

**WORKING PAPER**  
NO. 16

## Summary Report

# **Building Local Capacity for ICT Policy and Regulation: A Needs Assessment and Gap Analysis for Africa, the Caribbean, and the Pacific**

## **Supply Analysis**

January 2008

### **WORKING PAPER NO. 16, 2008**

*About infoDev's working papers series:*

These short papers represent work commissioned by *infoDev* that has not been through *infoDev*'s peer review and formal publication processes. *infoDev* makes such reports available as informal 'working papers' to share information or ideas about a given topic, in case doing so may be of any interest or utility to practitioners working in related fields.



SUMMARY REPORT

# Building Local Capacity for ICT Policy and Regulation: A Needs Assessment and Gap Analysis for Africa, the Caribbean, and the Pacific

## Supply Analysis

January, 2008

**Summary Report Prepared by:**

Kerry McNamara (infoDev)

**Report prepared by:**

RIA! - Lishan Adam, Steve Esselaar, Mandla Msimang,

Olivier Nana Nzepa, F F Tusubira

DIRSI – Hopeton Dunn, Kim Mallelieu

LIRNEasia – Divakar Goswami, Sujata Gamage, Rohan Samarjiva

**Project Coordination**

Alison Gillwald

LINK Centre

Graduate School of Public and Development Management

University of the Witwatersrand



## Preface

This report arose from a desire on the part of several infoDev donors for a comprehensive overview of the current state of, and need for, capacity-building programs for ICT policy and regulation in Africa, the Caribbean and the Pacific. Many bilateral and international institutions have active programs of support for policy and regulatory capacity building in these regions; yet there is a growing sense that these efforts are not well coordinated and that not enough is known about their impact on policy and regulation, and their sustainability. This study was designed, therefore, to provide, for each region:

- i) a systematic survey of the current *supply* of ICT policy and regulatory capacity building efforts (Phase I);
- ii) an assessment, based on extensive consultation with a range of stakeholders, of the most pressing needs for ICT policy and regulatory capacity building, i.e. the *demand* side (Phase II);
- iii) an analysis of, and recommendations for filling, the *gaps* between existing efforts and the needs of each region (Phase III).

This report discusses only Phase I and offers a comprehensive inventory of existing ICT policy and regulatory capacity building initiatives and institutions.

# I. Introduction

## Context

Effective policy-making and regulation, informed by global best practice but adapted to the specific needs and context of a country and region, are critical elements in expanding affordable access to, and effective use of, information and communication technologies and services as tools of broad-based development and poverty reduction in developing countries. The substance and focus of policy and regulation, and the associated needs for capacity-building, will vary over time depending on an individual country's trajectory in sector reform and economic development. Yet, whether a country is still working to introduce the first phases of competition in telecommunications or is already at the other extreme of the reform spectrum, managing a complex array of competition in infrastructure and services amidst rapid technological change, the challenge of building and sustaining the capacity of relevant institutions to make informed and appropriate decisions and policies remains acute in most developing countries. The challenge is made more acute by rapid technological change, since business models, demand drivers and modes of service delivery are changing much more rapidly, and unpredictably, and the risk is greater that the wrong policy or regulatory decision will stifle needed innovation.

Policy-making and regulation for the ICT sector in developing countries are complex and difficult challenges, for several reasons. The issues are complex and rapidly changing as technologies and business models change. The political economy of ICT sector reform is highly sensitive, both because of vested interests and because of labor and revenue implications of restructuring, privatization and competition. And policy and regulation are by their nature incremental, contextual processes shaped by local realities.

While considerable global experience and "good practice" is available for guidance, much of it is only partially relevant and helpful for the needs of developing-country policy makers and regulators, given their unique circumstances and constraints. Furthermore, given the step-by-step and contextual nature of most policy and regulation, "one-off" training and capacity building for policy makers and regulators does not adequately equip them to make the sequential, complex and locally-contextualized decisions necessary to guide a long and complicated process of sector reform.

