

**Establishment of Harmonized Policies for the ICT Market in the ACP Countries**

**National ICT Policy:  
Knowledge-based Report**

**ICB4PAC**

**Capacity Building and ICT  
Policy, Regulatory and  
Legislative Frameworks  
for Pacific Island Countries**





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ICT Policy, Regulatory  
and Legislative  
Frameworks for Pacific  
Island Countries



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## Foreword

Information and communication technologies (ICTs) are serving as the most important driving force behind the Pacific Islands' economic and social integration into the wider global community.

In light of the huge changes that are taking place and mindful of the need to shape them in ways that best reflect the aspirations of the individual islands societies -- each with their unique heritage -- 15 Pacific countries in the Group of African, Caribbean and Pacific States (ACP) have come together to develop and promote the use of harmonised ICT policies, legislation and regulatory frameworks.

This cooperation has taken the form of a project entitled "Capacity Building and ICT Policy, Regulatory and Legislative Frameworks Support for Pacific Island countries" (ICB4PAC). Executed by the International Telecommunication Union (ITU), the project has been undertaken in close collaboration with the Pacific Islands Forum Secretariat (PIFS), Secretariat of the Pacific Community (SPC), Pacific Islands Telecommunication Authority (PITA), and the Pacific ICT Regional Regulatory Centre (PIRRC), with the support of the University of the South Pacific (USP). A global steering committee composed of the representatives of the ACP Secretariat and the Development and Cooperation - EuropeAid (DEVCO, European Commission) oversees the overall implementation of the project.

This project is taking place within the framework of the ACP Information and Telecommunication Technologies (@CP-ICT) programme and is funded under the 9<sup>th</sup> European Development Fund (EDF), which is the main instrument for providing European aid for development cooperation in the ACP States, and co-financed by the ITU. The @CP-ICT aims to support ACP governments and institutions in the harmonization of their ICT policies in the sector by providing high-quality, globally-benchmarked but locally-relevant policy advice, training and related capacity building.

All projects that bring together multiple stakeholders face the dual challenge of creating a sense of shared ownership and ensuring optimum outcomes for all parties. ICB4PAC has given special consideration to this issue from the very beginning of this project in November 2009. Having agreed upon shared priorities, stakeholders reviewed the methodology and governance for implementing the project. The specific needs of the region were then identified and likewise potentially successful regional practices; these were then benchmarked against practices and standards established elsewhere.

These detailed assessments (knowledge-based reports), which reflect country-specific particularities, served as the basis for the model policies and legislative texts that offer the prospect of a legislative landscape for which the whole region can be proud. The project is certain to become an example for other regions to follow as they too seek to harness the catalytic force of ICTs to accelerate economic integration and social and economic development.

I take this opportunity to thank the European Commission and ACP Secretariat for their financial contribution. I also thank the Pacific Islands Forum Secretariat (PIFS) and the Secretariat of the Pacific Community (SPC) for their contribution to this work. Without political will on the part of beneficiary countries, not much would have been achieved. For that, I express my profound thanks to all the ACP governments for their political will which has made this project a resounding success.



Brahima Sanou  
BDT, Director



## Acknowledgements

The report documents the achievements of the regional activities carried out under the ICB4PAC project Capacity Building and ICT Policies, Regulations and Legislative Frameworks for Pacific Island Countries, officially launched in Fiji in November 2009.

In response to both the challenges and the opportunities from information and communication technologies' (ICTs) contribution to political, social, economic and environmental development, the International Telecommunication Union (ITU) and the European Commission (EC) joined forces and signed an agreement aimed at providing *“Support for the Establishment of Harmonized Policies for the ICT market in the ACP”*, as a component of the programme *“ACP-Information and Communication Technologies (@CP-ICT)”* within the framework of the 9<sup>th</sup> European Development Fund (EDF), i.e., ITU-EC-ACP project.

This global ITU-EC-ACP project is being implemented through three separate sub-projects customized to the specific needs of each region: Pacific island countries (ICB4PAC), the Caribbean (HIPCAR) and sub-Saharan Africa (HIPSSA).

The ICB4PAC project coordinator and support team at ITU Head Office in Geneva provided guidance and support to the expert, Mr. Eric Lee, appointed to. A draft of the assessment produced was reviewed, discussed and adopted by a broad consensus of the participants at the first workshop to discuss and agree its findings (the Solomon Islands, April 2010).

ITU would like to especially thank the workshop delegates from the Pacific Island ICT and telecommunication ministries, regulators, academia, civil society, operators, and regional organizations for their hard work and commitment in producing the contents of this report. These include the Pacific Island Forum Secretariat (PIFS), University of the South Pacific (USP), Secretariat of the Pacific Communities (SPC), Pacific Island Telecommunications Association (PITA). This broad base of public sector participation representing different sectors allowed the project to benefit from a cross-section of views and interests.

Without the active involvement of all of these stakeholders, it would not have been possible to produce a report such as this, reflecting the overall requirements and conditions of the Pacific Island region while also representing international best practice.

The activities have been implemented by Ms Gisa Fuatai Purcell, responsible for the coordination of the activities in the Pacific (ICB4PAC Project Coordinator), and Mr Sandro Bazzanella, responsible for the management of the whole project covering sub-Saharan Africa, Caribbean and the Pacific (ITU-EC-ACP Project Manager) with the overall support of Ms Reshmi Prasad, ICB4PAC Project Assistant, and of Ms Silvia Villar, ITU-EC-ACP Project Assistant. The work was carried out under the overall direction of Mr Cosmas Zavazava, Chief, Project Support and Knowledge Management (PKM) Department. The document has further benefited from comments of the ITU Telecommunication Development Bureau's (BDT) ICT Applications and Regulatory Monitoring and Evaluation Division (RME). Support was provided by Mrs. Eun-Ju Kim, Regional Director for Asia and the Pacific.. The team at ITU's Publication Composition Service was responsible for its publication in hard copy and online.





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## Executive Summary

This report provides a snapshot of the ICT situation in the ACP member countries of the Pacific Islands in 2010. There has been a dearth of information on ICT policy development in the Pacific Island countries in general and, until this report was completed, on development of national ICT policy in particular.

This assessment of the current situation was conducted as part of the project jointly funded by the International Telecommunication Union (ITU) and the European Commission (EC). The project, Capacity Building and ICT Policies, Regulations and Legislative Frameworks for the Pacific Island countries (ICB4PAC), is a sub-project of the global project for Africa, Caribbean and Pacific (ACP) member countries. The recipient countries in the Pacific are: the Cook Islands, Fiji, Kiribati, the Marshall Islands, Micronesia, Nauru, Niue, Palau, Papua New Guinea, Samoa, the Solomon Islands, Timor-Leste, Tonga, Tuvalu and Vanuatu.

The project was officially launched in Nadi, Fiji, in November 2009. The launch was supported by the Pacific Island Forum Secretariat and other regional organizations as well as donor and partner organizations. Participants at the official launch included the 15 recipient member countries, civil society, the private sector and academia.

At the launch, participants were asked for their priority telecommunication and ICT needs. Bearing in mind the limited timeframe and funding, six topics were selected from this list to be addressed by ICB4PAC:

1. national ICT policy;
2. interconnection and cost modeling, and international mobile roaming;
3. licensing;
4. numbering;
5. universal access and services;
6. cybersecurity/crime.

ICB4PAC's objective is to build local capacity and facilitate the establishment of sustainable telecommunication and ICT policy, regulations, legislative and strategic frameworks to accelerate telecommunication and ICT development, maximize economic and social benefits, and serve national priorities in line with the goals of the World Telecommunication Development Conference (WTDC06) Declaration<sup>1</sup> of ITU and the WSIS<sup>2</sup> Plan of Action<sup>3</sup>, in and among ACP countries in the Pacific Island region.

The project is assisting individual beneficiary countries to adopt and implement ICT policies, regulatory and legislation guidelines. At the same time, it is focused on building human and institutional capacity in the field of ICT through a range of targeted training and knowledge-sharing measures at regional and national levels.

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<sup>1</sup> The ITU World telecommunication development conference declaration of the Doha meeting in 2006 (WTDC06) declared the need to be responsive to small island developing states (SIDS) in terms of emerging technologies. See ITU (2006).

<sup>2</sup> WSIS refers to the World Summit of the Information Society led by the ITU. The first summit was held in Geneva in 2003 where the WSIS Declaration was agreed upon by all ITU member states and the second summit was held in Tunisia in 2005 where the Plan of Action was finalized and agreed to by all ITU member states. See WSIS (2003a) for all documents and follow up meetings.

<sup>3</sup> WSIS (2003b).

The project uses a demand-driven, bottom-up approach that pays specific attention to linking the substance of policies and regulations to capacity building, and transposing regional discussions to each individual country's needs so that they can be matched to the objectives of the project. Within the context of ICB4PAC, this report's objective is to assess and review the status of national ICT policy development including the issues facing countries, resources and also best practices in the 15 countries.

This report was compiled from January to March 2010, using replies to a data collection form that was sent to the appointed key contact person in each recipient country, and a desk study. The research found that only 5 out of 15 countries had national ICT policies. The issues reported by the countries include a lack of skilled staff, political will and funding. The first draft was sent to key contacts to solicit comments and feedback. The draft assessment report was then sent back to each contact person for review and feedback. The draft report was later discussed in depth during a workshop (the Solomon Islands, April 2010), where the content of the report was agreed by consensus. A list of the participants is attached in Appendix A.

The findings indicated that only five countries had a national ICT policy. This was confirmed by the workshop participants, which led to the decision that it was best to conduct an ICT workshop for decision makers. At this workshop, conducted in Tonga, June 2010, the decision makers unanimously agreed that it is important for all the countries to have a national ICT policy developed because such a policy sets the direction of ICT development in each country.

As of April 2012, 13 out of 15 recipient countries have had their national ICT policy developed and public consultation conducted. The only two countries yet to receive assistance in developing their national ICT policies are Timor-Leste and the Solomon Islands. The in-country support for these two countries will be conducted in July 2012.

# 1 Introduction

## 1.1 Background to the report

This report has been prepared as part of the ITU-EC joint project, Capacity Building and ICT Policies, Regulations and Legislative Frameworks for Pacific Island Countries (ICB4PAC). It is funded by the EC and ITU, and designed for the benefit of the Pacific Island countries. These countries are the Cook Islands, Fiji, Kiribati, the Marshall Islands, Micronesia, Nauru, Niue, Palau, Papua New Guinea, Samoa, the Solomon Islands, Timor-Leste, Tonga, Tuvalu and Vanuatu. The project aims are to develop and promote capacity building in ICT policies, and regulatory and legislative frameworks for these countries, through a range of targeted training, education and knowledge-sharing measures.

Within the context of ICB4PAC, the objective of this report is to assess and analyse the national ICT policies drafted, adopted or under review in the 15 recipient countries. This process has identified commonalities, best practices and limitations that form the basis of a set of recommendations for both individual countries and the region. During the analysis, examples of international and regional best practice are used to illustrate the recommendations.

The report focuses on available written national ICT policy statements (adopted, drafted or reviewed) and the process of developing, adopting and implementing them. In doing so, the report seeks to consolidate lessons from the region about how a country goes about preparing a national ICT policy, including what a good ICT policy statement addresses, how it is structured and the process involved in developing it. This approach reflects the project's view that national ICT policy statements are important instruments for reform in the overall national ICT development process, encapsulating an expression of political will for the ICT sector at the time of adoption.

In some cases, however, governments may have changed since a national ICT policy statement was adopted while, in other cases, parts of the national ICT policy may already have been successfully implemented or superseded by events. In some countries, the actual government aspirations, strategies and plans may either be more developed than, or lag behind, the draft or adopted written national ICT policy statements that were made available for this research. In some countries, then, the draft or adopted national ICT policy statements discussed in this report may not reflect actual government intentions for or activities in the sector.

Focusing on policy statements as instruments of reform and development, the report does not evaluate the substantive ICT policies themselves. This would require far more extensive analysis of the markets in each country and discussions with policy-makers and market participants. The report does not, for example, examine the benefits of, or the successes anticipated or realized from, introducing different levels of competition in some or all ICT market segments. The report does not evaluate which countries' policies have succeeded more than others. Nor does it compare the various sector laws, independent regulatory institutions, licensing schemes, radio spectrum usages, government ICT procurement commitments, digital literacy measures, computer penetration initiatives or other policy steps that have actually been introduced.

The question has arisen whether a harmonized model policy statement could be developed as a basis for policy-making by the Pacific Island countries. Although this report seeks to identify some commonalities and make recommendations applicable uniformly across the region, the effectiveness of an ICT policy in one country does not guarantee that the same recipe would work in another. While the countries share many similar characteristics, differences between them can be stark. For example, populations vary from more than 7 million to just 1,500. The topologies of the countries vary significantly too, with some comprising numerous small islands and others only one or two islands. This has major implications, for example for the type of infrastructure investment required and the optimal level of competition that can be introduced in the various ICT network and service market segments.

This report aims to provide an overview and a broad assessment of the national ICT policy statements and processes in the region. Commonalities, best practices and shortcomings are highlighted. The report concludes with a set of recommendations for making improvements.

The report was carried out as desk research, that is without travelling to the countries and based on limited information provided by the countries directly through a data survey compiled with the assistance of the ICB4PAC secretariat. The report also draws from the considerable regional national ICT policy resources that are available. In particular, the Pacific Islands ICT Policy and Strategic Plan (PIIPP), which to a large extent already represents a model national ICT policy and strategy for the region, and the Pacific Regional Digital Strategy. It also relies on regional best practice examples from those Pacific Island countries that have had more experience in developing and implementing national ICT policies.

Following the desk research, a workshop was held (the Solomon Islands, April 2010) to evaluate the first draft of the report. Assessment findings were discussed and agreed by consensus after further changes were made based on the advice of participants. There were 56 participants at the workshop. The list of participants is in Annex A.

## 1.2 Organization of the report

This report is divided into five chapters.

Chapter 2 gives an overview of the status of national ICT policy statements that have been drafted, adopted or are under review in the Pacific Island countries, and a summary of key regional initiatives related to the development of national ICT policies.

Chapter 3 constructs a framework for the assessment of national ICT policy statements in the region. It breaks down a national ICT policy into its component parts (substance, structure and process) against which the national ICT policies of the Pacific Island countries can be assessed. Using this breakdown, this chapter also highlights best practices from the region.

Chapter 4 is a country-by-country assessment of the 15 recipients. The assessment describes each country's national ICT policy framework. It then analyses the relative strengths and limitations of the different components of the national ICT policy and makes recommendations for improvements.

Chapter 5 provides some concluding observations and recommendations.

## 1.3 What is a national ICT policy?

The word 'policy' is typically used to describe a course of action that guides decision making so as to achieve a certain outcome. For the purposes of this report, the term 'national ICT policy' is used to describe a document that defines a country's general direction in relation to ICT and national development, typically in the form of a set of goals and objectives.

In contrast to a telecommunication or communication policy, which is a document that generally focuses on reforms in a broad sense, a national ICT policy is a holistic document that addresses the use of ICT in the context of national development. As such, it typically addresses a wide range of issues such as the expansion of access to ICT infrastructure; the fostering of ICT-related human resources development; and the use of ICT in governance and the delivery of public services.



## Section I

A national ICT policy is increasingly seen as an indispensable tool for national ICT development. In this respect, it has a number of overlapping roles:

- Preparing a policy statement involves thinking through goals and objectives on a national level and working out practical ways to achieve them; it is a key step in conceptualizing a country's direction and setting it on course
- Developing a policy statement is an opportunity for gathering information, increasing public awareness and building consensus around key issues facing the ICT sector
- Once adopted by government, a policy develops political momentum, having government authority to support its implementation, permitting the more rapid deployment of human and financial resources, and the introduction of legal change and other reforms
- As an official declaration of national goals, a national ICT policy and strategy provides a sense of predictability, increasing the confidence of foreign investors and trading partners in a country
- A national ICT policy provides a sense of purposefulness and direction by placing activities in the context of a larger common goal.

The increasing adoption of national ICT policies in the Pacific region will be a key catalyst for the ICT development of the region as a whole.



## 2 National ICT policies in the Pacific

### 2.1 The status of national ICT policies among the Pacific Island countries

The process of developing national ICT policies and strategies has already begun in most of the Pacific Island countries, as shown Table 1. Five countries (the Cook Islands, Fiji, Papua New Guinea, Samoa and Tonga) have adopted national ICT policies with three of these (the Cook Islands, Fiji and Samoa) already embarking on the process of policy review or renewal, having adopted their policies more than six years ago.

The remaining countries are at various stages of the development process. For example, at one end of the scale, the Marshall Islands and Micronesia have completed drafts of their national ICT policies, while at the other end of the scale, the governments of Nauru and Vanuatu have recently acknowledged the need for national ICT policies and have tasked relevant institutions to commence their development.

**Table 1: Overview of national ICT policy adoption in the region**

Country	National ICT policy adopted		No national ICT policy adopted		
	Adopted	Evaluation (review)	Draft prepared	Consultation performed	Assessment performed
Cook Islands	✓	✓			
Fiji	✓	✓			
Kiribati <sup>1</sup>			✓	✓	✓
Marshall Islands			✓	✓	✓
Micronesia			✓	✓	✓
Nauru					
Niue				✓	✓
Palau					
Papau New Guinea	✓				
Samoa	✓	✓			
Solomon Islands				✓	✓
Timor-Leste				✓	
Tonga	✓				
Tuvalu				✓	✓
Vanuatu					
<b>Total</b>	<b>5</b>	<b>3</b>	<b>3</b>	<b>7</b>	<b>6</b>

<sup>1</sup> Although a draft national ICT policy is in the course of being prepared, the latest version was unavailable at the time this report was being produced.

### 2.2 Key ICT policy-related initiatives in the region

A number of regional initiatives have been instrumental in laying the foundation for national ICT policy development among the Pacific Island countries.

### 2.2.1 e-Pacifika

Between 2002 and 2003, an initiative was launched to assist all Pacific Island countries to develop national policies and strategies. Financed by Japan and implemented by United Nations Development Programme (UNDP) and United Nations Office for Project Services (UNOPS), the e-Pacifika programme was intended to raise the level of awareness among leaders and decision-makers about the value of ICTs in economic and social development as well as coping with emerging global issues such as environmental conservation. More importantly, it was to have assisted each country in formulating and adopting a national ICT policy and strategy through the catalyst of national workshops.

To some extent, the e-Pacifika programme illustrates the limitations of third-party initiation of the national ICT policy process. Although the programme supported a number of national ICT workshops, very few countries continued with the policy development process. Nevertheless, although the aims of the programme were not fully met, e-Pacifika represented a pioneering effort that increased awareness of the importance of national ICT policies and strategies in the region. It also played a large role in initiating the development of the national ICT policy of the Cook Islands.

### 2.2.2 Pacific Islands ICT Policy and Strategic Plan (PIIPP)

The ICT Working Group of the Council of Regional Organizations of the Pacific (CROP) has an intergovernmental mandate to coordinate ICT planning among Pacific regional organizations. As early as 1999, it identified the need for a regional ICT policy and strategic plan. Following extensive consultations, it initiated a process that brought together policy and technical representatives from Pacific Island countries who prepared a draft regional policy document and strategic plan.

The resulting PIIPP was endorsed at ministerial level in February 2002 at the Forum Communications Policy Meeting. The meeting recognised the regional vision: ICTs for every Pacific islander. The PIIPP serves as a framework for regional planning and coordination and is a guide for developing complementary national ICT policies and strategies. It contains detailed goals, objectives and implementation activities in four main areas: human resources development, infrastructure, applications for public/private sector cooperation, and appropriate governance frameworks.<sup>4</sup>

To a large extent, the PIIPP serves as a model template for national ICT policy and strategy in the region. It contains all the key elements that are necessary for a national ICT policy and strategy such as policies on human resource development and infrastructure and the creation of suitable legislation and regulation. A product of extensive consultation between the Pacific Island countries, it also addresses some common problems shared by a majority of countries such as the need to improve international Internet connectivity.

The PIIPP was the starting point for the development of the national ICT policy and strategic plans of Samoa and Tuvalu.

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<sup>4</sup> Pacific Islands Forum Secretariat (2002a).

### 2.2.3 The Pacific Regional Digital Strategy

In 2005 the Pacific Islands ICT Policy and Strategic Plan was endorsed by Pacific Island Forum Leaders with the Pacific Regional Digital Strategy as an essential component. Based on the understanding that regional solutions would help overcome the lack of scale in the Pacific, the digital strategy establishes a broad roadmap of actions to accelerate the development of ICT in the region.<sup>5</sup> Building on the PIIPP, the strategy calls for modern legislation, regulatory development and the establishment of an environment which is conducive to investment based on policies that reflect the potential of ICT. It supports the installation of new infrastructure and expanded access, and encourages the development of platforms, applications and content to provide ubiquitous services in society, economy and government.

Specifically, the strategy established the following priorities:

- improving access to communications technology;
- reducing costs;
- establishing higher bandwidth connection to the global ICT ‘backbone’;
- removing inappropriate regulatory environments;
- attracting higher levels of investment;
- strengthening ICT skills.

The development of a national ICT policy in each country was one of the priority initiatives identified in the roadmap for the digital strategy.

