, Eva, Matangi Tonga (online), Planet Tonga (online)	2 ISPs  2 Intelsat
Tuvalu *	95	95	tv	6.84  Land lines: 700 (2002)	5.87	18.75	AM1, FM1, Shortwave0 (1998)  Radios: 4000 (1997)		Tuvalu Echoes (govt.)	1 ISP (govt.)  Radiotelephones between islands
Vanuatu *	30	37	vu	6.90  Land Lines: 6,800 (2004) Mobiles: 10,500 (2004)	1.48	3.61	AM2, FM4, Shortwave1 (2004)  Radios: 62,000 (1997)	Vanuatu Broadcasting & TV  TVs: 2,000 (1997)	The Vanuatu Independent, The Ni-Vanuatu, Daily Post	1 ISP (Telecom Vanuatu Ltd.) Cost: US\$200 pm 128kbps ADSL line  1 Intelsat
Wallis & Futuna		50 (M & F)	wf	Land lines: 1,125 (1994)			RFO broadcasts AM & FM Stations	2 TV stations	Te Fenua Foou	1 ISP

\* Member countries of the University of the South Pacific

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