For this reason, enhancing *local and regional capacity* to *analyze* policy and regulatory issues, *adapt* global experience to local realities, and *advise* policy makers and regulators on concrete options and decisions is crucial to creating appropriate enabling environments for expanding affordable access to ICT in developing countries.

The international donor community and related international organizations (such as the ITU) have long recognized the urgent need for ICT policy and regulatory capacity building in developing countries, and they have offered in recent years a growing array of programs and interventions to address this need. Yet, as developing countries move further along the telecommunications reform trajectory, in the context of rapid

technological change, their capacity needs become more complex, more context-specific, and more focused on ongoing problem-solving than on one-off acquisition of technical policy or regulatory skills. This creates a mounting need for *sustained, local* capacity – for indigenous institutions at a national or regional level that can provide on an ongoing basis the analysis, advice and policy or regulatory customization appropriate to particular local needs and circumstances. This is especially important if one wants to assure that increased capacity actually leads, on a sustained basis, to better-informed and more locally-appropriate policy and regulatory *outcomes*.

A focus on policy and regulatory *outcomes* also draws attention to the question of *whose capacity* is being enhanced. While government policy makers and regulators have been a priority target of ICT capacity-building programs, and their key role in effective policy and regulation is undeniable, there are other stakeholders – the private sector, civil society, researchers – whose capacity to engage intelligently in policy and regulatory debates and decisions is crucial to effective, locally-appropriate policy and regulatory *outcomes* that will promote the expansion of affordable, appropriate ICT infrastructure and services.

For this reason, enhancing *local and regional capacity* to *analyze* policy and regulatory issues, *adapt* global experience to local realities, *advocate for* and *advise* policy makers and regulators on concrete options and decisions is crucial to creating appropriate enabling environments for expanding affordable access to ICT in developing countries.

The challenge, then, for developing countries and the international organizations seeking to assist them in improving their policy and regulatory capacity and outcomes, is both to *deepen* policy and regulatory capacity (by strengthening not only basic skills and knowledge but a broader range of technical skills and problem-solving abilities related to a rapidly-changing set of policy and regulatory challenges, and to do so in a way that the capacity is locally sustained) and to *broaden* that capacity by enhancing the ability of a wider range of stakeholders to participate effectively in the policy and regulatory process.

### **Approach of this study**

For these reasons, this study focuses on four related aspects of ICT policy and regulatory capacity building: training, technical assistance, research and advocacy. It explores the current state of, and need for, efforts to build the capacity of a range of stakeholders to participate in an informed fashion in crafting policy and regulatory outcomes that address national development objectives. These efforts encompass not only traditional "training" initiatives designed to impart skills to targeted groups of individuals (primarily in government) but also efforts to build sustained local capacity in a range of institutions to adapt and apply best practice in ICT policy and regulation to local circumstances, to research the impact of those decisions, and to advocate for changes that enhance the development outcomes of those policy and regulatory decisions.

## **Methodology**

All capacity building initiatives within the regions have been categorized into training, research, advocacy and technical assistance, organized by sponsors, beneficiaries and implementers. A further distinction has been made where international or regional sponsors or implementers exist.

Although research and advocacy are generally targeted at policy makers and regulators, they are usually not direct recipients or formal beneficiaries, making the impact of these activities difficult to correlate directly.

## **Variation among ACP Countries under review**

The report takes into account the variance in the requirements of countries that, although linked by geography, are relatively different due to market realities. However, this distinction exists not just within regions, but across all 3 regions. It is important, therefore, to explore what useful linkages can be made between countries in different regions but at similar stages of sector reform.

One of the key variances across the ACP countries under review is the different stages in sector reform which have resulted in some countries being more advanced in the liberalisation process than others, thus requiring different capacity building interventions. This report further recognises that no single capacity building initiative will solve the variety of needs in the ACP countries. Countries still in the early stages of sector reform require more general policy and regulatory training, as well as capacity building relating to organisational structures and policy development. More liberalised countries require more specific regulatory capacity, as well as capacity related to new trends and developments.