### 2.2.4 ICT Ministerial Taskforce

The meeting of Pacific Island Forum ICT ministers in New Zealand in 2006 focused on the implementation of the digital strategy.<sup>6</sup> It immediately recognized the need to benchmark the ICT sector and to accelerate the development of national policies and strategies. The meeting also established a task force to advance some of the thrusts of the digital strategy, including identifying the regional synergies described above.

The task force has endorsed the formulation of a regional regulatory resources support mechanism and initiated activities to improve satellite and submarine cable connectivity to the region. However, since achieving this, it has been inactive.

### 2.2.5 e-readiness assessments

Following on from the ministerial meeting in New Zealand, a project to benchmark the ICT sector in the Pacific Island countries was launched in 2007. The project conducted an e-readiness assessment in the Pacific island countries using the Harvard Centre for International Development model. The project team comprised experts from various agencies including the Secretariat of the Pacific Community (SPC) and the South Pacific Applied Geoscience Commission (SOPAC). The results were recently made available to a number of countries.

<sup>5</sup> Pacific Islands Forum Secretariat (2002b).

<sup>6</sup> SOPAC (2006).

### 2.2.6 Policy, legal and regulatory external assistance

A large number of international and regional organizations and individual donor countries have provided extensive support for the ICT development of the region and individual countries. In the area of ICT sector policy, legal and regulatory reform, the support of the World Bank in particular has been pivotal. World Bank recruitment and funding of external consultants in Fiji, Samoa, the Solomon Islands and Vanuatu, for example, has acted as catalysts for the liberalization of the ICT sectors in these countries. The World Bank is currently supporting the efforts of Kiribati and Timor-Leste to develop their national ICT policies.

### 3 A framework for assessment

This chapter provides a framework for analysing national ICT policies on the basis of substance, structure and process. In doing so, it enables the recognition of commonalities and identification of best practices.

#### 3.1 Substance

National ICT goals and objectives lie at the core of a national ICT policy. They are the substantive elements that set out the general direction a country will take in relation to ICT.

To be effective and relevant, the selection of a country's national ICT goals and objectives must be driven by the particular needs and priorities of that individual country. In this sense, national ICT policy must feed clearly into that country's national development priorities.

Even so, there are some common basic goals and objectives in the national ICT policies of many countries, largely due to the common development imperatives faced by all countries in terms of, for example, economic growth and social cohesion, and the nature of ICT in general, including historic monopolies, infrastructure and the skills required.

Despite the differences between the Pacific Island countries, a majority face similar challenges that need to be addressed in terms of the broad goals and policy objectives of their national ICT policies. Common characteristics include scattered rural populations, difficult terrain, absent or fledgling sector reforms and limited international bandwidth. These have provoked similar policy responses in the elements that make up the national ICT policies of some countries as shown in Table 2.

**Table 2: Key issues addressed in the goals and objectives in the region's national ICT policies**

Country	Access and infrastructure	HRD & public awareness	Legal and regulatory framework	Governance and supply of public services	Industry growth	Traditions, cultures and languages
Cook Islands	✓	✓	✓	✓	✓	✓
Fiji	✓	✓	✓	✓	✓	
Marshall Islands (draft)	✓	✓	✓	✓	✓	✓
Micronesia (draft)	✓	✓	✓	✓	✓	
Papua New Guinea	✓	✓	✓	✓	✓	
Samoa	✓	✓	✓	✓	✓	✓
Tonga	✓	✓	✓	✓	✓	✓

Note: HRD=Human Resource Development

The issues discussed in this chapter do not represent an exhaustive list of all the policy goals and objectives adopted by the Pacific Island countries. Instead, they are the issues that have been identified as most pertinent for the region and, as such, have found their place in the large majority of national ICT policy statements (and draft national ICT policy statements).

To a large extent, the policy goals and objectives discussed in this chapter reflect the ICT-related development issues faced by many countries worldwide. For example, even in advanced Asian countries like Singapore, national ICT policies focus on the same issues such as improving ICT infrastructure, using ICT to support industry growth and governance, and improving the ICT skills of the population.<sup>7</sup> In the case of Singapore, its ten-year ICT Master Plan ‘iN2015’ sets out these policy objectives:

- to spearhead the transformation of key economic sectors, government and society through more sophisticated and innovative use of infocomm;
- to establish an ultra-high speed, pervasive, intelligent and trusted infocomm infrastructure;
- to develop a globally competitive infocomm industry;
- to develop an infocomm-savvy workforce and globally competitive infocomm manpower.

In this respect, national ICT policies adopted by Pacific Island countries reflect international practices to a significant extent.

### 3.1.1 Access and infrastructure

Access to ICT and related infrastructure developments remains a key issue for all Pacific Island countries. Challenges typically involve one or more of the following aspects.

#### 3.1.1.1 Rural access

For most Pacific Island countries, ICT infrastructure and services are mainly concentrated around major urban areas, with expansion to rural and remote areas handicapped by distance (especially in the case of scattered island groups), inhospitable terrain (in the case of islands with dense jungle or mountainous interiors) and the lack of supporting infrastructure such as electricity.

#### 3.1.1.2 International connectivity

International connectivity for ICT services is still mainly satellite based in the majority of Pacific Island countries, with currently only three countries (Fiji, Papua New Guinea and Samoa) having submarine cable access to the global backbone. This limits bandwidth and increases the cost of access.

#### 3.1.1.3 Quality of access

Many service providers in the Pacific Island countries still rely on aging networks and outdated technology to provide ICT services. Broadband infrastructure, although available in an increasing number of countries, is still insufficiently available.

#### 3.1.1.4 Affordability of access

In many Pacific Island countries, the cost of access to ICT represents a significant fraction of a household’s income. This is due to numerous factors including the high cost of satellite bandwidth and the lack of price competition.

<sup>7</sup> Government of Singapore (2010).



### 3.1.1.5 Lack of competition

From both international and regional experience, competition appears to have the biggest impact on infrastructure expansion and cost of access. The supply of ICT services in many Pacific Island countries is still dominated by monopoly operators. These exclusive rights provide revenues for the governments but are recognized by stakeholders as obstacles to ICT adoption due to expensive and inefficient services and a lack of investment in state-of-the-art networks and services.

All Pacific Island countries that have adopted national ICT policies have recognized the need to address these access challenges.

Although expressed differently from country to country, important policy objectives dealing with access and infrastructure among the national ICT policies of the Pacific Island countries include:

- encouraging private sector investment in ICT infrastructure;
- developing a competitive ICT market;
- expanding universal access to ICT in remote and rural areas;
- encouraging and supporting the use of shared ICT community facilities.

### 3.1.2 Human resource development and public awareness

Limited human resources in ICT is the biggest obstacle to development and implementation of ICT initiatives in the Pacific region. The availability of ICT-skilled technicians, policy-makers, entrepreneurs, innovators, teachers and users is vital to a nation's ICT development. Human resource needs range from specialist technical and professional skills to basic user skill sets.

Pacific islanders with ICT skills are still in short supply despite efforts to increase opportunities for training. In most Pacific Island countries, capacity-building programmes have focused on short-term courses and tertiary-level certification (through distance learning in most cases). However, there is a need to build a broader ICT skills base by addressing education at primary and secondary school levels.

'Brain drain' is also a common challenge among Pacific Island countries, with many skilled ICT people having left the region for employment in developed countries.

The development of ICT skills has been a prominent focus in national ICT policies in the region. 'A skilled and professional ICT workforce is built and retained to assist sustainable social and economic development.'

Important human resource development policy objectives among the Pacific Island countries' national ICT policies include:

- creating public awareness of ICT and promoting computer literacy for all citizens;
- developing and retaining a knowledgeable ICT workforce;
- developing requisite skills in ICT;
- using ICT in the teaching environment and including ICT as part of the school curriculum;
- promoting the use of e-learning.

### 3.1.3 Legal and regulatory framework

Many Pacific Island countries lack adequate and up-to-date ICT-related legislation and regulations.

Until only recently, the Pacific region was served entirely by monopoly providers who were owned in whole or in part by governments. The past six years, however, have seen competition being introduced gradually. Fiji, Papua New Guinea, Samoa, the Solomon Islands, Tonga and Vanuatu, for example, have pursued a process of sector reform resulting in competition being introduced into their telecommunication sector. The majority of Pacific Island countries, however, are still in the process of establishing new sector legislation for this purpose.

This wave of sector reforms has been accompanied by the establishment of new sector regulators. Regulation in the region, however, is still in a fledgling state with adequate regulation lacking even where independent regulators have been established for some time.

The vast majority of Pacific Island countries do not have legislation and regulations in place to safeguard the use of ICT. Legislation and regulations on cybercrime, data privacy and secure electronic transactions, for example, are absent in most Pacific Island countries.

The creation of a robust ICT legal and regulatory framework is a key policy objective throughout the region. A reference to this objective is found in all the adopted national ICT policies statements in the region.

Samoa's national ICT strategic plan is a good example. It states as one of its broad policy objectives: 'The Government will create legislation to establish usage and implementation of ICT. Such legislation shall promote and guarantee freedom and rights to information and its use, protect individual privacy and secure justice for all.'

Important policy objectives stated in the national ICT policies of the Pacific Island countries include:

- developing legislation to protect against ICT misuse and harmful content;
- developing legislation and regulation to promote effective competition in the telecommunication sector;
- promoting the secure use of ICT (especially for online transactions);
- protecting intellectual property.

### 3.1.4 Governance, ICT and the provision of public services

The use of ICT in governance in the Pacific Island countries remains low. This is evidenced by the UN World e-Government Development Ranking 2010 results of e-Government development in developing countries. Out of 192 countries surveyed, Palau is the highest-ranked Pacific Island country in the survey, has a ranking of 103. Other Pacific Island countries fare even worse: Fiji (113), Samoa (115), Tonga (116) Vanuatu (155), the Solomon Islands (156) and Papua New Guinea (171).<sup>8</sup>

While the computerization of governments in the Pacific Island countries has largely been implemented, most have not made the transition to the online, connected stage of ICT adoption. For example, many government departments still do not have websites and, where they do, they lack up-to-date information. Guidelines for using ICT in government departments have not been published in most Pacific Island countries. Furthermore, efforts to deliver public services like healthcare and education more effectively through ICT have not been widely adopted.

<sup>8</sup> UN (2010).

In general, governments play a significantly larger role in the Pacific Island countries compared to many other countries. In most of the Pacific Island countries, the government is the largest employer. It is also relied upon to provide a large number of basic services. As such, the public sector's leadership in the area of ICT promises to deliver a much bigger impact on the population than in most other regions.

The use of ICT should also greatly improve the delivery of services like healthcare and education given the scattered nature of populations among most Pacific Island countries. In the area of health, for example, an acute shortage of doctors and medical staff in the smaller islands in particular is a recurring problem. The right ICT can link an isolated practitioner to a network of peers or professionals, and overcome some of the disadvantages of distance.

Recognising the importance of ICT to government and the benefits it can bring to the delivery of public services, Pacific Island countries have adopted policies to promote e-government development.

Samoa, for example shall use ICT as the major driving force to re-engineer and rapidly transform governance to interface with the ICT needs of citizens by establishing a transparent electronic Government (e-Government) at the national level and a Country Gateway that will help improve development, reduce poverty and the digital divide in rural areas.

Important policy objectives on e-government in the national ICT policies include:

- adopting the use of ICT to improve and accelerate government processes;
- promoting the delivery of government information and services online;
- developing appropriate information management systems;
- improving bureaucratic transparency through ICT;
- developing an overall e-government plan to prioritise and implement the use of ICT in governance and the provision of public services;
- leveraging ICTs in the provision of education and health services;
- supporting the use of ICTs in disaster prediction, warning and management.

### 3.1.5 Industry and commercial growth

To some extent, ICT has been adopted by retail and tourism businesses in the Pacific. Websites advertising assorted merchandise and services operate from several Pacific Island countries. Daily news sites, portals and online trade directories have also been set up to advertise a range of products and services. While the Internet has been adopted as a marketing and awareness tool, further development with e-commerce has been hampered by several obstacles such as a lack of capacity for online payments and a lack of awareness of the benefits of an effective online strategy.

Tourism, in particular, has benefited substantially from the Internet, with tour operators among the first to develop websites, often well before government and other businesses. Tourism appeals to an audience from countries that have high rates of use of the Internet, which makes online marketing a natural fit.

Aside from retail and tourism, call centres and information-processing businesses are well established in Fiji, benefiting largely from affordable and sufficient international bandwidth through its connection with the Southern Cross submarine cable.

The adoption of ICT in primary industries such as agriculture, fishing and forestry, however, has not been as effective. This is a lost opportunity, considering the importance of these resources to the region. Advantage has not been taken of the potential for directly linking overseas purchasers with local producers. Initiatives have focused on using ICT to disseminate market and other relevant information to end users, such as farmers and fishermen. Initiatives are hampered by the low levels of ICT literacy among this set of users. For this reason, complementary dissemination through traditional means such as radio and brochures is often necessary.

The national ICT policy of Tonga, for example, places significant emphasis on using ICT to grow industry and economic development.

Key ICT-related policy objectives for industry and commercial development of the Tonga national ICT policy include:

- promoting the use of ICT and e-commerce to foster the growth and modernization of businesses, especially small and medium enterprises (SMEs);
- encouraging the adoption and usage of ICT to strengthen key national industries such as tourism, agriculture, forestry and fisheries;
- supporting organizations that are actively involved in research and development of ICT applications and content;
- promoting participation of local ICT organizations in international ICT events to facilitate greater understanding of the international marketplace, emerging trends and the establishment of business contacts;
- providing training to support new businesses, senior executives and entrepreneurs in the use and benefits of ICT;
- utilizing ICT to provide suitable market information to businesses across various sectors;
- promoting greater interaction and collaboration between the ICT industry and educational institutions.

### 3.1.6 Traditions, cultures and languages

Given the significance of local traditions, culture and language to social cohesion and well-being in Pacific Island countries, the broad policy objective of using ICT for their preservation and promotion is important for the region.

The lack of local online content is a common challenge faced by all Pacific Island countries. Most of the content accessed has been developed abroad. Little is available in local languages, denying a part of the population, typically rural or elderly, the benefits of content on the Internet.

It improves quality of life through a more efficient delivery of services, including health and education, while maintaining and promoting traditional value systems. Similarly, the Samoan National Strategy Plan for ICT provides: 'ICT shall be used to project a positive image of Samoa's arts and culture, promote Samoa as a safe tourist destination, and preserve Samoan Arts and Culture for future generations.'

Key ICT-related policy objectives concerning traditions, cultures and languages include:

- safeguarding manuscripts and preserving cultural artifacts';
- promoting cultural heritage on the Internet;
- using ICT as a tool to access markets for locally produced traditional arts and crafts;

- becoming a net provider of Internet content on the world wide web, as opposed to being a net recipient of Internet content;
- supporting the development of local Internet content;
- promoting the use of local languages on the Internet;
- using ICT to foster stronger community and social ties with national diasporas.

### 3.1.7 Other goals and objectives

Two other significant issues have been addressed by the goals and objectives in one or more national ICT policies in the region.

#### 3.1.7.1 Protection of natural resources and the environment

With growing awareness of environmental threats facing the region, these issues may gain more prominence in future national ICT policy statements.

#### 3.1.7.2 Regional collaboration

The aim of improving regional collaboration may also gain more attention as a policy objective. Given the small populations (and hence market sizes) of most Pacific Island countries, significant synergies can be realized by pooling resources and aggregating demand.

## 3.2 Structure

Although national ICT policies vary from country to country, the structure of most national ICT policies are made up of a set of essential elements that represent international best practice. These can usually be broken down into:

- an introduction or background;
- an overall vision;
- policy goals and objectives;
- a strategic plan.

These elements are in the national ICT policies of many countries worldwide. In Asia, for example, Korea's e-Korea Vision 2006 sets out the background for the policy, an overall vision, a set of goals and objectives, and provision for the development of implementing strategies on an annual basis.<sup>9</sup> In the Pacific region, this basic structure is reflected in the PIIPP and has been largely adopted by Samoa and Tonga.

### 3.2.1 Background

An introduction or background section provides the context of the national ICT policy. It provides a critical link between the national ICT policy and the overall national development policy. It also casts ICT in the role of a key enabler of overall national development and argues the case for government policy-making.

A background can also provide an overview of a country's ICT status. This establishes a point of reference or baseline for the national ICT policy and its implementation.

<sup>9</sup> Government of Korea (2006).

### 3.2.2 Vision

A vision is a general statement of expectations for the future. It documents broad outcomes that the country wishes to arrive at – aspirations towards which national ICT policies and strategies are directed. Vision statements are always upbeat and ambitious. The adopted national ICT policies of the Pacific Island countries incorporate ICT vision statements.

### 3.2.3 Goals and objectives

The setting out of national ICT goals and objectives is the core of a national ICT policy. They define the course of action that will allow a country to realize its vision.

As illustrated in the discussion on substance above, some countries break down their ICT-related policies into goals, which are general statements, and objectives, which are more specific. The use of this approach and terminology, however, is not necessarily universal. Terms that have been used interchangeably with ‘goals’ and ‘objectives’ include, for example, ‘guiding principles’ and ‘policies’ (see PIIPP); ‘pillars’ (or ‘pous’) and ‘policy objectives’ (see Tonga); and ‘policy statements’ and ‘objectives’ (see Samoa).

### 3.2.4 Strategic plan

For a national ICT policy to be implemented, it will often be complemented by a strategic plan (in either the same document or a separate one) that breaks down policy goals and objectives into detailed strategies and associated activities. A good strategic plan will often also include:

- a timeframe and targets charting when the activities are to be implemented or completed;
- the delegation of institutional responsibilities (that is, which institutions are responsible for what tasks);
- an indication of the resources available for policy implementation;
- a mechanism of monitoring and reporting;
- a set period for review.

A strategic plan is a vital complement or component of a national ICT policy. It converts policy goals and objectives into specific initiatives or activities that can be implemented.

In some countries, the drafting and adoption of a strategic plan has followed the adoption of a national ICT policy statement. Such an approach may simplify and accelerate the drafting process of a national ICT policy statement and its adoption. However, deferring the preparation of a strategic plan may put the adoption of a national ICT policy at risk in the event that there is a delay due to a failure to adopt a strategic plan. This was the case in, for example, the Cook Islands. Furthermore, the development of both a national ICT policy statement and a strategic plan largely form part of the same reform process. The contemporaneous development of both a national ICT policy and national ICT strategic plan will lead to a more cohesive, practical and realizable national ICT policy as a whole. The contemporaneous or prompt development and initiation of associated strategies and activities can also leverage the publicity and work momentum created by the adoption of a national ICT policy.

### 3.2.4.1 Strategies and activities

As with the identification of goals and objectives, a wide range of alternatives exist when identifying strategies and activities for implementation. The available options depend on a number of subjective criteria such as local conditions, the resources available (financial or human) and the timeframe chosen. Nevertheless, as with the identification of goals and objectives, certain common elements can be found. Certain initiatives and activities have, over time, been recognized as effective means to realizing certain strategies (and, therefore, policy goals and objectives).

An example of strategies from the human resource development chapter of the *Samoa National Strategic Plan for ICT* illustrates the relationship between strategies and activities.

- Making the use of ICT mandatory at all levels of educational institutions through the provision of adequate financial resources, and developing relevant ICT curricula for primary, secondary and tertiary institutions
- Exploiting the effective use of ICT distant learning networks to enhance learning opportunities for educationally disadvantaged areas
- Encouraging ICT companies with appropriate incentives to invest in education and training through, for example, certification for tax rebates
- Promoting ICT study grants and scholarships
- Promoting a Training the Trainers scheme using existing establishments such as the National University of Samoa (NUS), Public Service, the Polytech, Computer Services Limited (CSL), and other private trainers to boost capacity building in ICT
- Working in partnership with related domestic and international programmes.
- Redeploying used ICT equipment to various community sectors, especially schools, to provide attractive and challenging ICT career opportunities
- Developing telecentres in rural villages.

### 3.2.4.2 Timeframe and targets

Timeframes for launching and completing initiatives are usually provided in order to ensure timely implementation of policies. Timeframes are especially important when initiatives have to be staged, and the launch of an initiative is dependent on the completion of another. For example, the licensing of a second mobile operator will usually follow after the enactment of the appropriate legislation.<sup>10</sup>

A good illustration of a timeframe can be found in the example of Samoa's national ICT strategic plan – see Table 3.

<sup>10</sup> Note: there are, however, ways to work around such legislative limitations. This was the case in Vanuatu where the old telecommunication law was modified to allow competition and permit the minister to delegate his powers to a person (in this case an interim regulator). Other competition-law type safeguards were written into the licences awarded to the operators. A new law was passed 18 months later.

Table 3: Samoan activities for priority projects

Description	Short, medium long term	Implementing partners	Timing	
			Began	Ended
Public Service Human Resource Information System	Short term	UNDP, government, donors and private sector	2005	2005
Computer training for the workforce with a special emphasis on teachers at all levels of education.	Medium term	UNDP, government, donors and private sector	October 2005	September 2008
ICT curricula and certification: Develop a programme to include the use of computers, the Internet and email use in school curriculum	Short term	UNDP, Education Ministries, AUSAID, NZAID	October 2004	September 2006
Develop a school net or distance learning programme at every level of education: especially using the Internet for schools	Long term	UNDP, UNESCO, ADB, government, donors and private sector	February 2005	January 2009
Computer training for women's committees	Medium term	ITU, UNESCO, GKP	2005	March 2006
Computer training for church youth groups	Medium term	Government, donors and private sector	2005	September 2006
Develop a computer reusable programme	Medium term	Government, donors and private sector	2006	2008
Develop a distance-learning centre within the NUS	Short term	Government, NUS, donors and private sector	2005	2006

### 3.2.4.3 Delegation of institutional responsibilities

Appropriate actors have to be identified and tasked with the execution of the identified activities. Such actors can include government agencies as well as private-sector bodies, depending on the activity initiated. For example, the initiation of an activity to develop a public-awareness marketing plan can involve both the sector's ministry and the local Internet society.

Regardless of those chosen, there must be a central institution that is responsible for the implementation of the national ICT policy as a whole. This ensures a coordinated response and a requirement to report developments.

### 3.2.4.4 Resource allocation

A preliminary estimate of financial resources for implementing activities must be considered so that plans can be promoted with certainty and transparency. Although only indicative, such an exercise can be an effective planning tool, especially where activities are to be carried out in collaboration with development and implementation partners.

Information on the sources of funding, such as existing government budgets, private-public partnerships, or international or regional donor support, can also provide a better sense of the context for the respective activity.



The Tonga national ICT strategic plan includes a simple but effective resource allocation table, as shown in Table 4.

**Table 4: Tonga’s resource allocation table for pathfinder projects**

Pathfinder project	Cost(US\$)
Village Access Initiative – design and pilot	135,000
ICT assistance to the Ministry of Education	250,000
Developing the e-Government Strategy and Implementation Plan	75,000
Pilot of the e-Government Portal	75,000
Feasibility assessment of a centralized government call centre	45,000
Development of an e-health strategy	75,000
Establishing the e-commerce roundtable	45,000
Developing sector specific ICT policies for the agriculture, tourism and fisheries sectors	108,000
Re-establishment of the National ICT Society	Negligible
Establishing the infrastructure taskforce	45,000
ICT legislative review and reform assessment	63,000
Establishing the ICT implementation secretariat	120,000
Approximate cost of pathfinder projects	1,036,000

### 3.2.4.5 Mechanism for monitoring and reporting

An effective national ICT policy statement must provide for a mechanism for monitoring its implementation. Commonly, such a mechanism involves a series of performance indicators against which progress is measured and then reported. For example, under its Strategy 1.2.1: Develop and retain a knowledgeable workforce in ICT, the PIIPP recommends that the success of an activity to install ICT in schools be measured by the percentage of schools with computers for training and the percentage of schools with Internet access.

A basis for monitoring and evaluation can also involve a series of milestones or targets: for example, Tonga’s national ICT strategic plan lists the following milestones and targets for its Education and Skills Development Action Plan:

- establish an ICT Education Advisory Committee in 2009;
- conduct an ICT-related curriculum assessment and review at primary and secondary levels by the end of 2009;
- design a comprehensive ICT Teacher Training Plan by the end of 2009;
- launch a primary schools pilot initiative, to provide ICT infrastructure and access by the end of 2010;
- develop an education portal prototype by the end of 2010;
- design the Computers for Schools project and pilot by the end of 2011.

A framework for periodic reporting is also necessary to monitor the progress of the national ICT policy’s implementation as a whole. Reporting also encourages accountability and promotes transparency. Progress reports can be compiled by the implementing institution for convenience (or due to lack of resources) or by an independent institution to ensure accuracy and objectivity.

### 3.2.4.6 Review

Over time, national ICT policies often lose their relevance. One obvious reason is that where they involve introducing reforms, they have served their purpose when implemented. In addition, technological progress and social and economic change may also reduce an ICT policy statement's relevance. As such, national ICT policies ideally have a set period of validity or a set procedure for review and renewal.

### 3.2.5 Summary

As the assessment in this section illustrates, many of the structural elements identified as best practices are reflected in the national ICT policies (and draft national ICT policies) of the Pacific Island countries (see Table 5).

**Table 5: National ICT policy structure elements in the Pacific Island countries**

Country	Policy statement			Strategic plan				
	Background	Vision	Goals and objectives	Strategies and activities	Timetable	Institutional responsibilities	Resources available	Monitoring and reporting
Cook Islands	✓	✓	✓					
Fiji	✓	✓	✓	✓	✓	✓	✓	✓
Marshall Islands (draft)	✓	✓	✓					
Micronesia (draft)	✓		✓	✓	✓	✓		✓
Papua New Guinea <sup>1</sup>	✓	✓	✓	✓	✓	✓		
Samoa	✓	✓	✓	✓	✓	✓		✓
Tonga	✓	✓	✓	✓	✓	✓	✓	✓

<sup>1</sup> The Papua New Guinea National ICT Policy 2008 provides details regarding activities and timetables only for selected areas of focus (access to telecommunication services, Phase 1: the transition period and Phase 2: the introduction of open competition).

Based on this structural framework, a basic outline of a national ICT policy can be developed as a simple policy-making tool (See figure 1 below).

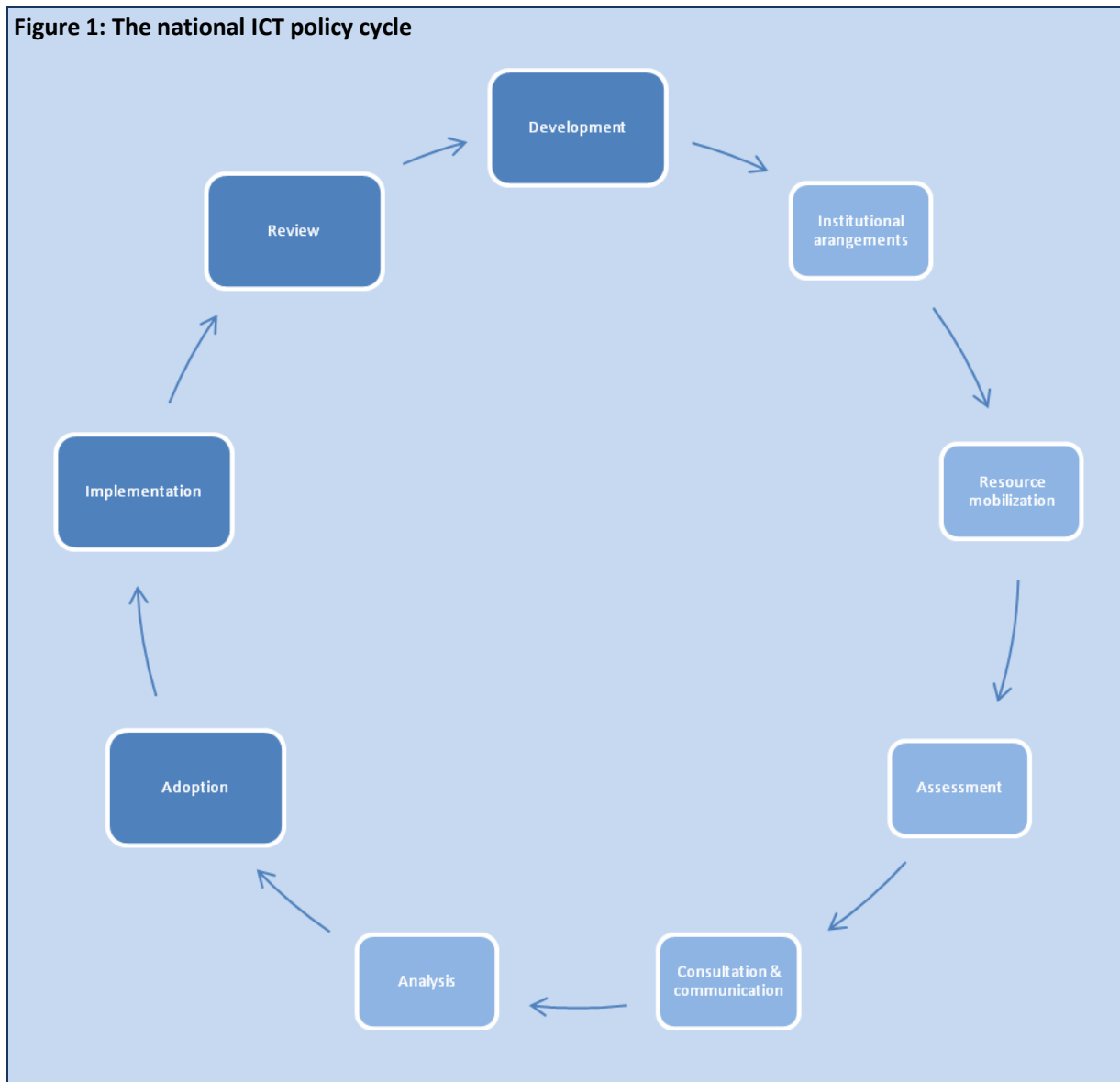
## 3.3 Process

The processes involved in developing, implementing and evaluating a national ICT policy are often as important as the structure and substance of the policy itself. The practices adopted to carry out these processes can determine whether a national ICT policy is successfully developed and adopted, and whether it is effectively implemented.<sup>11</sup>

<sup>11</sup> For a general discussion of the processes involved in the development of national ICT policies, see Labelle (2005).

Policies are instruments that have to evolve in order to remain relevant. For a policy to continue being effective it has to go through repeated cycles of development (delegation of institutional responsibility, resource mobilisation, assessment, consultation and communication, and analysis), adoption, implementation and review (see Figure 1).

**Figure 1: The national ICT policy cycle**



The different stage each Pacific Island country has reached in this cycle is described in part in Table 1.

### 3.3.1 Institutional arrangements

A clear delegation of institutional responsibility for the development of a national ICT policy is typically one of the first important steps in the policy development process. Apart from initiating, supervising and otherwise managing the work on the policy, a lead institution is also responsible for fostering cooperation and ensuring coordination between the different stakeholders in the process.

The choice of institutions entrusted with the responsibility for bringing a national ICT policy through its different stages can be a key determinant of its success. However, the choice of institution can vary considerably from country to country. With regard to policy development, the institution responsible can

be a high-level government decision-making body such as a parliament or the president's office (for example, the Office of the Prime Minister in the Cook Islands), the relevant ICT ministry (for example, the Ministry of Information and Communications in Tonga and the Ministry of Communications, Transport and Tourism in Tuvalu) or the telecommunication regulator (for example, ARCOM in Timor-Leste). Increasingly, multi-stakeholder committees or groups have been formed and entrusted with the development of national ICT policies (for example, the IT Advisory Council in Fiji and the NiDC in Niue). Such an approach encourages stakeholder involvement and support, and ensures that a plurality of views is taken into account throughout the policy development process (see Table 6).

**Table 6: Institutional arrangements for the development of national ICT policies in the Pacific Island countries**

Country	Sector ministry	Stakeholder committee	Other	Remarks
Cook Islands		✓		National ICT Committee
Fiji		✓		IT Advisory Council
Kiribati	✓			Ministry of Communications, Transport and Tourism
Marshall Islands	✓			Ministry of Transportation and Communication
Micronesia	✓			Department of Transport, Communications and Information
Nauru	✓			Department of Transport and Telecommunications
Niue		✓		Niue Island Information, Technology & Communication and Development Council (NiDC)
Palau		✓		National ICT Policy Task Force
Papua New Guinea		✓		Interagency ICT Taskforce
Samoa		✓		National ICT Steering Committee
Solomon Islands		✓		ICT Working group
Timor-Leste			✓	ARCOM (ICT regulator)
Tonga	✓			Ministry of Information and Communications
Tuvalu	✓			Ministry of Communications, Transport and Tourism
Vanuatu	✓			Ministry of Public Infrastructure and Utilities
<b>Total</b>	<b>7</b>	<b>7</b>	<b>1</b>	

More importantly, however, an institution tasked with the development of a national ICT policy must have adequate resources for its task (which is discussed in section 3.3.2) and the appropriate mandate to carry it out. For example, despite being entrusted with the task of developing a national ICT policy, the absence of a legislative mandate for the telecommunication regulator of Timor-Leste to develop such a policy has resulted in delays while the necessary mandate is sought.

In some cases, it is important to note that the organization responsible for developing a policy is separate from the institution responsible for implementing it. For example, in the case of Samoa, the National ICT Steering Committee is responsible for developing the national ICT strategic plan. However, the Samoan Cabinet approved the establishment of an ICT secretariat within the Ministry of Communication and Information Technology for implementing that plan.

It can be seen from the experience of several Pacific Island countries that it is vital to ensure that the institution responsible for development and implementation of a national ICT policy has the necessary political support to carry out its task. These experiences are discussed in section 3.3.3. Different sectoral policy initiatives and activities, from agriculture to tourism, compete for limited government resources and attention. The absence of high-level political recognition of the importance of a national ICT policy (or of ICT as a whole) can delay the development, adoption and implementation of such a policy.

### 3.3.2 Resource mobilization

The different stages of a policy cycle must be adequately resourced for it to produce results. A government must embark on a resource planning exercise that ensures adequate financing and human resources are available for the policy development and subsequently for policy implementation. Failure to provide adequate resources at either stage may undermine the success of the policy. A resource planning exercise should identify the resources needed, the potential sources of such resources, and any implications associated with their use.

At the policy development stage, human resources are especially important as carrying out ICT assessments and ICT policy-making requires a set of specialised skills that include technical, legal, economic and regulatory expertise. Where relevant skills are absent locally or internally, they have to be sourced externally (as has been the case for many of the Pacific Island countries). The use of external consultants is often a significant financial expense. At the development stage, financial resources may also be necessary to fund meetings, workshops, surveys and other incidentals.

At the implementation stage, a national ICT policy and strategy typically identifies which initiatives are funded from public sources and which from private sources. The determination of the funding source of the initiative is typically influenced by considerations such as the initiative's public importance and the level of private sector interest (that is the degree to which it can be self-funding or generate a profit). In some cases, for example when aiming to achieve universal access, public-private partnerships are used.

In developing countries, assistance from international and regional donor organizations as well as individual donor countries is often an important source of support for national ICT activities. Such assistance can come in the form of grants, loans, technical advice (through external experts and consultants) and capacity building. The importance of donor support when developing and implementing national ICT policies can be seen in many of the Pacific Island countries. For example, Kiribati is currently receiving funding assistance from the World Bank under a comprehensive project that involves extensive technical assistance for the development of a national ICT policy and strategic plan, as well as a legislative and regulatory framework.

Reliance on external support, however, can be subject to a number of limitations. Donor funding, for example, is typically directed towards specific initiatives. Such initiatives may be designed externally and may not be adapted to local circumstances. In the case of policy development, for example, external consultants may not be sufficiently familiar with local conditions and circumstances. If they are funded by donors, they may also be subject to, or sympathetic towards, the viewpoints and opinions of the donor clients. Nevertheless, the use of international consultants in the development of national ICT policies has also contributed to a large degree of policy uniformity between the Pacific Island countries, as can be seen from the World Bank's support of sector reform efforts in the region.

Nevertheless, the use of donor support may, in many cases, be the only recourse. In such cases, certain safeguards should be put in place. For example, close supervision of external consultancies (such as during the development of the national ICT policy in Papua New Guinea) and considered efforts to localize externally designed initiatives.

### 3.3.3 Assessment

When the institution responsible for national ICT policy development starts work, it typically seeks to define the policy's objectives and goals. The starting point is an assessment of existing national vision statements, and overall national development policies and strategies. This includes the development policies and plans of related sectors (for example, health, education, trade and finance) and national poverty-reduction strategies. Ideally, it should also take into account relevant regional development policies. This will ensure that a national ICT policy is a relevant and vital component in the overall national development effort rather than being created in a vacuum.

Within this general context, the responsible institution must then assess the country's ICT status and needs in areas that include infrastructure, products and services, adoption, skills and public awareness. An assessment of the country's current ICT status is essential for establishing a baseline that identifies gaps and areas for improvement.

Assessment can be done in a number of ways: consultation, research, surveys and observation. The e-readiness assessment, a rapid assessment tool, is a common method used to measure the diffusion of ICT in a country. It analyses ICT use in all sectors of an economy and by all segments of society. Different e-readiness methodologies exist, such as the Harvard Centre for International Development model which has been widely applied in the Pacific region. e-readiness assessments have been conducted in most of the Pacific Island countries as part of national ICT policy development processes. For example, as part of the development of a national ICT policy in Samoa, the Ministry of Finance recommended that the cabinet undertook an e-readiness study, which is now widely referred to as the Louis Chanco report.

### 3.3.4 Consultation and communication

For a national ICT policy to be successful, its development and implementation requires participation and support from all sectors of the economy and all levels of society. Consultations aimed at taking into account stakeholder concerns and views are a valuable source of information that improves a policy's design. These concerns and views can be done through opinion polls, interviews and public meetings. Furthermore, consultations also ensure stakeholder buy-in and support, and allow governments to manage policy resistance from various groups. Stakeholder consultations can also form the basis of future collaboration and partnerships. As such, stakeholder consultations at an early stage in the development process are a key factor in a national ICT policy's success.

Stakeholders can include different agencies within government, ICT private-sector representatives and representatives from sectors that benefit from the use of ICTs, ICT-related special interest groups and associations, consumer organizations, civic groups and academia. Consultations can be used as an input to identify the needs and aspirations of all the various stakeholders.

To ensure widespread and productive participation, many Pacific Island countries have adopted processes that build consultation into one or more stages of policy and strategy development and implementation. The principal approaches for undertaking consultation in the Pacific Island countries are outlined in sections 3.3.4.1-3.3.4.3.

### 3.3.4.1 Stakeholder workshops

Stakeholder workshops involve a gathering of representatives from different stakeholder groups. Such events can be organized at any point during the policy development process. For example, at the start of the policy process they can be used to build consensus on a policy's goals and objectives. (This was the case during the National ICT Symposium in the Marshall Islands and the National ICT Workshop in Kiribati, for example.) They can also be held to discuss and refine a policy or strategy draft. Such consultations are helpful in building consensus and support quickly but require skilled resources to organize and manage effectively.

### 3.3.4.2 Individual interviews or surveys

Interviews or surveys can be used when there is a smaller group of stakeholders to consult and detailed information is required regarding views and opinions. This approach was taken in Niue to prepare for a consultant assessment report for a national ICT. Such interviews and surveys, however, can be difficult to manage and digest if there are many stakeholders with divergent views.

### 3.3.4.3 Stakeholder committees

Stakeholder committees are direct stakeholder participation in the institution responsible for the development of the national ICT policy. The importance of consensus building in such a body may lead to a longer policy development process.

### 3.3.4.4 Online consultations

Online consultations that are open to the public, such as the one in Papua New Guinea to inform the development of its national ICT policy, can be used to receive inputs from a wide base. However, such an approach may not be appropriate in countries where online access is not readily available.

Stakeholder workshops are the most popular way of undertaking a consultation in the Pacific Island countries.

Clearly it is impossible to consult with everyone, so efforts should be made to communicate generally with the public about a national ICT policy and the role of ICT in national development. Tangible examples of the role ICT plays in providing public services (for example, e-health and e-education) and in the event of emergencies (such as a disaster warning) can be in national communications campaigns. Traditional media such as newspapers and radio broadcasts can be used to raise awareness and build support for the national ICT policy development process as well as its implementation.

Two consequences of building public awareness are a promotion of government accountability and an increase in the level of political commitment to follow the process for implementing a national ICT policy. Public awareness of ICT as a catalyst for sustainable development can be a strong political incentive for attracting high-level support for a national ICT policy.

## 3.3.5 Analysis

The information received during the assessment and initial consultation stages, defines and prioritises a country's ICT-related goals and objectives. The institution responsible for the policy's development can also obtain further information using simple tools such as Strengths, Weaknesses, Opportunities and Threats (SWOT) analysis and a political, economic, social and technological (PEST) analysis with ICT as the focus.

These identify alternative ways and means for achieving goals and objectives. Policy-making skills and experience play a significant role in transforming the raw inputs into an effective and successful national ICT policy.

An analysis at this stage is shaped by a number of considerations, such as international and regional best practices and an understanding of local conditions and practicalities. It is also important to ensure that the ICT goals and objectives are compatible with and complement the goals and objectives of other sectors' national policies.

Once a policy draft is completed, it can be subjected to further consultations for refinement or for views when there are choices between policy alternatives. When finalised, the draft can be adopted as national policy.

### 3.3.6 Adoption

Different countries have different procedures for adopting policies, some requiring approval by the legislature and some requiring approval only by the executive (for example, the head of state or cabinet). At this stage, strong high-level political support is often important to ensure that a draft policy proceeds through the different political steps that will eventually lead to its adoption. The presence of high-level political support (such as Papua New Guinea's National Executive Committee, which initiated work on the national ICT policy, and Samoa's National ICT Committee, which is chaired by the Prime Minister) can be vital to a policy's chances of being developed and adopted. The political support in Papua New Guinea and Samoa were critical to the government's adoption of each country's national ICT policy.

### 3.3.7 Implementation

Governments implement a policy by launching relevant initiatives and activities. These initiatives and activities need to be closely managed and monitored in order to ensure their effectiveness. Management tools include detailed schedules of deliverables, evaluation and performance indicators, as well as regular reporting mechanisms. Benchmarks are set and surveys undertaken to measure progress and public support. Stakeholder consultations may also be used to collect feedback.