## **II. Summary of Key Findings**

Not surprisingly, the study's findings, both about the current supply of capacity building initiatives and their impact and about the still-unmet needs, vary considerably from region to region (and within-region in Africa). Yet a number of common messages emerge from all three regional reports.

### **1. Chronic capacity shortages of policy and regulatory bodies**

In all three regions, ICT-related policy and regulatory institutions face considerable capacity constraints, no matter where they are in the reform trajectory. The need, in other words, for capacity-building is substantial, and the current supply is neither fully adequate nor (in many cases) appropriate to those needs. The need for locally-appropriate and adapted capacity is most acutely felt in countries that have introduced competition and are advanced enough in their reform trajectory and in the technological development of their ICT sector to be facing complex issues of competition, spectrum management, convergence, etc.

## 2. The predominance of one-off, short term training courses

Short training courses, either within-region or elsewhere, are the predominant form of capacity building on offer in all three regions. While many of these courses are deemed useful, they are often generic and based too heavily on developed-country models and contexts. Furthermore, their timing often does not coincide with the just-in-time learning needs of policy and regulatory agencies facing constantly-evolving challenges with frequent staff turnover. Much of this training is lecture-based, which is less effective as a method for applied learning. Finally, these short courses take vital staff away from under-staffed organizations for weeks at a time.

## 3. Poor coordination among the "suppliers" of capacity building initiatives

The research and interviews conducted for this study confirmed the premise that prompted *infoDev*'s donors to propose the study in the first place: there is very poor coordination and information-sharing among the various providers of ICT policy and regulatory capacity building programs, resulting in duplication, unnecessary competition, and unsustainability of the various initiatives.

## 4. Inadequate attention to the broader ecosystem of, and other key stakeholders in, effective policy and regulation

The bulk of ICT policy and regulatory capacity building efforts are aimed at a narrow range of regulators and ICT policy makers. Yet effective and locally-appropriate ICT policy and regulation depend upon the participation, and capacity, of a broader range of stakeholders, and on the growth and sustainability of local institutions and groups able to analyze, adapt and advocate for locally-appropriate policy and regulatory measures. Thus, except by contributing to the supply of individuals who are trained on the relevant issues, these initiatives do little to help the development of the broader local ecosystem for effective ICT policy and regulatory decision-making. This is particularly problematic since ICT policy and regulation, particularly in later stages of the reform process, is an iterative process where the ability to adjust and adapt subsequent decisions on the basis of the impact of earlier decisions is crucial. This feedback loop between policy and regulatory decisions, their impact and subsequent decisions is only fully assured when there is not only local capacity to analyze impacts, but diversity of voices in assessing those impacts.

## 6. Lack of clarity on the roles of, and insufficient support for, regional institutions

In all three regions (and at a sub-regional level in Africa), a number of regional institutions have emerged to help address these challenges in a sustainable fashion by aggregating the demand for – and more efficiently supplying – training, technical assistance, research and advocacy. These regional organizations also play a crucial role in regional harmonization, which is increasingly important as operators seek to offer services regionally and as policy makers and regulators seek to learn from the successes and failures of their neighbors facing similar challenges. Yet in some cases these

institutions have unclear mandates, insufficient political support from member governments, and inadequate financial and human resources. Strengthening support for these regional institutions is a key recommendation of the report.

## **II. THE CARIBBEAN**

### ***Context***

The Caribbean study focused on CARICOM member states which are also full members of the Caribbean Telecommunications Union (CTU): Antigua and Barbuda, the Bahamas, Barbados, Belize, the Commonwealth of Dominica, Grenada, the Cooperative Republic of Guyana, Jamaica, Montserrat, St. Kitts and Nevis, Saint Lucia, St. Vincent and the Grenadines, Surinam, and Trinidad and Tobago. The coordinating role of CARICOM and of the recently-launched Caribbean Single Market and Economy (CSME) bodes well for increasing regional harmonization in the ICT sector. In the Eastern Caribbean, the Eastern Caribbean Telecommunications Authority (ECTEL) has already taken important steps to promote market liberalization and competition in its five member countries.