Independent procedures should be in place for project monitoring and reporting on the results of each objective. This role could, for example, be given to a stakeholder committee, constituted specifically for this task, or the telecommunication regulator, if the regulator is not already in charge of policy implementation.

### 3.3.8 Review

National ICT policies need to be reviewed and revised periodically and probably every five years, if they are to remain relevant. Typically, ICT policies start out fairly general but become more refined and focused over time. A national ICT policy should be a living document that can be adapted as circumstances change.

When a national ICT policy is scheduled for review, an evaluation should be conducted to identify any necessary changes. Changes can be made to make it more effective or relevant. This is typically done in a similar way to the initial stage of an assessment, through consultation, research, surveys and observation.

Samoa is currently going through a process of reviewing its National ICT Strategic Plan (2004-2009) as part of the process of developing its next national ICT policy.



### 3.3.9 Summary and key best practices

The analysis in this chapter has taken a wide perspective. Best practices, in terms of developing, adopting, implementing and reviewing national ICT policies, are evident in the experiences of individual Pacific Island countries. These include:

- establish a clear delegation of institutional responsibility for the development and implementation of a national ICT policy;
- ensure that the responsible institution has adequate resources for its task and the appropriate mandate to carry it out;
- ensure that the responsible institution has the necessary political support to carry out its task;
- embark on a resource-planning exercise that ensures adequate resources in terms of financing and manpower;
- identify the resources necessary (in terms of funding and human resources) as well the potential sources of such resources and the implications associated with their use;
- examine existing national vision statements and overall national development policies and establish links with them in the national ICT policy;
- initiate stakeholder consultations at an early stage in the development process;
- undertake efforts to communicate with the public about the national ICT policy and the role of ICT in national development in general;
- build public awareness about the benefits of ICT increases government accountability and the level of political commitment to follow through the process for implementing a national ICT policy;
- ensure policy-makers have the requisite policy-making skills and experience to analyze and transform inputs into an effective and successful national ICT policy;
- cultivate strong high-level political support to ensure that a draft national ICT policy proceeds through the different political steps that will eventually lead to its adoption;
- closely manage and monitor initiatives and activities in order to ensure their effectiveness;
- put into place independent procedures for project monitoring and reporting in order to arrive at objective results;
- review and revise national ICT policies periodically to ensure they remain relevant.



## 4 The status of National ICT Policies in the region

### 4.1 Cook Islands

#### 4.1.1 Overview

With a population of around 23,600 distributed over 15 islands that are spread over 1.8 million square kilometres of ocean, the Cook Islands has a small population distributed over a large distance. This is an issue that affects a significant number of Pacific Island countries.

According to ITU's 2008 statistics, the Cook Islands had a fixed-line penetration rate of 34.26 per cent, a mobile penetration rate of 33.91 per cent and an Internet-user penetration rate of 9.62 per cent. ITU statistics also indicate that there were approximately 1,000 broadband subscribers.

All telecommunication services are provided by the monopoly operator, Telecom Cook Islands Ltd (TCI), which is majority-owned by Telecom New Zealand (60 per cent) and partially owned by the Cook Islands' government (40 per cent).

A GSM/GPRS mobile network was launched in Rarotonga, the main island, at the end of 2003. TCI launched a prepaid Wi-Fi Internet service in September 2005 and a residential ADSL service on Rarotonga in April 2006. In 2008 it installed a soft switch to its core wireless network, upgrading it to IP-based technology. This enabled value-added services such as integrated SMS, voicemail, GPRS and pre-paid calling to be provided.

#### 4.1.2 The ICT legal and regulatory framework

Telecommunication in the Cook Islands is currently governed by the Telecommunications Act 1989. The act establishes TCI as the sole provider of telecommunication services in the country. The act also includes accountability provisions requiring TCI to file an annual statement of intent with the ministry and deliver the annual reports and audited accounts to the minister. The act also provides for the regulation of radio communications including the licensing of radio operators, in addition to covering the provision and regulation of postal services.

#### 4.1.3 National ICT policy

The government adopted a national ICT policy in November 2003. The importance of having a comprehensive national policy was recognized by the government at an early stage. However, an important catalyst for the commencement of work on its development was the support provided by regional and international development organizations.

As framed in the national ICT policy, the national ICT vision is stated as: 'To enjoy the highest quality of life consistent with the aspirations of our people, and in harmony with our culture and environment.'

A policy review process is currently in progress. As part of this, a draft reviewed ICT Policy has been prepared. It is currently under consideration by the cabinet.

The national ICT Policy is complemented by the government's Internet policy, which sets out guidelines on the use of the Internet by government employees.

#### 4.1.3.1 Substance and structure

The national ICT policy 2003 contains a national ICT vision and provides clear overall goals and policy objectives.

A national ICT strategy was drafted in 2006; however, it was not adopted or implemented.

The national ICT policy sets out the following guiding principles and their related policy objectives.

- Quality of life through ICT
- Develop ICT skills and education, improve health services, and promote culture and traditional values through ICT.
- Access for all to ICT
- Use ICT to ‘reduce’ the distance between the capital and the outer islands, increase public ICT awareness and skills and reduce costs of ICT access.
- Maximize economic growth
- Advance ICT services, provide fast, cost-effective and adaptive infrastructure, encourage competition and use ICT to improve productivity and access global markets.
- Sustainable development of ICT
- Guarantee long-term sustainability of systems, develop a knowledgeable ICT workforce and ensure low environmental impact.
- ICT policy and regulation
- Sound management of ICT policies and strategies, develop appropriate legislation and regulation, protect community and individual interests, consider security and confidentiality and ensure responsible use of ICT.

#### Box 1: Observations regarding Cook Islands’ policy’s substance and structure

##### *Strengths*

- Comprehensive set of policy goals and objectives that address almost all the key issues, including environmental concerns.

##### *Limitations*

- A national strategic plan was not adopted or implemented and, as a result, the implementation of the policy has not proceeded in earnest until the recent initiatives at sector reform.

#### 4.1.3.2 Process

##### **Development and adoption**

In June 2003, with the support of the UNDP’s e-Pacifika programme, a national ICT consultation workshop was held in the Cook Islands. The workshop involved stakeholders from government, the private sector and community organizations. They collaborated on planning activities that could aid the formulation of a national ICT policy and strategy. As the scope of the UNDP’s project did not allow for regular and ongoing follow-up and support, the workshop was designed to define priority activities and launch them. It eventually resulted in the identification of a number of national ICT-related goals and objectives which, along with the PIIPP, formed the basis of the national ICT policy and strategy.

The workshop’s outcome was developed into the national ICT policy by the National Policy Coordination Unit (led by the Chief Policy Advisor) of the Office of the Prime Minister, working in conjunction with the National ICT Committee, a stakeholder group which included Telecom Cook Islands.

Work on the national ICT policy by the National Policy Coordination Unit was supported by two policy staff. The experts involved in policy development were sourced and based locally.

The national ICT consultation workshop was organized with the support of the UNDP under the e-Pacifika sub-regional project that was funded by the Government of Japan.

**Box 2: Observations regarding Cook Islands' policy process**

*Strengths*

- The development of the national ICT policy 2003 was characterised by broad stakeholder involvement through a participatory workshop, allowing a plurality of views and buy-in by the community as a whole
- A clear delegation of responsibilities for the policy's development to the National Policy Coordination Unit allowed for ownership and institutional responsibility over the project, increasing its chance of success
- High-level political backing by the Office of the Prime Minister created momentum and enabled the policy work to be completed.

*Limitations*

- External technical assistance was only provided at the initial stage without capacity-building support.

**Implementation and review**

At an institutional level, the implementation of the national ICT policy was led by the ICT Division of the Office of the Prime Minister.

The implementation of the national ICT policy was largely funded by government.

A number of activities related to policy have been initiated since its adoption in 2003. These include activities related to:

- cost reductions in telecommunication access;
- development of related ICT legislation;
- provision of and support for ICT training;
- deployment of infrastructure for connectivity with all inhabited islands.

Currently, the government is pursuing wide-ranging telecommunication reform aimed at introducing competition into the sector. To that end, it is in negotiations with TCI regarding the termination of its exclusivity. A new telecommunication bill has also been prepared as part of this reform. The bill establishes a national telecommunication regulator and provides for the licensing of telecommunication services. It also provides for the establishment of regulations regarding interconnection, competition policy, tariffs, radio spectrum management, consumer protection, access to property and universal access.

As part of the review mechanism provided for in the national ICT policy, a review is currently being conducted by the ICT Division of the Office of the Prime Minister, under the guidance of the senior policy analyst at the Central Policy and Planning Division.

The review process has involved stakeholder consultations, as required in the national ICT policy. During the review process, the government received advice from an external infrastructure adviser from the Pacific Islands Forum Secretariat. His work in 2007 resulted in the development of a report and a draft ICT roadmap.

Logistical support and staffing of the review process was largely funded by the government. To date, the review process has culminated in the preparation of an updated draft policy document, which is currently awaiting endorsement by the cabinet.

Key elements of the draft reviewed ICT policy are:

- sustainable ICT infrastructure;
- ICT in government;
- human resources for ICT;
- ICT for sustainable development;
- ICT legislation;
- green computing.

The draft reviewed policy is a comprehensive document which includes a strategic plan, specific performance targets and a timetable for implementation. It also identifies the institutions responsible for implementation.

#### **Box 3: Observations regarding Cook Islands' policy's implementation and review**

##### *Strengths*

- A timely review of the national ICT policy is being undertaken
- The reviewed ICT policy includes key elements absent from the first policy, in particular a national ICT strategic plan
- Clear guidance has been drawn from the overall National Sustainable Development Plan, which ensures national policy compatibility and coordination.

#### **4.1.4 Recommendations for consideration**

To a large extent, the current policy review addresses most of the limitations of the 2003 national ICT policy. Nevertheless, further consideration could be given to:

- obtaining sustained capacity-building assistance for local staff in the area of policy-making, which could support the policy cycle (development, implementation and review) in the future with less reliance on external support;
- conducting in-depth assessments and surveys on the country's ICT environment as the basis for policy-making;
- adopting a regional element to policy-making by incorporating links (or references) to regional ICT trends and practices where synergies can be developed.

## **4.2 Fiji**

### **4.2.1 Overview**

Fiji is an archipelago of more than 300 islands, of which 110 are permanently inhabited. The two major islands, Viti Levu and Vanua Levu, account for 87 per cent of the country's population of around 840,000.

Fiji has been a member of the World Trade Organisation since January 1996, although it has not signed the Agreement on Basic Telecommunications.

According to ITU statistics, in 2008 Fiji had a fixed-line penetration rate of 15.30 per cent, a mobile penetration rate of 71.09 per cent, and an Internet-user penetration rate of 12.20 per cent. There were also around 15,600 broadband subscribers. Penetration rates in the rural areas of the two main islands and in the outlying islands remain relatively low.

Prior to the liberalization of the telecommunication sector in 2008, with the enactment of the Telecommunications Promulgation, Fiji's telecommunication sector was characterised by monopolies in three market segments: Telecom Fiji had an exclusive licence to provide domestic fixed-line voice and data services; Fintel was the only international voice and data services provider; and Vodafone Fiji was the only provider of mobile services.

The government pursued a policy of reform, including negotiation with the operators for ending the monopolies in a mediation process supported by the World Bank. As a result, the incumbent operators were increasingly permitted to compete with one another and, in October 2008, new entrant Digicel commenced operations in Fiji, bringing an end to Vodafone's monopoly in the mobile segment. In the same year, Telecom Fiji completed its NGN upgrade while Vodafone launched a 3G mobile network, the first in the Pacific region. Telecom Fiji has also developed a fixed-wireless CDMA offering, Fintel has increased broadband wireless access particularly for the business market, and Vodafone has grown its subscriber numbers.

In 2005, Unwired Fiji, a competitive ISP, deployed the country's first broadband wireless network using pre-WiMAX technology.

Fiji is connected to the Southern Cross submarine cable system which links New Zealand, Australia and North America.

#### **4.2.2 The ICT legal and regulatory framework**

Currently, the Ministry for Communications is responsible for overseeing the country's ICT sector.

The Telecommunications Promulgation (TP2008) was enacted in 2008 to provide a legal framework for developing Fiji's telecommunications. It replaced the Post and Telecommunications Decree 1989.

Regulations concerning telecommunication licensing are still under consideration.

#### **4.2.3 National ICT policy**

The Ministry of Communications has confirmed it adopted a national ICT policy in 2004.<sup>12</sup>

The development of a national ICT policy was shaped by the country's 20 Year Development Plan (2001-2020) for the Enhancement of Participation of Indigenous Fijians and Rotumans in the Socio-Economic Development of Fiji, which sets out the country's broad national objectives, and the nation's Strategic Development Plan (2003-2005). The plan sets out actions for development in that three-year period.

The government recognizes that the current national ICT policy has limitations due to significant changes in the country's ICT environment, such as the introduction of further competition in the telecommunication sector. It is currently considering developing a new comprehensive national ICT policy.

<sup>12</sup> A copy of the National ICT Policy of 2004 was unavailable for review for this report.

#### 4.2.3.1 Substance and structure

The national ICT policy contains goals and policy objectives primarily relating to e-government, e-business and public outreach. The policy is complemented by a strategic plan.

The policy focuses on the development and implementation of ICT applications and services for government, business and the community.

Essentially, three pillars define the national ICT policy:

- government online;
- business e-enabled;
- community e-empowered.

For ‘government online’, the policy calls for the delivery of online services and the greater use of ICT to improve internal processes, particularly online procurement. For ‘business e-enabled’, the policy calls for the establishment of partnerships with countries that are advanced in business ICT applications. Liberalization of the telecommunication sector is also stated as an objective in this section. ‘Community e-empowered’ identifies initiatives for getting more citizens online, raising awareness and providing training.

The national ICT policy delegates implementation to an ICT development unit that would act as a coordinator.

Complementing the national ICT policy, the Telecommunication Bill 2006, section 5<sup>13</sup> sets out a strategy for developing and liberalizing the telecommunication sector. This includes steps such as the introduction of new legislation and the establishment of a sector regulator.

#### Box 4: Observations regarding Fiji’s policy’s substance and structure

##### *Strengths*

- The national ICT policy addresses a range of issues; in particular it focuses on the development of e-government and e-business, and ICT capacity building.

#### 4.2.3.2 Process

##### **Development and adoption**

Work on the national ICT policy was initiated by the IT Advisory Council (ITAC), a steering committee comprising public and private sector stakeholders. It was formed by the government in 2001 to provide policy advice to the Minister of Communications.

In February 2002, the Cabinet Sub-Committee on Investment (CSI) decided that a policy statement for ICT development should be compiled. The proposed policy was expected to identify specific strategies and actions to ensure the sector’s development.

A national ICT strategy workshop was held in June 2002, organized through the assistance of the UNDP under the e-Pacifika programme. Representatives from government, the private sector and educational institutions attended the two-day workshop.

Following the appointment of new members to the ITAC in late January 2003, the ministry organized a workshop on the theme ‘Creating Information Economy for Fiji’ for ITAC. The objective was to consider an early draft of the ICT Development Policy.

<sup>13</sup> See <http://parliament.gov.fj/legislative/billsb93e.html?billID=318&viewtype=full&billnav=bill>



The World Bank Group conducted an assessment of the telecommunication, post and information technology sector in July 2003. A consultant from outside of Fiji was appointed and funded by the World Bank to prepare a study and to identify policy recommendations for a national ICT policy.

The work on the national ICT policy was supported by three local staff.

In its current efforts to update the national ICT policy, the Fijian government has recognized that its efforts at policy development are handicapped by limited resources, in particular manpower and finance. Obtaining greater assistance in capacity building in the appropriate policy-making skills has been identified as a key prerequisite before further work on a new comprehensive national ICT policy can be undertaken in earnest.

#### Box 5: Observations regarding Fiji's policy process

##### *Strengths*

- The development process for the 2004 policy reflected best practice in terms of carrying out an assessment, consulting stakeholders and clearly delegating work
- Initiation by the high-level CSI provided a strong champion for development efforts
- External support in terms of funding and organizational support for the national ICT strategy workshop, and the funding of an assessment report and recommendations provided an important foundation for further work on policy development.

##### *Limitations*

- External assistance, however, was provided only on a largely ad-hoc, one-off basis by different donors.

#### Implementation and review

Initially delegated to a dedicated e-Fiji unit, implementation of the national ICT policy was ultimately undertaken by Information Technology and Computing (ITC) Services. ITC Services is the official ICT government department. Its services include expert advice, policy formulation, systems development, infrastructure building and management, training and customer support.

A key activity implemented under the national ICT policy was the e-government project, which was implemented between 2005 and 2010. In line with the national ICT policy's goals, its objective was to place government services online, enabling communities and businesses to directly access services. The e-government project had a number of components including the development of e-government capacity in the area of applications, government data centres, government ICT infrastructure and ICT training. Key e-government applications that were initiated included e-learning for teachers and students in rural areas, e-scholarship system, prison administration system, crime database, e-social welfare system, document management system, customs authority computerization and human resource system. The implementation of the e-government project was guided by the Fiji Government Information Technology (IT) Policies and Principles document. Its implementation was primarily funded by a concessionary loan that was supported by the Government of China.

The enactment of TP2008 was a milestone in the national ICT policy's implementation. It paved the way for the liberalization of the country's telecommunication sector, effectively ending the exclusive privileges granted to Telecom Fiji, FINTEL, and Vodafone Fiji, which were previously protected until 2014 by a 25-year exclusivity licence. TP2008 also sets out the framework for a range of regulatory issues including licensing, interconnection, radio-spectrum management, competition policy, infrastructure sharing, tariffs and universal access. Significantly, it also established an independent regulatory body known as Telecommunication Authority of Fiji, which is responsible for the regulation of the telecommunication sector.

The Ministry for Communications 2010 Annual Corporate Plan envisages a revival of the National ICT Steering Committee to look into the development of a revised national ICT policy which will be more comprehensive and up to date.

According to the Ministry of Communications, the revised national ICT policy will largely embody the following objectives:

- an improvement of the quality of life through ICT;
- the creation of new investment opportunities;
- the maximisation of economic gain;
- an increased contribution to GDP;
- the creation of new skill-based employment.

To this end, it will set out:

- the general conditions or directions on the use of ICT in Fiji;
- a set of guidelines for academic institutions on how to incorporate ICT-based subjects into their curriculum;
- a mechanism to increase financial returns for government on the back of ICT development.

#### **Box 6: Observations regarding Fiji's policy's implementation and review**

##### *Strengths*

- Steps have been taken to implement the policy's objectives, in particular the development of the e-government project (2005-2010)
- A review of the national ICT policy is scheduled for 2011 and developing a new policy is scheduled for 2012.

#### **4.2.4 Recommendations for consideration**

During the review of the policy, consideration could be given to:

- obtaining sustained capacity-building assistance in policy-making;
- developing a new national ICT policy that focuses on a comprehensive range of issues;
- adopting a regional element in policy-making by incorporating links (or references) to regional ICT trends and practices where synergies can be developed.

### **4.3 Kiribati**

#### **4.3.1 Overview**

Kiribati is an archipelago of 33 islands, covering 3.5 million square kilometers in the North Pacific. The population is approximately 112,000, the majority of whom live on the island of Tarawa, with an additional population centre on Kiritimati (Christmas Island).

The provision and maintenance of telecommunication services in Kiribati is a challenging task. Infrastructure is limited by the large distances involved, and has been deployed mainly in Tarawa and Kiritimati. The country's outer islands, in particular, are very isolated, connected only by infrequent shipping services.

Kiribati's ICT penetration rates are low. According to ITU statistics, in 2008 Kiribati had a fixed-line penetration rate of 4.14 per cent, a mobile penetration rate of 1.04 per cent and an Internet-user penetration rate of 2.07 per cent.

Kiribati Telecom Services Ltd (TSKL), a fully state-owned company, is the sole provider of telecommunication services in Kiribati. It provides both fixed-line and mobile services. There are also a number of specialised providers of VoIP, satellite broadcasting and data services.

In 2008, the government entered into negotiations with a potential second mobile operator, Digicel. The discussions, however, appear to have been unsuccessful.

#### **4.3.2 The ICT legal and regulatory framework**

The government has outlined a broad policy to introduce competition into ICT service provision and to increase access, particularly for outer islands and remote populations.

In February 2005, the Telecommunications Act was amended with a view towards the liberalization of the telecommunication sector. The 2005 act also established the Telecommunications Authority of Kiribati (TAK).

With the assistance of the World Bank, TAK and the Office of the Attorney General (AGO) have commenced a review of the act with the view to improving it so that it caters for technological advances.

#### **4.3.3 National ICT policy**

The Kiribati Development Plan (KDP) 2008-2011 emphasizes telecommunication infrastructure development – specifically to improve and expand communications to outer Islands.

A draft national ICT policy was prepared by the government in 2005. However, it was not adopted. It is being reviewed with a view to improving and updating its content.

The government has recognized the importance of having a national ICT policy and a strategic plan in place in order to provide a consistent overarching approach to ICT development. To date, a number of government ministries and agencies have started ICT projects in the absence of guidance from a national ICT policy or strategic plan. There is some risk that the absence of an overall policy or plan may result in overlaps, inconsistencies or other inefficiencies in the adoption and development of ICT in the country.

In its development of a national ICT policy, Kiribati has acknowledged that it faces a number of challenges. At the forefront is the lack of internal financial resources and human resource capacity to carry through such a project successfully.

##### **4.3.3.1 Substance and structure**

It is expected that the 2005 draft national ICT policy will undergo significant changes under the current national ICT policy development effort. The latest draft was unavailable for this report.

#### 4.3.3.2 Process

##### Development and adoption

A general consensus among government ministries and agencies on the importance of ICT led the government to embark on the development of a national ICT policy. A process started more than six years ago has involved consultations with key sector stakeholders such as TSKL, the Attorney-General's Chambers and other government departments. Local communities, including those in the outer islands, were also consulted.

The current work on the national ICT policy is part of a World Bank-funded project which was initiated in April 2009. The project was implemented as a response to the government's request for assistance. The project involves comprehensive assistance involving up-to-date assessments of the country's ICT status (for example, infrastructure, legal and regulatory status). It also projected ICT needs, a review of ICT law, the development of model documents (such as tender documents and licenses) and an outer island ICT access plan which includes universal access policies.

Network Strategies (New Zealand), a team of external consultants, began work on the project in November 2009. Their work is supported by two local staff with telecommunication and IT skills.

Additional funding for the development of a national ICT policy was provided by the Government of Kiribati and SOPAC. Prior to the current World Bank-driven effort SOPAC supported the ICT policy-making process by carrying out a national e-readiness assessment on the country's ICT sector as well as facilitating workshops on ICT in general and ICT policy-making for Kiribati's decision makers.

The national ICT development process is expected to be completed by Q3 2012. The external consultant is expected to present a final report and draft of the national ICT policy and a strategic plan by the end of Q2 2012. The draft will be reviewed and discussed by the relevant stakeholders in a workshop which would be held sometime in May 2012. From this workshop the draft ICT policy document will be finalised and then submitted to Cabinet for endorsement and approval.

##### Box 7: Observations regarding Kiribati's policy process

###### *Strengths*

- Although the current effort to develop a national ICT policy has not been completed, the approach taken is a comprehensive one that deals with legislative and regulatory reform
- The policy development process includes the drafting of regulatory instruments critical for implementation
- The current effort has been characterised by best practices in the form of an assessment, extensive stakeholder consultations and interviews during the preparation of the policy materials.

###### *Limitations*

- Despite stakeholder participation and the execution of an ICT assessment, initial efforts to develop a national ICT policy were limited for a variety of reasons including the lack of a clear high-level national champion in the adoption process, the absence of a timeline for adoption, and a shortage of skilled human resources to manage multiple ongoing processes (such as an amendment of the Telecommunications Act, establishment of the regulator, and ongoing sector reform in general)
- The current external policy assistance is envisaged to conclude with the delivery of the policy materials
- Capacity building of local staff in the area of policy-making is not addressed under the current effort.

### Implementation and review

The Ministry of Communications, Transport and Tourism Development is expected to be in charge of implementing the national ICT policy once it is in place.

Funding for the development and the implementation of the national ICT policy has been secured from the World Bank. The activities supported by World Bank funding include:

- reviewing the Telecommunications Act;
- drafting an outer islands access policy and implementation plan;
- drafting model licenses and tender documentation;
- outlining a regulatory capacity development plan;
- advising on a plan to achieve universal access.

#### 4.3.4 Recommendations for consideration

With the ongoing development of the national ICT policy, consideration could be given to:

- obtaining sustained capacity-building assistance in policy-making from external sources;
- planning for the next step of policy implementation, in particular the identification of further external support for strategic activities and projects in order to continue the current momentum.

## 4.4 Marshall Islands

### 4.4.1 Overview

The Marshall Islands is situated in the centre of the Pacific Ocean. It has a population of around 60,000. Its archipelago totals around 1,225 islands and islets spread over 1.94 million square kilometres of ocean. Land area is less than 0.01 per cent of the total surface area of the country, making telecommunication infrastructure deployment costly and difficult to maintain. Communication with the outer islands is difficult, relying mainly on high-frequency radio sites that service the 23 municipalities outside of the capital.

According to ITU statistics, in 2008 the Marshall Islands had a fixed-line penetration rate of 7.25 per cent, a mobile penetration rate of 1.65 per cent and an Internet-user penetration rate of 3.63 per cent.

The Marshall Islands National Telecommunications Authority (NTA) was initially established by law in 1987 to be the authorized provider of the country's telecommunication services. It currently provides local fixed-line, mobile, domestic inter-island, international, data and Internet services. NTA completed its privatization process in 1991 and is now a registered private corporation with significant ownership by the government.

A submarine cable (HANTRU-1) connecting two of the country's islands, Mahuro and Ebeye islands, to a hub in Guam is expected to be launched in July 2012.

### 4.4.2 The ICT legal and regulatory framework

The draft national ICT and telecommunication policies envisage creating a legislative framework that liberalizes the ICT sector on a step-by-step basis.

Currently, fixed-line and mobile services are provided exclusively by the largely government-owned NTA. The exclusivity period expires in 2013.

In 2007, following public consultations, the government developed a new national telecommunication policy with the assistance of ITU, Pacific Islands Forum Secretariat and Secretariat of the Pacific Community. The draft policy received considerable support, particularly from the private sector.

The national telecommunication policy sets out the framework for the introduction of competition into the telecommunication sector. It also sets out new regulatory arrangements and gives the government a greater role with respect to the monitoring of service providers. The policy sets out guidelines for the Telecommunications Bill of 2008.

If and when it enters into force, the bill will provide a legislative framework for the provision of telecommunication services in the country. It contains provisions that address competition and market structure, licensing, private-sector participation in the provision of telecommunication services, universal service and access, and consumer protection. It will also address the allocation of public resources (that is radio spectrum, numbering and domain names) and ensures interconnection between service providers. The bill also provides for the separation of responsibility for (i) the formulation of telecommunication policy and its implementation; (ii) the management and oversight of the telecommunication industry; and (iii) delivery of telecommunication services. To this end, the bill establishes the Marshall Islands Office of Telecommunications (OFTEL) within the Ministry of Transportation and Communications to regulate, supervise and control telecommunication-sector activities.

#### 4.4.3 National ICT policy

Currently there is not a national ICT policy in place. Final drafts of both the ICT and telecommunication policies have been approved in principle and are awaiting enabling legislation to enter into force.

The government recognizes that ICT is an integral component of the economy and that it can play an important and catalytic role in achieving the country's developmental goals. The *Strategic Development Plan, Vision 2018*, sets out the long-term policy objective 'to provide a reliable and affordable infrastructure in the areas of communications, transportation, water and sewerage, and energy'. Vision 2018 also recognizes that telecommunications is an essential infrastructure element necessary for the development of all sectors of the economy.

Although the importance of ICT has been acknowledged by the government, work on the development of a national ICT policy was prompted in practice by the need for a comprehensive ICT development strategy in order to effectively leverage the country's imminent connection to the HANTRU-1 regional submarine cable system.

##### 4.4.3.1 Substance and structure

The draft national ICT policy discusses the importance and nature of ICT, and sets goals and objectives in the following areas:

- e-government;
- ICT Infrastructure;
- education & human resource development;
- social and economic development:
  - health;
  - culture;

- economic development.
- legislative framework.

The national ICT policy is intended to be complemented by a strategic plan, which will contain key projects and initiatives. These will have timelines, and a monitoring and evaluation framework, which will be used to measure the output and outcome of the projects and initiatives. The strategic plan will also contain the key performance indicators of all initiatives as measured against the goals and objectives of the national ICT policy.

**Box 8: Observations regarding Marshall Islands' policy's substance and structure**

*Strengths*

- The draft national ICT policy sets in place a comprehensive set of policy goals and objectives that address key ICT-related development issues.

*Limitations*

- The draft does not incorporate a related strategic plan.

#### 4.4.3.2 Process

##### Development and adoption

A stakeholder group comprising the ICT ministry and private-sector companies led the ICT policy development process. A stakeholder ICT symposium (January 2010) set the framework of the new national ICT policy. In addition to local stakeholders, the symposium was attended by a number of representatives from regional organizations such as SOPAC, the University of Hawaii, SPC and Pacific Resources for Education and Learning (PREL).

The symposium examined the need for an effective application of ICT in the country. It also identified the challenges to ICT development and suggested approaches and solutions to overcome them. The resulting policy statements from the symposium highlighted the need for work in the following areas:

- administrative framework;
- e-government;
- ICT infrastructure;
- education and human resource development;
- social and economic development;
- legislative framework;
- environmental framework.

The Ministry of Transportation and Communication is tasked with developing the national ICT policy. The personnel involved in this development are local.

Development of the national ICT policy has been faced with a number of institutional delays. Policy work has been affected by changes in staffing and direction in the ministry in charge.

There is currently no ongoing donor support for the national ICT policy's development.

**Box 9: Observations regarding Marshall Islands' policy process***Strengths*

- The development process for the draft national ICT policy 2004 involved substantial stakeholder participation at a leadership level in the form of the stakeholder group and stakeholder symposium
- External support in the form of an ICT assessment and expert policy advice during the ICT symposium played an important role in developing the draft policy.

*Limitations*

- Institutional changes at the Ministry of Transportation and Communications have caused delays in the policy's development.

**Implementation and review**

The Ministry of Transportation and Communications will be placed in charge of the policy's implementation.

The draft policy also provides for the creation of a National ICT Steering Committee by the cabinet. Such a committee will provide policy guidance and assessment, and recommendations when necessary. The chief secretary will be the committee's chair.

The Marshall Islands recognizes that it faces a number of significant challenges in implementing its national ICT policy. In particular, there are currently large loans outstanding in the sector that need to be repaid or managed before further financing can be sought. Funds from such loans have financed significant infrastructure deployments and upgrades in the past.

**Box 10: Observations regarding Marshall Islands' policy's implementation and review***Strengths*

- The creation of a high-level National ICT Steering Committee after the adoption of the national ICT policy is a sign of political commitment to the successful implementation of the policy.

**4.4.4 Recommendations for consideration**

There are areas that could be given further consideration.

- The functions of the National ICT Steering Committee and the Ministry of Transportation and Communications, which also has policy-making functions, must be clear in order to avoid work duplication or inconsistencies.
- The strategic plan should be urgently developed and adopted contemporaneously with (or as part of) the national ICT policy.
- Sustained capacity-building assistance is required when making policies.
- A regional element should be adopted when making policies and this should incorporate or reference regional ICT trends and practices so that synergies can be developed.
- The institutional framework of the Ministry of Transportation and Communication should be stabilized.



## 4.5 Micronesia

### 4.5.1 Overview

Micronesia is made up of four states: Yap, Chuuk, Pohnpei and Kosrae. It comprises approximately 607 small islands in the western Pacific spread over 2,600,000 square kilometres of ocean. The land area amounts to approximately 700 square kilometres. The population of around 112,000 is centred on several main islands in each state. Telecommunication links with remote populated islands are sparse. Mountainous interiors and dense jungles also add to the challenges when deploying telecommunication infrastructure.

According to ITU statistics, in 2008 the country had a fixed-line penetration rate of 7.88 per cent, a mobile penetration rate of 30.79 per cent and an Internet-user penetration rate of 14.49 per cent. The country has around 100 broadband subscribers.

All telecommunication services, fixed-line, mobile and Internet are provided by the government-owned FSM Telecom (FSMTC). In 2005, FSMTC installed a wireless Internet service and conducted a soft launch of a digital wireless broadband television service in Yap. In 2006, it upgraded its existing GSM network to a GSM/GPRS/EDGE network with high-speed packet data service capabilities.

A link to the HANTRU-1 submarine cable system will be extended soon to Pohnpei. The cable system is currently under construction between Kwajalein, the Marshall Islands and Guam. The Micronesia extension is financed through the United States Department of Agriculture Rural Utilities Service, Telecommunications Loan Program. The extension represents phase one of FSMTC's submarine cable network plans, the next phase being the development of a domestic inter-island cable network.

### 4.5.2 The ICT legal and regulatory framework

There is minimal ICT legislation in the country. A Telecommunications Reform Bill, which will introduce competition into the provision of telecommunication services, is currently pending approval by the Federated States of Micronesia Congress.

The Division of Communication at the Department of Transportation, Communications and Infrastructure (TC&I) is responsible for radio regulation and management of the radio frequency spectrum in accordance with national and international law.

### 4.5.3 National ICT policy

The country does not have a national ICT policy in force, although a policy is being developed.

In its statements, the government recognizes the critical need to improve access to ICT and the quality of ICT services. It also recognizes the need to promote ICT usage in all areas of society and to use ICT as a catalyst for socio-economic development.

In 2006, noting that ICT was not addressed in the country's National Economic Development Plan, the government embarked on a process of developing a national ICT policy. Having observed international and regional trends, the government acknowledged the need to develop a national ICT policy and a suitable legislative framework to ensure ICT-related national objectives could be met.

#### 4.5.3.1 Substance and structure

The draft national ICT policy will introduce competition to the telecommunication sector, initiate regulatory reform to improve service quality and reduce costs, and increase transparency and accountability in the regulation and operation of the telecommunication sector.

The current national ICT policy draft sets out the government's key policies:

- build and retain a skilled and professional ICT workforce to assist sustainable social and economic development;
- develop an appropriate information and communication infrastructure to enable ICT development and form a platform for e-FSM;
- use ICT to facilitate and enable transparent, efficient and effective services;
- develop and foster an ICT environment that will make ICT affordable, accessible and available (a competitive advantage).

A complementary ICT strategic plan also forms part of the draft policy. It contains specific strategic actions and activities that are related to each of the policies.

#### Box 11: Observations regarding Micronesia's policy's substance and structure

##### *Strengths*

- The draft national ICT policy is a comprehensive document that addresses all the main substantive issues.

##### *Limitations*

- The ICT strategy provides limited indication of the resources that will be necessary for implementation.

#### 4.5.3.2 Process

##### Development and adoption

The Division of Communications in the Department of TC&I is responsible for the policy's development.

The Policy Makers and Leadership Workshop on e-FSM in 2006 was a key catalyst for work starting on the policy. The workshop's theme was 'Development of Information Communication Technologies (ICT) and Policy Awareness'. Key stakeholders from government, business and civil society attended and this resulted in substantial support for the policy's development and an undertaking to reform the telecommunication sector. The workshop was also seen as a continuation of the work that was initiated at an earlier workshop held in 2002 under the UNDP's regional e-Pacifika project.

The workshop was followed, in the same year, by an e-readiness assessment of the country. Conducted with the support of SOPAC, major issues such as education, ICT in society, ICT access, and policy and legislation were assessed. The findings recommended that a national ICT policy was urgently needed to guide the development of ICT in the country. Assistance from SOPAC in the form of an e-readiness assessment was made possible by funding through the UNDP.

At the end of 2006, an initial national ICT policy draft, which incorporated a draft national ICT strategic plan, was prepared by the Division of Communications.

Further development of the national ICT plan and its adoption, however, was suspended while efforts were directed at amending legislation which awarded exclusivity privileges to FSM Telecommunications Corporation.

In 2009, the country's president submitted to the FSM Congress a Telecommunications Reform Bill aimed at liberalizing the telecommunication sector. A delay, however, ensued as a result of congressional transition. The bill has been resubmitted to Congress and public hearings for state leaders were held resulting in a vast majority supporting reform of the telecommunication sector. The bill is currently pending the decision of Congress. It is expected that the national ICT policy would be adopted following the passage of the bill.

#### Box 12: Observations regarding Micronesia's policy process

##### *Strengths*

- High-level backing of the president provided political momentum for the current effort.
- External support in terms of funding and organizational support for the national ICT strategy workshop and the funding of an assessment report provided an important foundation for policy development.

##### *Limitations*

- The initial effort to launch the policy-making process in 2002 did not translate rapidly into action as it was largely based on a one-off event that had been initiated externally.
- External assistance for the ministry has generally been on an ad-hoc basis without a sustained capacity-building component in the areas of ICT policy-making and strategic planning.

#### Implementation and review

Responsibility for each strategic action is delegated to a relevant institutional entity for implementation within a specific period. As well as the Department of TC&I, other government entities, such as the Department of Finance and the Department of Education, have responsibility for specific actions.

The national ICT policy includes a provision for the periodic updating of the document.

#### 4.5.4 Recommendations for consideration

With the adoption of the national ICT policy imminent, consideration should be given to:

- maintaining political momentum by keeping ICT issues in the public eye;
- obtaining sustained capacity-building assistance to prepare for the next stage of policy implementation.

#### 4.6 Nauru

##### 4.6.1 Overview

Nauru is a single island nation of around 21 square kilometres situated in the central Pacific. It has a population of around 14,000.

According to ITU statistics, in 2008 Nauru had a fixed-line penetration rate of 17.69 per cent. Mobile and Internet penetration figures were unavailable.

Prior to the launch of mobile services in 2009, the country's telecommunication system remained underdeveloped largely because of insufficient funds dedicated to the maintenance and upgrading of its infrastructure. Before the entry of Digicel into the market, RONTel, a government-owned corporation, was the sole provider of telecommunication services in the country.

In mid-2009, Digicel Nauru was awarded a licence to provide mobile services based on the GSM standard. It commenced operations in August 2009, becoming the country's first wireless network operator. In addition to voice services, Digicel's GPRS/EDGE-enabled network makes Internet access available to the country.

#### **4.6.2 The ICT legal and regulatory framework**

The telecommunication sector is governed by the Telecommunications Act of 2002. The act provides for the transfer of telecommunication facilities and responsibilities from a government department to a statutory corporation called RONTel. RONTel was established as a state-controlled corporation with a monopoly in respect of telecommunication systems and services. Under the act, RONTel was given licensing powers and a policy advisory function by the government.

A reorganization of RONTel, however, has concluded with the establishment of a separate telecommunication regulator.

### 4.6.3 National ICT policy

Currently, Nauru does not have a national ICT policy.

The country is currently actively seeking assistance through donors and various forums to assist in the formulation of a national ICT policy.

Nauru's ICT policy direction is currently guided by a national strategic plan called the Nauru National Sustainable Development Strategy (NSDS) 2005-2025. This document sets out short-, medium- and long-term development goals for the nation in various segments of the economy and society. ICT is factored into these development goals as a cross-cutting priority. ICT is regarded as an enabler for development and is embedded in all segments addressed by the NSDS strategies.

The government recognizes the importance of having a national ICT policy in place to guide the adoption of ICT as part of its wider efforts to ensure that the final outcomes of the NSDS are met.

The country, however, faces a number of challenges in the area of ICT policy and strategy development. The country's financial situation has had a significant impact on ICT development and use over several years. The economy has only just started a recovery process from a downturn in 2007. Skilled ICT personnel have not been readily available, while financial resources for external experts were difficult to obtain. As such, the country relied largely on volunteers to drive its ICT-related goals, leading to a fragmented approach. The government has identified the need for skilled personnel to manage and direct the long-term implementation and adoption of ICT as a pressing concern.

#### 4.6.3.1 Substance and structure

In the absence of a draft national ICT policy, the ICT development of the country is guided by the NSDS. The document establishes the sector objective for the telecommunication sector: Profitable and reliable telecommunication services (phone, Internet etc) provided to public, business and government at reasonable cost. The sector strategy is focused on the installation of GSM technology and strengthening technical capacity.

#### Box 13: Observations regarding Nauru's policy's substance and structure

##### Limitations

- The NSDS is insufficiently managed and cannot ensure a comprehensive and coherent approach to ICT-related development.

#### 4.6.3.2 Process

##### Development and adoption

The development of the national ICT policy is guided by the ICT department of the Department of Transport and Telecommunications. The public-service post of director of ICT in the ICT department was established primarily to develop an ICT strategic plan and assist with the formulation of a national ICT policy. The office's activities are funded through government procurement.

The ICT department was formed on the recommendation of an external consultant based on a review of ICT usage in education. The review was funded by the United Nations Educational, Scientific and Cultural Organization (UNESCO).

Currently consultations are being made with the ICB4PAC project for assistance. In addition, further guidance from other countries that have fully developed national ICT policies is being sought.

#### Box 14: Observations regarding Nauru's policy process

##### *Strengths*

- Establishing the ICT director position is a key first step towards developing a national ICT policy.

##### *Limitations*

- There appears to be limited high-level government prioritization of the national ICT policy development effort.
- Limited internal resources and the lack of external support in the form of capacity building and technical support (for example, for ICT assessment and policy drafting) is delaying work on the development of a national ICT policy.

#### Implementation and review

The ICT department of the Department of Transport and Telecommunications will be charged with the implementation of the national ICT policy once it is adopted.

#### 4.6.4 Recommendations for consideration

Given the current nascent state of policy development, it is recommended that the government:

- increases efforts to obtain external assistance in terms of long-term capacity building and immediate technical support;
- provides a clear recognition of the importance of ICT to development and a clear commitment to the development of a national ICT policy; such support will be necessary to ensure sufficient traction to start the development process and enough momentum to carry it through.

#### 4.7 Niue

##### 4.7.1 Overview

Niue is a single island nation in the South Pacific. It has an area of 269 square kilometres and a population of around 1,500.

According to ITU statistics, in 2008 Niue had a high fixed-line penetration rate of 65.92 per cent, a mobile penetration rate of 38.46 per cent and a high Internet-user penetration rate of 65.92 per cent.

Telecommunication services in the country are relatively accessible, with most households connected to a fixed line. Services are provided by Telecom Niue, the country's sole provider of fixed, mobile (AMPS) and Internet services. Telecom Niue is currently in the process of launching its GSM network.

The Internet Users Society – Niue (IUSN) provides free Internet access to the population. It is currently in the process of extending access to more villages on the island. International Internet connection is supplied to the country by PacTel International, a satellite-based service provider that services the Pacific Island countries.

#### 4.7.2 The ICT legal and regulatory framework

There is a government monopoly in the telecommunication sector in Niue. Telecommunications is under the day-to-day control of the director of the Telecommunications Department and a substantial role is played by the cabinet in respect of licensing, policy direction and the making of administrative regulations.

In June 1989, Niue repealed the Post Office Act 1959 of New Zealand which applied in Niue and had dealt with both postal and telecommunication matters. That act was replaced by the Communications Act 1989. Part I of this act deals with telecommunications and Part II deals with postal services.

No regulations have been made under the act, although there is power for the cabinet to do so to provide for the charges that may be made for government services, the fees for licenses and the conditions upon which any private telecommunication service may be connected to the Niue telephone system.

#### 4.7.3 National ICT policy

The government does not have a national ICT policy in place. However, it is currently in the process of developing one.

A draft policy relating to IT was developed in 1997. However, it was never formally adopted and is now considered to be obsolete.

The Niue National Strategic Plan 2009-2013 (NNSP), however, includes national goals for ICT development and one of its objectives is to develop a national ICT policy and strategy. The ICT-related strategic goals of the NNSP include:

- develop and implement a national policy on ICT;
- provide an enabling environment for cost-effective ICT;
- facilitate the development of digital communications;
- encourage the development of ICT-based economic activities;
- adopt e-government initiatives for increasing public-sector efficiency;
- improve access to government information;
- encourage a digital strategy which enables minimum use of paper.

These goals are complemented by the following strategic objectives:

- achieve universal ICT connectivity by 2012;
- develop a telecom network strategy development plan by 2012;
- achieve full digital conversion by 2012;
- develop and implement training programmes to achieve a 50 per cent increase in ICT skills by 2012;
- strengthen e-government policy initiatives by 2012.

With a limited population, the lack of appropriate human resources has been identified by the government as a key challenge in developing a national ICT policy.

#### 4.7.3.1 Substance and structure

The Niue draft national ICT policy is a brief document that addresses a number of key elements critical for the development of ICT in the country.

The document has not formally been adopted by the government, and key policy elements are likely to be changed given its early stage of development.

As currently drafted, the goals and objectives are closely linked to the strategic goals of the NNSP. Key features of the draft include:

- The government will introduce legislation to recognize the full potential of convergence on ICT and provide for appropriate governance of the sector for the future
- The government will introduce new legislation by the process of corporatization to create an efficient and responsive Telecom Niue
- The government will make every effort to enable ICT use, in commerce and by individuals, to increase efficiency, lower costs and improve performance
- All ministries and departments will strive to use ICT to improve the delivery of services and efficiency of operations
- Services are available that will greatly enhance the educational experience and health outcomes for all citizens, and these sectors will be accorded priority.

The draft national ICT policy also includes an estimate of the budgetary allocation necessary for its implementation.

#### Box 15: Observations regarding Niue's policy's substance and structure

##### *Strengths*

- The draft national ICT policy addresses all key challenges at a general level.

##### *Limitations*

- A complementary strategic plan with more details about implementation is necessary.

#### 4.7.3.2 Process

##### Development and adoption

The Niue Island Information, Technology & Communication and Development Council (NiDC), a multi-stakeholder group chaired by the Minister of Post and Telecommunications, has been tasked by the government to develop a draft national ICT policy. Although the NiDC has initiated work on the policy, a change of government in 2008 resulted in a change of management of the NiDC, and this has resulted in some delay.

As part of the policy's development, a report was prepared by an external consultant and published in December 2009. The report provides an assessment of the status of ICT in the country and incorporates information gathered from consultations and interviews with stakeholders.

Meetings and consultations with key stakeholders, including key government officials and private-sector representatives, were held as part of the consultant's work. A stakeholder meeting was also conducted in August 2009 to discuss the potential of ICT to contribute to the socio-economic development of the country.

According to the report, an indicative timetable for the adoption and implementation of the national ICT policy would:



- end of March 2010: review and approve a draft ICT policy by NiDC for public discussion;
- end of June 2010: cabinet approval of the draft policy and commitment to both legislation and funding for its implementation;
- end of June 2010: establish an island-wide GSM mobile service;
- December 2010: the passage of necessary legislation including telecommunication reform, Domain Name System (DNS) governance and cyber enabling and security;
- July 2010-June 2011: budget allocations to reflect priority expenditure.

#### Box 16: Observations regarding Niue's policy process

##### *Strengths*

- Formation and designation of the NiDC by the government as the institution responsible reflects commitment on the part of the government to the national ICT policy development process
- The plural nature of the NiDC ensures stakeholder involvement in the leadership of the national ICT policy development process.
- Key steps involving ICT assessment and stakeholder consultations have been undertaken.
- A clear timeframe for the adoption and implementation of the national ICT policy facilitates planning and promotes momentum.
- External support by PIFS in 2009, in the form of comprehensive technical assistance for an ICT assessment, stakeholder consultations and policy recommendations, provided the NiDC with a substantial foundation for developing the policy.

##### *Limitations*

- Assistance to improve capacity building and develop ICT and policy-making skills is currently limited.
- One-off assistance in the form of support for an ICT policy and strategy workshop in 2003 appears not to have created sufficient momentum for the ICT policy development effort to continue, but there has recently been a renewed effort at developing a policy for the sector.

#### Implementation and review

Responsibility for implementing the policy is delegated to the NiDC, which is required to report progress on a quarterly basis to the cabinet.

#### 4.7.4 Recommendations for consideration

It is recommended that the government:

- develops a strategic plan to facilitate the implementation of the national ICT policy;
- seeks sustained capacity-building assistance for policy-making;
- adopts a regional outlook in policy-making, given the country's limited resources, by incorporating or referencing regional ICT trends and practices.

## 4.8 Palau

### 4.8.1 Overview

Palau is an archipelago of islands located in the Pacific Ocean. It has a population of around 21,000 of which around two-thirds live on the island of Koror.

Palau has some of the highest penetration rates for fixed-line, mobile phones and Internet users in the region. According to ITU statistics, in 2008 Palau had a fixed-line penetration rate of 36.07 per cent, a mobile penetration rate of 59.89 per cent and an Internet-user penetration rate of 26.97 per cent. It also has around 100 broadband subscribers.

Telecommunication services in the islands are provided solely by Palau National Communications Corporation (PNCC), a state-owned corporation. The country has a relatively advanced telecommunication system comprising digital switching and fibre optic technologies. PNCC offers a full range of services, including Internet access, cable television and mobile telephony.

#### **4.8.2 The ICT legal and regulatory framework**

Currently Title 15 of the Palau National Code governs the provision of telecommunication services in the country. It designates PNCC as the provider of telecommunication services. The code does not provide for a separation of operational and regulatory roles.

There are plans for the president to introduce competition in the telecommunication sector by way of an executive order, although no timeframe has been indicated.

#### **4.8.3 National ICT policy**

At present, Palau does not have a national ICT policy, although it is in the process of constituting a task force to develop one.

The government has indicated that work on the development of a national ICT policy is hindered by an acute shortage of skills and expertise in the ICT sector.

##### **4.8.3.1 Substance and structure**

The government says Palau's national ICT policy will introduce competition into the ICT sector as a means to increasing the quality of ICT services. The national ICT policy is also intended to serve as the basis for comprehensive ICT legislation and a regulatory framework. A draft of the policy has not yet been prepared.

##### **4.8.3.2 Process**

###### **Development and adoption**

In 2001, the Communication Information Technical Advisory Group (CITAG) was formed by presidential executive order. It was tasked to develop a five-year ICT plan that would advance ICT in the country. Following the group's formation, a stakeholder workshop, initiated by the UNDP as part of the e-Pacifika regional project, was held in 2002. The workshop resulted in ICT policy statements concerning human resources, infrastructure development, cooperation, and policy and regulation. These inputs subsequently resulted in the drafting of the Republic of Palau ICT-2003, a draft three-year ICT development plan.

ICT-2003, however, was not officially endorsed and as such was not implemented. Some projects identified in the document formed part of a general Private Sector Improvement Programme. CITAG still remains in existence but is dormant.

Currently, telecommunication policy-making functions remain undefined. Present day efforts to develop a national ICT policy await the official creation of a National ICT Policy Task Force through presidential executive order. This new task force will replace CITAG and will be tasked with developing national ICT policy.

The new task force will be chaired by the director of the Bureau of Commercial Development. It will have director-level representatives from the government and the PNCC. The Ministry of Public Infrastructure, Industries and Commerce, through its Division of Communications, will develop the implementing legislation. The new task force will report to the president and the Minister of Public Infrastructure, Industries and Commerce.

Palau does not currently have any donor support for developing a national ICT policy.

#### Box 17: Observations regarding Palau's policy process

##### *Strengths*

- Since the initial efforts in 2003, there appears to be limited political momentum to develop a national ICT policy.
- Current efforts to restart the process appear to be in abeyance until further political direction is given.

##### *Limitations*

- Given Palau's advanced ICT infrastructure and relatively high ICT penetration figures, it appears that ICT development is not a top government priority.
- A shortage of internal resources and a lack of external assistance may hinder policy development efforts once they recommence.

#### Implementation and review

The Ministry of Public Infrastructure, Industries and Commerce will be in charge of implementing national ICT policy.

#### 4.8.4 Recommendations for consideration

With the pressing need to accelerate efforts to develop a national ICT policy, it is recommended that Palau:

- explores options for increasing political support by focusing public attention on key ongoing ICT issues such as access to ICT in remote locations, improved use of ICT in the delivery of government services, the possibility of price reductions, and the introduction of new services through the liberalization of the telecommunication sector;
- increases efforts to plan and secure external assistance commitments for policy development efforts.

## 4.9 Papua New Guinea

### 4.9.1 Overview

Papua New Guinea is located in the south western Pacific. It has a land size of 462,840 square kilometres and a population of around seven million. Its main land mass has a mountainous interior with dense jungle terrain. According to World Bank reports, it is one of the most rural countries in the world with only 18 per cent of its people living in urban centres. Its geography and demographic present significant hurdles for expanding telecommunication infrastructure.

Despite possessing relatively advanced telecommunication infrastructure, penetration remains very low. According to ITU statistics, in 2008 Papua New Guinea had a fixed-line penetration rate of 0.91 per cent, a mobile penetration rate of 9.12 per cent and an Internet-user penetration rate of 1.82 per cent. Telecommunication services are largely limited to the major urban centres of Port Moresby, Lae and Mount Hagen.

The corporatisation of the incumbent, Telikom Papua New Guinea began in 1996. It is currently wholly owned by the government. Telikom Papua New Guinea provides mainly fixed-line and Internet services. It, however, has a 50 per cent share in Bemobile, one of the country's two mobile operators. In 2007, Digicel Papua New Guinea entered the market after two mobile licences were issued by the government. Digicel is currently in the process of extending its mobile network across the country.

Papua New Guinea is connected by submarine cable to Australia via a reconditioned section of the PacRimWest cable, and to Australia and Guam through the new PPC-1 cable system.

Papua New Guinea has been a member of WTO since June 1996 and is a signatory to the WTO Agreement on Basic Telecommunications and its reference paper.

### 4.9.2 The ICT legal and regulatory framework

Papua New Guinea enacted a new National ICT Act in November 2009 which replaced the Telecommunications Act of 1996. The National ICT Act introduces significant changes with regard to the introduction of competition. It also establishes a new converged ICT regulator, the National Information and Communications Technology Authority (NICTA), as the regulator for the entire ICT sector. NICTA possesses all necessary regulatory functions and powers including licensing.

The National ICT Act builds on a long period of regulatory reform which commenced in 1996 with the corporatisation of the Post and Telecommunications Corporation and the establishment of Telikom Papua New Guinea. A sector regulator, PANGTEL, was also established in the same process. Regulatory responsibility was then split with the Independent Consumer and Competition Commission (ICCC) in 2002. A policy to introduce competition in the provision of mobile services was adopted in 2005. In March 2007 two mobile licenses were issued.

It is expected that the new act and the establishment of NICTA will improve the state of ICT competition in the country through the introduction of interconnection and other critical regulations.

### 4.9.3 National ICT policy

A national ICT policy was adopted in February 2008.

It was developed over a period of time which saw the continued refinement of the policy through extensive consultations.

Currently, the government is implementing Phase 2 of the reforms laid out in the national ICT policy.

A key challenge that was cited in the policy's development was the lack of suitably skilled internal resources.

#### 4.9.3.1 Substance and structure

The keystone of the policy is the combination of the staged introduction of competition and the transformational change of the incumbent Telikom Papua New Guinea.

The policy sets out the key ICT-related objectives for the country. It also provides a strategic framework for meeting the government's objectives for the ICT sector. That framework includes the following areas of focus:

- Access to telecommunication services
  - Increasing access to telecommunication services in rural areas across Papua New Guinea (through open competition, mandatory roll-out obligations and universal service).
- Role of government in ICT and development
  - Ensuring coordination among government departments when implementing the national ICT policy, implementing ICT policies in a timely manner, enforcing the regulatory regime under the independent regulators, and effectively reorganising and restructuring the institutions related to ICT.
- Effective and sustainable competition
  - Implementing a staged approach to open competition, while allowing for the transformation of Telikom Papua New Guinea without reverting to a network monopoly during the transition phase.
- Use of the Internet
  - Providing the population with greater access to computers; encouraging increased use of the Internet particularly in areas such as business, culture, education, health and e-government; and ensuring that relevant education and training programmes maximise the opportunities afforded by ICT technologies to improve quality of life and enhance work prospects.
- Educating the nation
  - Encouraging programmes to educate the population on the effective use of the Internet as a business and life tool and encouraging citizens to engage in education programmes available by means of the Internet.
- Security and specific regulation
  - Introducing an effective legal framework that protects privacy, intellectual property, critical information infrastructure, consumers and businesses from cyber threats.

Each area of focus is complemented by specific strategies to achieve them.

**Box 18: Observations regarding Papua New Guinea’s policy’s substance and structure**

*Strengths*

- The national ICT policy details the issues of access to ICT infrastructure, the liberalization and restructuring of the telecommunication sector, and the reorganization of government institutions linked to ICT, underscoring the government’s ICT priorities and paving the way for a prompt implementation of those policies.
- The national ICT policy incorporates strategies to give effect to the policy objectives listed.

*Limitations*

- Details of the activities not related to access to infrastructure and the restructuring of the telecommunication sector are not included in the current document.
- A mechanism for evaluating and reviewing the policy is not incorporated.

#### 4.9.3.2 Process

##### Development and adoption

Initial efforts to develop a national ICT policy before 2005 were supported by a number of development organizations, including ITU.

In 2005, a draft National Information Communication Technology Policy Framework was approved by the National Executive Council (NEC). It was accompanied by the establishment of an inter-agency ICT Taskforce that was tasked to formulate a national ICT policy in consultation with the relevant stakeholders, which would be consistent with the National Government’s Medium Term Development Strategy and Millennium Development Goals.

On the 21<sup>st</sup> of June 2007, the government approved the National Information & Communications Policy 2007<sup>14</sup> and the Papua New Guinea Telecommunications Deregulation Blueprint as government policy. However the ICT Policy 2007 was not implemented.

Having regard to subsequent developments in the market and the government’s broader policy objectives, an effort was made to further refine the policy document. Building on the 2007 policy, further consultations were held with stakeholders. This culminated in the adoption of the national ICT policy of 2008 as government policy by the NEC in February 2008.

The 2008 policy was developed by external consultants who reported to and were supervised by the secretary, Department of Information and Communications.

The work was supported by the staff of the Department of Information and Communications which included three personnel who were administrators and managers.

<sup>14</sup> Government of Papua New Guinea (2008).

The work was supported by government funding.

#### Box 19: Observations regarding Papua New Guinea's policy process

##### *Strengths*

- The delegation of institutional responsibility by NEC represents political backing for the development of the national ICT policy 2008.
- Learning from the limitations of the 2007 policy, the development process in 2008 devoted more effort to consulting with stakeholders and incorporating their concerns.
- Greater use of government funding gives the government more direction over the policy development process. It also promotes government ownership of the project and provides greater certainty of adoption.
- Use of external consultants in cooperation with local staff in the policy development process allows for a wider perspective in policy-making and facilitates the transfer of skills to local staff.

#### Implementation and review

The policy's implementation is guided largely by the Department of Information and Communications. Regulatory aspects of the policy will be undertaken by NICTA.

In its 2008 national budget, the government made budgetary provisions for implementing the policy.

In February 2008, following the adoption of the policy, the government commenced Phase 1 of the reforms that involved the staged introduction of competition. In March 2009, the national ICT Policy Phase 2 Reforms Final Report was approved as government policy and initiated.

#### Box 20: Observations regarding Papua New Guinea's policy's implementation and review

##### *Strengths*

- Specific budgetary allocation has facilitated planning and implementation.

#### 4.9.4 Recommendations for consideration

Consideration should be given to:

- providing an indication of the policy's lifespan and a timeframe for a policy evaluation and review;
- ensuring the timely development of a strategic plan to implement all aspects of the national ICT policy;
- dedicating resources for the ongoing training of ICT policy-making staff.

#### 4.10 Samoa

##### 4.10.1 Overview

Samoa is an archipelago in the South Pacific comprising two large islands, Upolu and Savai'i, and two smaller islands. Of its population of around 180,000, more than three-quarters live in Upolu. Telecommunication development constraints in Samoa stem mainly from the geographic isolation of the remote islands.

Benefiting from the introduction of competition in the mobile segment in 2006, Samoa's telecommunication infrastructure has expanded significantly. According to ITU statistics, in 2008 Samoa had a fixed-line penetration rate of 16.10 per cent, a mobile penetration rate of 69.32 per cent and an Internet-user penetration rate of 5.03 per cent.

The incumbent operator SamoaTel, a fully state-owned company, was corporatized in 1999. Its 10-year exclusive licence to provide certain telecommunication services in Samoa expired in 2009. Telecom Samoa Cellular launched the country's first cellular network in 1997.

Samoa's mobile segment saw the introduction of competition with a licence awarded to Digicel Samoa in March 2006. Since its launch in October 2006, Digicel has captured a significant share of the mobile subscriber market.

The Internet market is competitive, with a number of ISPs offering a variety of services including broadband. In 2008, there were around 200 broadband subscribers, according to ITU statistics.

In May 2009, Samoa was connected to the ASH submarine cable. The cable connects the country to American Samoa and onwards to Hawaii.

Samoa became a member of WTO in March 2012, having been in accession negotiations since July 1998.

#### 4.10.2 The ICT legal and regulatory framework

Before the Telecommunications Act 2005 came into force, SamoaTel was the exclusive supplier of fixed-line and mobile services. Following the adoption of the national ICT strategic plan in 2004, the revision of the National Communications Sector Policy 2005 and the introduction of the Telecommunications Act 2005, competition was introduced into the mobile segment and the expiry of the exclusivity period for the provision of fixed-line services was set for July 2009.

The Office of the Regulator was established pursuant to the Telecommunications Act 2005 in July 2006. It is responsible for licensing service providers, managing and licensing radio spectrum, numbering, consumer protection and promoting telecommunication market development.

The World Bank Telecommunications and Postal Sector Reform Project initiated in December 2002 played a key role in the liberalization of the telecommunication sector. It led to the drafting of the National Telecommunications Sector Policy 2003, the Telecommunications Act 2005, the establishment of the Office of the Regulator as an independent regulator, and the development of key sector regulations.

The government is currently in the process of recruiting a consultant to assist in reviewing and updating the National Communications Sector Policy.

#### 4.10.3 National ICT policy

The government has recognized ICT as an important tool for social development, economic growth and political progress. To that end it has initiated work on the development of a national ICT policy and strategy from 2002. The process in Samoa has benefited from strong government leadership, with ICT being of special interest to the prime minister.

A national ICT strategic plan (2004-2009) was adopted in Samoa in 2004. The strategic plan is currently undergoing a review.

The national ICT strategic plan is complemented by a National Communications Sector Policy (NCSP) which sets out the development path of the telecommunication sector in detail. It includes:

- an outline of sector liberalization milestones;



- a vision for the market structure of the sector;
- service level and infrastructure expansion targets;
- a path for the introduction of a regulatory framework.

Additionally, the NCSP is currently being reviewed and updated.

The government is also in the final stages of having an email and Internet policy approved for government-wide use, and in the initial stages of developing an e-waste policy.

#### 4.10.3.1 Substance and structure

Key elements of the national ICT strategic plan are:

- access to ICT;
- confidence and security in the use of ICT;
- ICT as a development tool;
- gender equality;
- benefits of ICT.

The NCSP also plays a significant role in shaping the country's ICT-related development. Key elements are:

- a detailed review of the sector's performance in terms of infrastructure, number of services, quality of service, prices, availability and the level of human resource development;
- the identification of development objectives related to the sector;
- implementation strategies linked to the objectives, with detailed action items (for example, relating to industry structure, pricing and range of services);
- details for the establishment of an independent sector regulator and its functions.

#### Box 21: Observations regarding Samoa's policy's substance and structure

##### *Strengths*

- The national ICT strategic plan is comprehensive in the issues that it addresses.
- The structure of the national ICT strategic plan implements best practice by incorporating most of the important structural elements (with the exception of an estimate for the allocation of resources).

#### 4.10.3.2 Process

##### **Development and adoption**

In 2002, the cabinet established a National ICT Steering Committee (NISC) to develop ICT policies and a national ICT strategic plan. The NISC included representatives from relevant government ministries, the private sector, non-governmental organizations (NGOs) and civil society. The NISC is headed by the prime minister. A cross-section of experience and expertise was garnered from the NISC's wide variety of members.

Following its participation in the World Summit on the Information Society (WSIS) in 2003, NISC started work on developing the national ICT strategic plan. Its work included consulting with the wider community of private sector, NGOs and mayors at a village level.

On a practical level, the PIIPP was used by the NISC as a starting point for the development of the national ICT strategic plan.

The development of the national ICT strategic plan was largely supported by government funding as well as by the UNDP through the ICT4D programme.

#### Box 22: Observations regarding Samoa's policy process

##### *Strengths*

- Initiation by the cabinet reflects high-level political support for the policy development effort.
- The heading of the NISC by the Prime Minister reflects high-level political support.
- The process of development incorporates best practices involving stakeholder participation through consultations and representation at the NISC.
- Use of the PIIPP reflects effective leveraging of available regional resources.
- Greater use of government funding allows the government more direction over the policy development process, in addition to promoting government ownership of the project and providing greater certainty of adoption.
- Use of external consultants in cooperation with local staff in the policy development process allows for a wider perspective in policy-making and facilitates the transfer of skills to local staff.

#### Implementation and review

The ICT Secretariat of the Ministry of Communications & Information Technology is in charge of the implementation of the national ICT strategic plan. The ICT Secretariat was set up in 2005 to implement the strategies in the plan and monitor the progress of the various ICT projects. It also coordinates all NISC meetings.

A number of projects were implemented pursuant to the national ICT strategic plan. These included:

- working on the e-government system undertaken in partnership with the Australian Development Gateway Foundation;
- connecting all secondary schools via the Internet through the SchoolNet project;
- setting up telecentres in rural areas and training the rural population in ICT use through funding by the APT, ITU and UNDP;
- implementing the satellite-based Rural Internet Connectivity System (RICS) with the assistance of the SPC and funding through AusAID.

As part of the implementation of the national ICT strategic plan, a revision of the NCSP and the development of the Telecommunications Act 2005 were undertaken. This resulted in competition being introduced into the mobile segment that year.

The government has recently embarked on a preliminary review of the national ICT strategic plan. The review will consider why certain objectives were not reached and what further objectives should be included. It will also reduce repetition and duplication. Notably, the review will also seek to incorporate an e-government strategy into the next ICT strategic plan (2010-2015).

#### Box 23: Observations regarding Samoa's policy's implementation and review

##### *Strengths*

- Responsibility over policy implementation by a dedicated institution facilitates project initiation, institutional coordination, monitoring and evaluation.
- The prompt undertaking of a scheduled evaluation and review of the national ICT strategic plan promotes efficiency, allows for improvements and ensures continued relevancy.

#### 4.10.4 Recommendations for consideration

During the review of the national ICT strategic plan, it is recommended that consideration be given to:

- providing an estimate of the resources necessary for the implementation of the strategic plan to improve planning certainty and transparency;
- dedicating resources for the ongoing training of ICT staff in the area of policy-making and policy implementation.

### 4.11 Solomon Islands

#### 4.11.1 Overview

The Solomon Islands is in the South Pacific and consists of nearly 1,000 islands. The distance between the westernmost and easternmost islands in the archipelago is about 1,500 kilometres. Large distances between inhabited islands make it extremely difficult to deploy telecommunication infrastructure to connect its 510,000 population.

The country suffers from low penetration rates for fixed-line, mobile and Internet services. According to ITU statistics, in 2008 the Solomon Islands had a fixed-line penetration rate of 1.57 per cent, a mobile penetration rate of 5.87 per cent and an Internet user penetration rate of 1.96 per cent. There were around 1,500 broadband subscribers.

The telecommunication market in the Solomon Islands was severely impacted during a period of political and economic instability between 2000 and 2005. During that period, many telecommunication facilities were destroyed or damaged. Consequently many telecommunication developments and investments were placed on hold.

Solomon Telecom, a privatised entity with multiple shareholders, enjoyed a monopoly over the provision of telecommunication services until the licensing of the second mobile operator in December 2009. Following the passage of the Telecommunications Act 2009, the provision of telecommunication services will be liberalized from April 2011.

#### 4.11.2 The ICT legal and regulatory framework

The Telecommunications Act 2009 was passed in mid-2009, establishing the regulator and introducing competition into the market.

In December 2009, the incumbent was licensed according to the new act. A mobile licence was also awarded to a new entrant in December 2009. Full competition for all services is scheduled for April 2011.

#### 4.11.3 National ICT policy

##### 4.11.3.1 Substance and Structure

The government is looking again at developing a national ICT policy framework. Despite fledgling efforts to develop a national ICT policy in 2003. Substance and structure

According to the Ministry of Communications, one of the key objectives that will be included in the national ICT policy will be the development of a good government information delivery system and the efficient use of ICT for development. A draft of the national ICT policy is still being developed.

### 4.11.3.2 Process

#### Development and adoption

In February 2003, an ICT strategy-building workshop was held under the auspices of UNDP's e-Pacifika initiative as a first step towards the development of a national ICT policy and strategy. It brought together a wide range of stakeholders which led to the identification and prioritisation of a broad list of ICT-related development objectives. It also led to the creation of the Solomon Islands ICT Working Group, a group formed to advise the government on the development of a national ICT policy and strategy. The Terms of Reference of the ICT Working Group was endorsed by the Minister of Planning in 2004.

Despite the period of inactivity following the initial policy development effort, the Prime Minister's Office has picked up the issue as a high-priority objective and is driving the initiative. To date, one stakeholders' meeting has been held. It was attended by representatives from government ministries and a few NGOs. An external consultant has also been identified to develop a first draft of the national ICT policy.

#### Box 24: Observations regarding Solomon Islands' policy process

##### *Strengths*

- Championship by the Prime Minister's Office will provide increased political momentum.

##### *Limitations*

- Since 2004, a lack of continuous support, in terms of financial and manpower resources as well as the absence of government prioritization, led to a lack of momentum.
- The recent establishment of a new regulator and the ongoing reform of the ICT sector are expected to increase demands on human resources in the area of ICT policy and regulation.

#### Implementation and review

The implementing institution for the national ICT policy has not yet been identified. The position will become clearer when the first ICT policy draft is completed and deliberated on.

### 4.11.4 Recommendations for consideration

- In light of the limitations of the initial effort to develop a national ICT policy, it will be important to maintain political momentum by keeping ICT issues and the need for an overall national ICT policy in the public eye.
- Given the early stage of development and the increasing amount of resources that will be demanded by the newly liberalized sector, it is advisable to obtain sustained capacity-building assistance for local ICT policy and regulatory staff.

## 4.12 Timor-Leste

### 4.12.1 Overview

Timor-Leste is a country in South East Asia. Its population of 1,134,000 is spread thinly over a land area of around 15,000 square kilometres. Its geography is characterised by a mountainous interior covered with dense jungle.

Telecommunication service penetration is extremely low. A large portion of the country's telecommunication infrastructure was destroyed during periods of unrest. The lack of electricity remains one of the major obstacles in promoting the use of ICT. According to a World Bank report in 2007, only 43,500 households (approximately 22 per cent of the total population) have access to electricity.

According to ITU statistics, in 2008 Timor-Leste had a fixed-line penetration rate of 0.22 per cent, a mobile penetration rate of 9.20 per cent and an Internet-user penetration rate of 0.16 per cent. Most of the services are used by government institutions, international NGOs, and other international institutions. Access to most ICT services can only be found in the capital, Dili.

Timor Telecom, a private company owned by Portuguese Telecom International (PTI), is the only telecommunication operator in Timor-Leste. It entered into a concession contract with the government in July 2002 and started operations in March 2003. The concession contract gives Timor Telecom exclusive rights to provide telecommunication infrastructure and services until 2018, with the exception of broadcasting and Internet services, which can be provided by other operators. Currently, there are two Internet service providers: Timor Telecom and iNet.

The government is preparing a number of ICT initiatives to be implemented in the coming years. These include a government integrated network to interconnect all government offices, a national backbone network that will allow for domestic and international flow of information, district connectivity to connect all 13 district capitals using the national backbone network, and an emergency communications network.

#### 4.12.2 The ICT legal and regulatory framework

Currently there are two laws applicable to the ICT sector in Timor-Leste: Decree Law No. 11/2003, 'Establishing the Basis for the Telecommunications Sector' and Decree Law No. 12/2003, 'Establishing The Communications Regulatory Authority and Approving the Statutes Thereof', which established the regulator, ARCOM.

Much of the de facto legal and regulatory framework for telecommunication, however, is contained in the 15-year concession contract the government signed with a consortium led by PTI in July 2002.

ARCOM was established in 2003 to regulate, supervise, and represent the telecommunication sector (ARCOM Statute Chapter 1 Section 1.2). However, despite the stipulation (in Decree Law No 12/2003, Section 5.2) that ARCOM's board of directors be appointed within 90 days of its entry into force, the board has still not been formed, and ARCOM is still operating as a government sub-department.

ARCOM, with support from ITU, is currently preparing telecommunication regulations for costing and pricing, universal service obligations, number portability, carrier interconnection, numbering, service providers, the Internet (cyber law) and frequency. It is also preparing a new broadcast plan. A draft regulation for carrier and service providers has been prepared and is expected to be published.. The broad regulation addresses issues including spamming and cybercrime.

#### 4.12.3 National ICT policy

Timor-Leste does not have a national ICT policy. Efforts are currently underway to initiate developing one.

To date, ICT development has been guided by government declarations on the issue. It has also been shaped by best practices provided through United Nations assistance during the reconstruction of the country's ICT infrastructure between 1999 and 2002.

The 2007-2012 government programme includes a number of ICT-related targets, discussed in Section 4.12.3.1.

There are a number of barriers to developing and implementing a national ICT policy in Timor-Leste. One of these is the perception that ICT is not a high priority for the country given the host of other pressing concerns such as basic education and healthcare. The dissolution of the Department of Transport and Telecommunication, and its merger with other sectors (electricity, water, urban planning, transport and public works) under the Department of Infrastructure in 2007, is an indication of the lower priority given to developing the ICT sector.

Timor-Leste is also challenged by a limited number of qualified ICT trained professionals and experienced policy-makers in the country.

#### 4.12.3.1 Substance and structure

Although Timor-Leste does not have a national ICT policy, the 2007-2012 programme includes a number of ICT related targets:

- improve the efficiency of ARCOM;
- promote the establishment of monitoring stations of radio frequencies;
- evaluate contracts signed with Timor Telecom and study the monopoly system for telecommunications, assessing whether a more competitive environment would be of benefit to the Timorese;
- connect additional telephone lines to the districts and increase the coverage area;
- increase the number of fixed-telephone lines;
- disseminate Internet access throughout the country, interconnect via a data network all of the government departments and agencies, and promote the use of VoIP;
- ensure the coverage of radio communications in the urban areas.

From information released by ARCOM, it is expected that the national ICT policy will have a strong e-commerce and e-government component which would address issues surrounding:

- the identification of stakeholders;
- cybersecurity and cybercrime;
- telecommunication infrastructure;
- laws to regulate and protect e-commerce;
- e-government (including government software licenses);
- education and public awareness.

#### 4.12.3.2 Process

##### Development and adoption

ARCOM has embarked on a process of consulting with government departments and other stakeholders about developing a national ICT policy. The process is led by ARCOM's director.

ARCOM is currently in the process of working with the National Directorate of ICT (DNICT) and a group of ICT associations on the preparation of an ICT implementation report for the government. This report outlines the need for a national ICT policy and details the contents of the draft regulation on carriers and service providers.

Further efforts to develop a national ICT policy are hindered by the need for enabling legislation that would grant ARCOM the legal mandate to proceed with the policy development work.

At the same time, the government is in the process of establishing a National ICT Steering Committee that will consist of representatives from government, operators, NGOs, academia and consumers. It would be mandated to provide guidance and advice to ARCOM.

Currently, work on the national ICT policy is being carried out by a team of one external consultant and five local staff.

#### Box 25: Observations regarding Timor-Leste's policy process

##### *Limitations*

- Efforts to develop a national ICT policy are hindered by delays in the formation and empowerment of the necessary institutions.
- ICT policy and regulatory resources are currently stretched by simultaneous needs including the development of regulations for the ICT sector and the impending negotiations concerning the exclusivity of the incumbent and potential liberalization of the sector.

#### Implementation and review

The implementation and management of a national ICT policy would be entrusted to ARCOM and DNIC, with the support of a number of ICT associations.

Funding for the implementation of the national ICT policy is expected to be provided by ICT associations and external donors.

#### 4.12.4 Recommendations for consideration

The following recommendations may be considered:

- obtaining sustained capacity-building assistance in ICT policy-making and regulation from external sources (with sector reforms at a nascent stage in the country, demands on ICT policy and regulatory resources are expected to grow; a holistic approach to assistance that includes a sustained training effort for local personnel may ameliorate shortages in the future);
- increased political attention may be needed to surmount the delays associated with institutional delegation and empowerment.

### 4.13 Tonga

#### 4.13.1 Overview

Tonga is a country that is made up of an archipelago of 169 islands, of which 39 are inhabited. It has a population of 104,000 of whom 70 per cent live on the main island of Tongatapu. In the area of ICT development, Tonga suffers from similar challenges that affect the region, the need to connect remote outlying populations, the lack of skilled ICT-trained human resources and a reliance on satellite for international connectivity.

Tonga was the first Pacific Island country to introduce competition into its telecommunication sector. The entry of a second mobile operator (TonFon) in 2002 led to a sharp reduction in mobile charges and an increase in the number of subscribers.

Local and international services are provided by Tonga Communications Corporation (TCC), which also operates the ISP KaliaNet and a GSM mobile network. Digicel acquired Tonfon in Tonga in late December 2007 and rebranded it as Digicel Tonga in 2008. In October 2009, Digicel relaunched its broadband satellite service.

Regulatory reforms have resulted in a marked increase in penetration rates, a huge fall in the waiting list for telecommunication services and a steep decline in tariffs. According to ITU statistics, in 2008 Tonga had a fixed-line penetration rate of 24.66 per cent, a mobile penetration rate of 48.73 per cent and an Internet-user penetration rate of 8.11 per cent.

The government is presently studying a number of options on the issue of connecting to an international submarine cable system.

Tonga has been a member of WTO since December 2005.

#### 4.13.2 The ICT legal and regulatory framework

The Communications Act 2000 is the principal ICT legislation in Tonga. Chiefly, it establishes the Department of Information and Communications as the central institution responsible for overseeing and regulating the ICT sector in Tonga. The act sets out the minister's and department's obligations and powers. The act also broadly sets out provisions on:

- licensing;
- consumer protection;
- regulation of tariffs for services;
- universal service;
- numbering and electronic addressing;
- technical standards;
- spectrum management;
- content regulation;
- competition policy;
- interconnection;
- dispute resolution.

To date, however, the department has not issued any regulations for any of the Act's specific provisions.

The Tonga Communications Corporation Act 2000 created the TCC to take over the assets and operations of Cable and Wireless (Tonga) and Tonga Telecom Corporation's joint venture.

Tonga has a Computer Crimes Act (2003) in place.

#### 4.13.3 National ICT policy

A national ICT policy was introduced in Tonga in 2008. It is complemented by a national ICT strategic plan.

The national policy was developed to fulfill Tonga's national ICT vision:



‘We will maximize the power and versatility of global connectivity to create a knowledge based society; increasing innovation, accelerating the development of our nation and improving the quality of life for all Tongans. Tonga will become an active participant in the networked economy; local companies will prosper and new jobs will be created. ICT will allow us all to learn, share and grow; and assist us in preserving our cherished Tongan culture and values.’

#### 4.13.3.1 Substance and structure

The national ICT policy lays out a list of objectives that have been grouped into six categories:

- provision of ICT in homes and communities;
- education and skills development;
- e-government;
- industry growth and economic development;
- an enabling technical infrastructure;
- ICT-related legislation.

Under the national ICT policy, the Department of Information and Communications was tasked with coordinating the development of a national ICT strategic plan that works towards achieving the policy’s objectives. The plan was developed by six working groups – each focusing on one of the six ICT pillars. Members of the working groups were specifically selected for their experience and expertise. There include representatives from government, the private sector, the IT community, academia and civil society.

The national ICT strategic plan was completed over six months and published in August 2008. It commenced with a general assessment of the state of the country’s e-readiness and an ICT benchmarking assessment that examined Tonga’s ICT performance on a regional and international level.

The current national ICT strategic plan contains six action plans addressing each of the six pillars in detail. A list of specific activities, milestones and targets are identified in each action plan. Funding and other resource provisions are also detailed for a number of initial pathfinder projects.

#### Box 26: Observations regarding Tonga’s policy’s substance and structure

##### *Strengths*

- The national ICT policy and the national ICT strategic plan reflect best practice by addressing all key issues and incorporating all necessary structural elements.

#### 4.13.3.2 Process

##### Development and adoption

The policy and strategy’s development was led by the secretary of the Ministry of Information and Communications. The Wellington Declaration at the ICT Ministerial Meeting in March 2006 was a key event that prompted their development.

The development process involved an assessment of the country’s ICT status and a study that was undertaken by external consultants. Consultants working on the policy and strategy conducted consultations with more than 20 local stakeholders.

The regional PICT Information and Communication Technology Policy and Strategy was also used as a guide for Tonga’s policy and strategy.

The government engaged consultants, in cooperation with local ICT stakeholders, to develop the policy under the supervision of the secretary of the Ministry of Information and Communications.

External consultants from the Commonwealth Secretariat were used because of limited local expertise and to provide an external and objective perspective of the work. Their work was supported by three employees of the ministry.

The government provided funding and there was some sponsorship from TCC and Digicel.

#### Box 27: Observations regarding Tonga's policy process

##### *Strengths*

- The process for developing the national ICT policy reflected best practice by engaging in an assessment of the sector, extensive consultation and a clear delegation of responsibilities.
- Regional efforts have been effectively leveraged by the government.
- Industry-sourced funding has reduced pressure on government budgets and minimised the need for external funding.

##### *Limitations*

- Tonga's resource requirements are expected to increase with the ICT sector's ongoing reform, and the introduction of necessary regulations and decisions.

#### Implementation and review

The Ministry of Information and Communication is in charge of implementing the policy and strategic plan. The ministry has also been tasked with examining the governance, funding, human resource, and monitoring and reporting requirements necessary to support the plan's implementation.

Funding sources for implementation are currently being studied.

Since the adoption of the plan, a number of the projects have been launched. These initiatives include:

- education and skills development: assistance for the One Laptop per Child (OLPC) project;
- e-government: connecting all health centres in the country, in cooperation with TCC and the Ministry of Health;
- technical infrastructure: connecting to an undersea fibre optic cable;
- technical infrastructure: connecting all the main islands of Tonga to the Internet and the provision of mobile phone coverage.

An e-government project is expected to be launched. Surveys examining the possibility of connecting outlying islands have also been initiated in cooperation with TCC.

#### Box 28: Observations regarding Tonga's policy's implementation and review

##### *Limitations*

- Limited funding acts as a constant constraint on the plan's implementation and the fulfilment of the national ICT policy.

#### 4.13.4 Recommendations for consideration

Currently, the national ICT policy is a comprehensive document that reflects, to a large degree, best practices with regard to substance and structure. Implementation, however, has been hindered by a lack of funding. This is further compounded by a lack of the ICT policy and regulation expertise that is necessary given the ongoing demands of the ICT's sector reforms. Recommendations are:

- conduct a reprioritisation exercise regarding the activities identified in the plan in order to maximise existing resources;
- secure avenues for sustained human resource capacity development to ameliorate the longer-term shortage of skilled manpower.

### 4.14 Tuvalu

#### 4.14.1 Overview

Tuvalu consists of nine islands, eight of them inhabited. It has a population of 12,400, of whom around a third live on the island of Funafuti, its capital.

Given its small population spread over eight islands, the deployment of ICT infrastructure has been challenging. The number of Internet users, however, has seen a dramatic increase over the past few years. According to ITU statistics, in 2008 Tuvalu had a fixed-line penetration rate of 15.17 per cent, a mobile penetration rate of 20.23 per cent and an Internet-user penetration rate of 42.98 per cent. There were 400 broadband subscribers in the country.

The Tuvalu Telecommunications Corporation (TCC) is the sole provider of telecommunication services to the islands. Services outside of the capital are mainly satellite-based. It is currently in the process of deploying a 2.5G GSM mobile network.

#### 4.14.2 The ICT legal and regulatory framework

The Tuvalu Telecommunications Corporation was established under the Tuvalu Telecommunication Corporation Act 1993. The corporation is the sole provider of telecommunication services and has been given exclusive rights under the act to install and provide all telecommunication services in Tuvalu.

Under the act, the minister is permitted to issue regulations that are necessary to give effect to the act. To date, the minister has not issued any regulations.

#### 4.14.3 National ICT policy

A national ICT policy is in the process of being developed.

It is the government's intention that the national ICT policy will formalize some form of direction in ICT developments. It will also reflect regional and international ICT initiatives and best practices.

Work on a national ICT policy was initiated in Tuvalu in 2003. Since the preparation of an initial draft, development has stalled. According to the Ministry of Communications, Transport and Tourism, without strong buy-in from stakeholders and the lack of internal resources, progress is limited.

#### 4.14.3.1 Substance and structure

A draft of the national ICT policy is unavailable.

#### 4.14.3.2 Process

##### Development and adoption

In 2003, an initial draft national ICT policy, dubbed Information and Communication Technologies for every Tuvaluan Citizen, was prepared following consultations with stakeholders. The draft was largely based on the guiding principles outlined in the PIIPP. Work on the policy was largely driven by the regional focus on ICT development at that time.

Efforts to develop a national ICT policy are led by the acting director, ICT of the Department of ICT in the Ministry of Communications, Transport and Tourism.

To date, a stakeholder workshop has been held by the government and a draft policy submitted to the ministry.

The development of the policy was assisted by a consultant from the SOPAC Secretariat working through the UN Asia-Pacific Centre for Information Communication Technology for Development (APCICT).

Work on the national ICT policy is supported by staff from the Department of ICT which includes managers, system administrators and IT support.

Under the Joint Country Strategy (2008-2012), the Secretariat of the Pacific Community undertook to provide assistance to Tuvalu for the design and implementation a national ICT policy, which included a multi-year operational framework and budget. The assistance would also include the development of relevant ICT legislation, including an Internet regulatory framework.

#### Box 29: Observations regarding Tuvalu's policy process

##### *Strengths*

- Regional efforts to support a national ICT policy's development have been effectively leveraged by the government.
- Resources committed by SPC reflect a holistic and long-term approach to Tuvalu's national ICT policy process, with a focus on policy implementation as well as development.

##### Implementation and review

The Department of ICT will be in charge of implementing the policy. Funding from the UN APCICT project and ITU is currently being studied.

#### 4.14.4 Recommendations for consideration

It is recommended that assistance in the form of sustained capacity-building be sought to support the development and implementation of the national ICT policy and its legal and regulatory framework.

## 4.15 Vanuatu

### 4.15.1 Overview

Vanuatu is an island archipelago consisting of approximately 82 relatively small islands. The country has a population of around 243,000.

ICT adoption in Vanuatu is relatively low. Urban areas are well served by an advanced telecommunication network, while rural areas remain underserved. According to ITU statistics, in 2008 Vanuatu had a fixed-line penetration rate of 4.45 per cent, a mobile penetration rate of 15.39 per cent and an Internet-user penetration rate of 7.27 per cent. There were around 200 broadband subscribers.

By the end of 2009, the telecommunication regulator estimated that there was a mobile penetration rate of 53 per cent and signal coverage of over 85 per cent of the population. There has been a rapid increase in the uptake of mobile telephones since competition was introduced. Soon, the successful bidder for a subsidy from the Universal Access Policy Fund is expected to extend the nation's mobile telephone coverage to a further five per cent of the population.

To a large extent, the adoption of ICT has been hindered by a combination of factors including a lack of supporting electrical infrastructure, large distances between rural population centres, limited ICT-skilled manpower and, until recently, an inadequate telecommunication infrastructure.

Telecom Vanuatu Ltd (TVL), which had a monopoly on providing telecommunication services until 2008, provides a variety of services including fixed-line, mobile and Internet services. It also provides broadband services through both fixed-line ADSL and Wi-Fi. Competition was introduced into the telecommunication sector in March 2008 when Digicel Pacific launched a GSM network.

An e-government communications and data network linking all government offices in the nation's six provincial capitals is under construction and should be commissioned in 2012. At this stage, significant work remains to be done to identify and develop e-government applications that go beyond the provision of modern communication and Internet access such as providing some services on-line such as application for licenses, renewal of application for visas to name a few.

Vanuatu was the first of the Pacific Island countries to pass electronic transaction, e-business, and interactive-gaming legislation.

### 4.15.2 The ICT legal and regulatory framework

In 2006, in collaboration with the World Bank, the government undertook a major reform of its infrastructure, with the telecommunication sector as a priority. The reform programme involved the development of new regulations for the sector, the establishment of the independent Utility Regulatory Authority, and the introduction of competition into the market.<sup>15</sup>

The Telecommunications and Radio Communications Act 2009 was a major achievement in terms of market reform principles. Effectively opening the telecommunication sector to competition, the act covers licensing, universal-service policies and obligations, arbitration mechanisms, tariffs, consumer protection and competition policies.

<sup>15</sup> Although the 2007 policy proposed a utilities regulatory authority to cover electricity, water and telecommunications, it was later decided that the Telecommunication Regulator's office should be a separate entity. The Utilities Regulatory Authority has now been established, but only with responsibility for electricity and water supplies.

A new telecommunication licensing policy was approved by the Council of Ministers in March 2009 and implemented later that year in anticipation of the new act, with the issue of several new licenses for companies wishing to provide Internet services.

Pursuant to the act, a number of regulations, policies and decisions have already been adopted or issued for consultation since its entry into force. They include the Universal Access Policy, the draft Telecommunications Licensing Regulations, the draft Radio Licensing Regulations and the National Radio Spectrum Plan.

#### 4.15.3 National ICT policy

Vanuatu does not currently have a national ICT policy. There is, however, a National Telecommunications Policy (2007) with most of its provisions implemented. As such, an important infrastructure-related element for effective ICT development, wide national coverage with modern telecommunication services, has been put into action.

The ending of the telecommunication monopoly has also paved the way for competition, an important ICT infrastructure and access enabler, through the licensing of a further eight service providers intending to provide Internet services.

The government is planning to conduct a review of ICT-related policies to make sure that important aspects of ICT are effectively coordinated so that ICT can contribute to national economic development. The government also recognizes that further work needs to be done on Internet governance in order to realize the full benefits of competing Internet service providers.

The government recognized that an adequate telecommunication system is an important prerequisite for introducing widespread Internet access. As such, it has concentrated on developing and implementing a national telecommunication policy in the first instance. The government has also approved a policy for universal access, initially aiming at country-wide coverage of mobile phones, with the next phase likely to relate to access to Internet services.

The government also acknowledges the need to develop ICT-related sectoral priorities, such as in education and health. It also seeks to ensure that the country will have the human capital, resources and plans to deploy such services to their best advantage.

The main challenges faced by Vanuatu are pressing priorities in ICT infrastructure development and the lack of skilled resources.

##### 4.15.3.1 Substance and structure

In the telecommunication policy, the government recognizes telecommunication infrastructure as the foundation for using ICT to create an information society. To that end, the policy sets out four guiding principles which underpin its general objective of ensuring access to affordable and reliable telecommunication services:

- open and competitive markets;
- modern, independent and proportionate regulation;
- non-discrimination and technological neutrality;
- optimal use of scarce resources.

The government also sets out the intention become a member of WTO.

The policy states specific short-, medium- and long-term objectives. Key objectives include the review and promulgation of the new telecommunication legal and regulatory framework (by mid 2007), creation of the universal access policy fund (by 2009), and to have full liberalization of service and infrastructure (by 2011). These objectives have all been achieved, except for the ending of the mobile telephone duopoly, which is set down for March 2011.

Key policy guidelines for the different aspects of regulating the telecommunication sector (such as interconnection and infrastructure sharing) are also set out in the policy.

At present, a draft of a national ICT policy has not been prepared. According to ARCOM, the key objectives under consideration include:

- promoting economic development;
- developing sustainable ICT systems;
- promoting access to all citizens;
- promoting efficient delivery of services and fair competition in an open-market environment for IT services;
- promoting the availability of training, trainers and trained IT professionals;
- equipping sectoral professionals, including teachers and health professionals, with the skills to make use of IT resources;
- establishing and promoting Internet governance;
- providing appropriate safeguards for a more Internet-intensive economy, including CERT and education for protecting children using the Internet;
- bridging the digital divide and educating telecommunication users;
- using ICT in the pursuit of goals specified by WSIS and the Millennium Development Goals;
- developing government ICT systems and citizen access to government services and information through the e-government network;
- addressing Internet governance issues and establishing an appropriate policy for an open and competitive market in the supply of Internet services.

#### 4.15.3.2 Process

##### Development and adoption

Leadership on the development of the national ICT policy is provided by the director general for the Ministry of Public Infrastructure and Utilities (MIPU).

The director general is currently organising a steering committee of officials to manage the development of the policy. The committee will include representatives from the Prime Minister's Office and other relevant departments. Consideration is also being given to the appointment of a project leader or facilitator. The Vanuatu Telecommunications Regulator is currently assembling documents that make up the current telecommunication policy and publishing these on its website.

## Section IV

Public consultations with stakeholders outside of government on a national ICT policy are envisaged. Reports indicate that several stakeholders in the local IT community have already held informal meetings.

Plans for the development and exploitation of an e-government system remain to be developed and the establishment of an Internet policy steering group and consultations to establish an Internet governance framework are still pending.

A national ICT policy will need to be approved by the Council of Ministers before it becomes effective.

The development of the national telecommunication policy and the establishment of the associated legislative and regulatory framework were supported by an extensive World Bank project launched in 2006.

Implementation of the e-government project will be financed by a donor agency, but the government is currently considering the best use of such funds.



**Box 30: Observations regarding Vanuatu's policy process***Strengths*

- High-level support from the Prime Minister's Office and other government departments, as part of the steering committee, will give momentum to the national ICT policy development effort.
- A World Bank technical assistance grant is in place to assist the development of national ICT policy and capacity building in the ministry and Telecom Regulator's office.

*Limitations*

- Although plans are in place, a national ICT policy and supporting strategies remain to be developed, stakeholders need to be consulted and the approval of ministers obtained.
- The ICT policy manager position in the Ministry for Infrastructure and Public Utilities is yet to be advertised and filled.
- The resources necessary for developing the policy are expected to be limited given that it is competing with other ongoing developments such as regulation in the ICT sector.

**Implementation and review**

The implementation of the telecommunication sector policy has been successful with the passage of the Telecommunications and Radio Communications Act 2009, the establishment of the telecommunication regulator, and the promulgation of policies on licensing and universal access. In March 2008, the liberalization of the telecommunication sector was announced. In the same month, competition was introduced in the mobile segment with the awarding of a second mobile licence. The entry of competition has resulted in a drop in mobile call prices and an increase in coverage.

The lead implementing agency of the national ICT policy is expected to be the Ministry of Infrastructure and Public Utilities with support from the Telecom Regulator's office.

Funding sources will be determined during the policy development process. However, seed funding for the policy development process itself and capacity building at the ministry has already been secured through the World Bank Technical Assistance Grant (funded by AusAID through the Pacific Regional Infrastructure Facility).

**4.15.4 Recommendations for consideration**

It is recommended that assistance in the form of sustained capacity-building efforts in the area of ICT policy and regulation be sought. This will assist the ICT policy's development as well as meet the ongoing needs associated with the introduction of sector reforms and competition.



## 5 Conclusions and recommendations

Based on an assessment of the individual countries in chapter 4, a number of general observations can be made on a regional level.

### 5.1 Substance and structure

#### 5.1.1 Commonalities and harmonisation

On the whole, the goals and objectives in the Pacific Island countries' national ICT policies (and draft policies) address the common challenges facing the region. Regional resources and initiatives, such as the PIIPP and the Pacific Regional Digital Strategy, and the undertaking of standardized e-assessments on a regional level have supported a general trend towards increasing harmonization in national ICT policy goals and objectives. From the discussion in section 3.1, it can be observed that the substantive commonalities that have emerged are a strong base for creating regional harmonization of legislation and regulations.

The similarities shared between national ICT policy statements (and drafts) are not only confined to their substance but also their structure. The key structural elements that make up a national ICT policy have been highlighted in section 3.2. From this structure, a basic outline of a national ICT policy is presented as a possible tool for assisting the development of a national ICT policy.

On a regional level, a continued focus on the development of ICT policy and regulatory frameworks through common declarations (such as the Wellington Declaration) and multilateral programmes is recommended. This will support the harmony that is clearly apparent in the approaches taken by the Pacific Island countries.

#### 5.1.2 New challenges

As new challenges emerge in the region, changes to national ICT policy goals and objectives will be required. For example, in recent years, more Pacific Island countries have come to regard ICT as an important tool in their efforts to increase public environmental awareness and improve environmental and natural-resource monitoring. At the same time, there has also been an increased recognition of the importance of regional collaboration in ICT development.

While some countries have independently developed policy responses to these issues, a regional and harmonized approach to common challenges is recommended. This will promote a more effective and considered policy response that leverages on the common resources available to the region.

#### 5.1.3 Resource planning

Despite having reflected on best practices, many countries nevertheless face a common challenge: a lack of resources. Allocating resources to the implementation of a national ICT policy can be a challenging exercise for these countries. In the region, governments have limited resources available to them. Furthermore, the nature of donor funding requires governments to identify activities first and then source funding later. Such an approach, however, can increase the risk of policy implementation failure.

This risk can be mitigated. Alongside ongoing efforts to secure donor funding, potential donors should be involved in the development of national ICT strategic plans. This would promote greater funding and support certainty. Such a process may add to the complexity of developing a strategic plan but it will increase the chances of its implementation. Such an effort could be initiated on a regional or country-by-country basis.

## 5.2 Process

The policy-related processes adopted by the Pacific Island countries have to a large extent reflected international best practices. Those that have developed either draft or national ICT policies have scored particularly well in the area of assessment and consultation. Standardized e-readiness assessments were conducted in the majority of Pacific Island countries, establishing a good foundation for the formulation of national policies. At the same time, a wide range of mechanisms for consultation and stakeholder engagement were also employed.

In this report, key best practices in the area of policy processes have been highlighted in section 3.3.9. This set of practices can be used as a simple guide for those countries that are in the process of developing their national ICT policies. In addition to these, a number of related recommendations at a regional level can also be made.

### 5.2.1 Institutional arrangements

The development and implementation of national ICT policies has been supported by a clear and effective delegation of responsibilities to a range of institutions. In around half of the Pacific Island countries, responsibility for policy development has been delegated to stakeholder committees that represent a broad range of interests. Such an approach encourages stakeholder ownership in the process and in the eventual policy and strategy that is adopted.

However, political momentum is continually at risk of being lost as governments and national priorities change. The loss of such support can derail or significantly delay a policy's adoption or implementation.

Sustained support from a national champion has been seen to be an important driver in the policy process. Although lobbying efforts at a national level play a large role in cultivating political support, it is recommended that regional ICT organizations sustain a continued focus on the importance of ICT development. This will ensure the issue remains visible and assist national lobbying efforts.

### 5.2.2 Resource mobilisation

In general, the Pacific Island countries are dependent on donor funding and external assistance when developing and implementing their national ICT policies. In this respect, the policy process is vulnerable to the ebb and flow of international and regional assistance and support.

For a large part, external support has been predominantly in the form of limited technical assistance (for example, conducting e-assessments) and one-off events (for example, organizing national ICT workshops). There is a lack of sustained capacity for strategic planning, policy-making and project implementation that would sustain Pacific Island countries through recurring policy cycles.

In general, there is a need for a careful assessment of the effectiveness of any planned efforts to initiate or support a national ICT policy process. From assessments in Chapter 4, it is clear that certain countries have effectively leveraged international and regional development assistance, while others have not.

Recommendations regarding the use of international and regional resources include:

- providing holistic and sustained technical assistance and support (for example, a package that delivers assistance in developing a policy as well as complementary legislation and regulations) in countries that are in a nascent stage of national ICT policy development;
- multiplying avenues for cross-border exchanges between countries so that best practices are shared;
- initiating medium- to long-term capacity-building efforts (for example, courses and training secondments) to develop skills in ICT-related strategic planning, policy-making and project implementation.

### 5.3 Summary of recommendations

#### 5.3.1 Country level

- Review existing national vision statements and overall national development policies and establish links with them in the national ICT policy.
- Develop and adopt a national ICT strategic plan and the national ICT policy.
- Establish a clear delegation of institutional responsibility for the development and implementation of a national ICT policy.
- Establish a timeframe for the development and adoption of a national ICT policy with clear deadlines.
- Ensure that the institution in charge of the policy's implementation has the necessary political support to carry out its task.
- Ensure that the institution has adequate resources for its task and the appropriate mandate to carry it out.
- Ensure policy-makers have the requisite policy-making skills and experience to analyse and transform inputs into an effective and successful national ICT policy.
- Embark on a resource-planning exercise that identifies the resources necessary (in terms of funding and human resources) as well as the potential sources of such resources and the implications associated with their use and, indeed, the exterior consultancy request to be made.
- Identify avenues for obtaining the necessary funding and training for, for example, policy-making, legal and technical aspects.
- Consider involving potential partners and donors in the national ICT policy development process.
- Initiate stakeholder consultations at an early stage in the development process.
- Build public awareness to promote government accountability and increase the level of political commitment.
- Manage and monitor initiatives and activities closely in order to ensure their effectiveness.
- Develop and use independent procedures for project monitoring, reporting and feedback in order to arrive at objective results.
- Review and revise national ICT policies periodically in order to ensure they remain relevant.

**5.3.2 Regional level**

- Continue regional support in the area of ICT policy and regulatory development.
- Develop resources for sustained capacity building in the area of ICT policy-making.
- Facilitate the development of collaborative policy responses to new ICT-related challenges.
- Promote coordination and information sharing in the development of ICT policies and strategic plans.
- Facilitate coordination between development partners and recipient countries to allow for effective resource planning.

Promote a holistic approach to ICT policy development assistance that takes into account capacity building and the development of a supporting ICT legal and regulatory framework.

## Annex A

### List of Participants at the ICB4PAC Workshop Held in Honiara, 29-30 April 2010

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## Annex B

# Questionnaire for Data Collection

### Information request for ITU study of the present situation of National ICT Policies in the Pacific Island countries

1. **Country:** \_\_\_\_\_
2. **Website:** If there is a Website(s) which contains any of the information being sought please identify it (or them): \_\_\_\_\_ (Please check that any website referred to is working and up to date before including the details in this reply.)
3. **Policy:** Does your country have a National ICT Policy?  
If not, what other policy sets the directions for all sectors to develop their own ICT policy and in particular, opening the telecommunication and ICT services to the market?
4. Please identify the policy and where it may be accessed electronically. If it is not accessible electronically, please send a fax or email attachment to the Project Coordinator.
5. If you are in the process of developing a National ICT policy, please explain the process you have taken so far.
6. Please explain any issues that you experience explaining why you do not have a national ICT policy or why your ICT policy has not yet been reviewed.
7. **Rationale for Deciding to Develop a National ICT Policy:**
  - a) Please explain the main reasons or issues why your government decided to develop and implement a National ICT Policy.
  - b) What prompted government to go ahead with developing a National ICT Policy? E.g. recommended to government by persons who attended an ICT forum, a study done by an organisation, regional digital strategy implementation, a donor looking for ways to spend left over money from another project etc?
8. **Policy Content:** What are the key components of your National ICT Policy?
9. **Staff Resources:**
  - a) Who was the person leading the development of your National ICT policy?
  - b) Is this person from outside your country? Where?
  - c) If the person leading the development of your policy was recruited from outside your country, what was the main reason?
  - d) How many local staff or experts were involved in developing your national ICT policy?
  - e) What skills do these staff members have?
10. **Implementation:**
  - a) What Authority or Government body is responsible for the implementation of the policy?
  - b) Please explain how the implementation was funded that is, government, or donor funded?
  - c) If donor funded please explain the exit strategy.

d) If you have had your National ICT Policy in place for more than 3 years, please explain what has been implemented so far.

11. **Legislation:**

- a) What legislation sets out the need to establish an ICT Ministry or set up an ICT Division?
- b) What legislation sets out the requirements for such a body to develop a national ICT policy?
- c) Please identify the legislation and where it may be accessed electronically. If it is not accessible electronically please send a fax or scanned copy of all relevant legislation to the Project Coordinator.

12. **Regulations:**

- a) What regulations have been put into effect pursuant to relevant legislation that set out the requirements for developing a National ICT policy by which government agency and/or Authority?
- b) Please identify the regulations and where they may be accessed electronically. If they are not accessible electronically please send a fax or scanned copy of all relevant regulations to the Project Coordinator.

13. **Regulatory Framework and Guidelines:**

- a) What Regulatory Framework and Guidelines have been published by the Relevant Ministry or Authority or other responsible government body setting out the requirements and procedures for developing a National ICT Policy and what to be included in this policy, its implementation and Monitoring?
- b) Please identify the regulatory Framework or Guidelines and where they may be accessed electronically. If they are not accessible electronically please send a fax or scanned copy of all relevant documents to the Project Coordinator.

14. **External experts:** Has the Ministry for ICT or ICT Division talked about in question 8 used any external staff in developing the National ICT policy? How many external staff and how long did they assist you? If so please provide details.

15. **Contact:** Please nominate the person who should be contacted to clarify the answers above or for further information.  
Is this person the focal point for the ICB4PAC project? If not please provide the name of your focal point for ICB4PAC.

**Name:**

**Position:**

**Organisation:**

**Phone:**

**Email:**

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