Yet in most ICT policy and regulatory institutions within the region, capacity is still weak. There is a need for better policy-making and oversight arrangements, more trained technical regulators and more effective administrative leaders. Alongside such capacity building requirements are challenges of internal re-structuring, functional integration, improved service delivery and stakeholder involvement.

### ***Current status of sector reform***

The countries of the Caribbean have enjoyed varying degrees of commitment to the development of national telecommunications policies and regulatory frameworks over the past decade. Though almost all countries have liberalised telecommunications to date, they have made varying degrees of progress in regulatory reform.

Notwithstanding the variance across the region in the scope and detail of policy and regulation, all Caribbean countries have limited capacity to keep pace with the changing demands of ICT sector development.

Broadly speaking, relative sector maturity and ICT policy and regulatory wherewithal in the non-OECS countries under consideration is in line with such country's respective ICT rankings in indices such as the ITU's Digital Access Index (DAI), UNCTAD's ICT Diffusion Index and the World Economic Forum's Networked Readiness Index (NRI). These rankings place the islands of Barbados, Bahamas, Trinidad and Tobago and Jamaica roughly on par, ahead of their continental neighbours Suriname, Guyana and Belize, which are also roughly on par.

Belize and Guyana have lagged behind the Bahamas, Barbados, Trinidad and Tobago and Jamaica for a variety of reasons, including legal inconsistencies between prevailing



legislation in the case of Guyana (Braithwaite 2006) and the absence of a national ICT strategic plan in the case of Belize (Stern 2005). With Surinam only recently effectively liberalizing its market, the reformation of its sector too, has lagged behind the other countries under consideration.

With the exception of Surinam and Montserrat, new regulatory regimes have existed in all countries under study for a few years, with current telecommunications laws enacted between 1999 and 2002 in the main. Dates for full liberalisation are all recent, where this has taken place, and differ across the various countries.

There are many variations in the institutional framework for regulation in the Caribbean countries under study. In the OECS countries, the sector pivots mainly around ECTEL, the sub-regional agency which provides advice and makes recommendations on ICT matters. ECTEL helps to manage the sector in its member states where it is supported by a National Telecommunications Regulatory Commission (NTRC). Each NTRC is a single-sector regulator which executes all operational aspects of national regulation.

In some non-ECTEL countries the regulator is also single-sector with regulatory responsibility split across a number of institutions, while in others it is multi-sector. In Jamaica, for example, the regulatory institutional framework comprises the multi-sector Office of Utilities Regulation, the Fair Trading Commission, the Spectrum Management Authority and the Broadcasting Commission. In contrast the single-sector regulator, Telecommunications Authority of Trinidad and Tobago, carries the full mandate for the various aspects of national regulation.

### ***Supply of Capacity Building Initiatives***

Formal training – particularly short-term structured workshops, courses and seminar – accounts for the majority of capacity building initiatives in the Caribbean, and the bulk of it is addressed at ICT regulators and policy-makers. A broad range of institutions are involved in supplying this training, and coordination is often weak.

The majority of region-wide workshops and seminars relating to ICT policy and regulation are conducted by the CTU, CANTO and OOCUR. While CTU activities are primarily targeted at Caribbean telecommunications ministries and regulators; CANTO's activities are targeted primarily at the Caribbean telecommunications private sector and OOCUR's activities are directed at Caribbean utilities regulators in all sectors. The initiatives of the CBU relate to training in the area of regional media and broadcasting. The CTU, CANTO, the CBU and OOCUR often partner with other agencies to host their various capacity building activities and annual conferences.

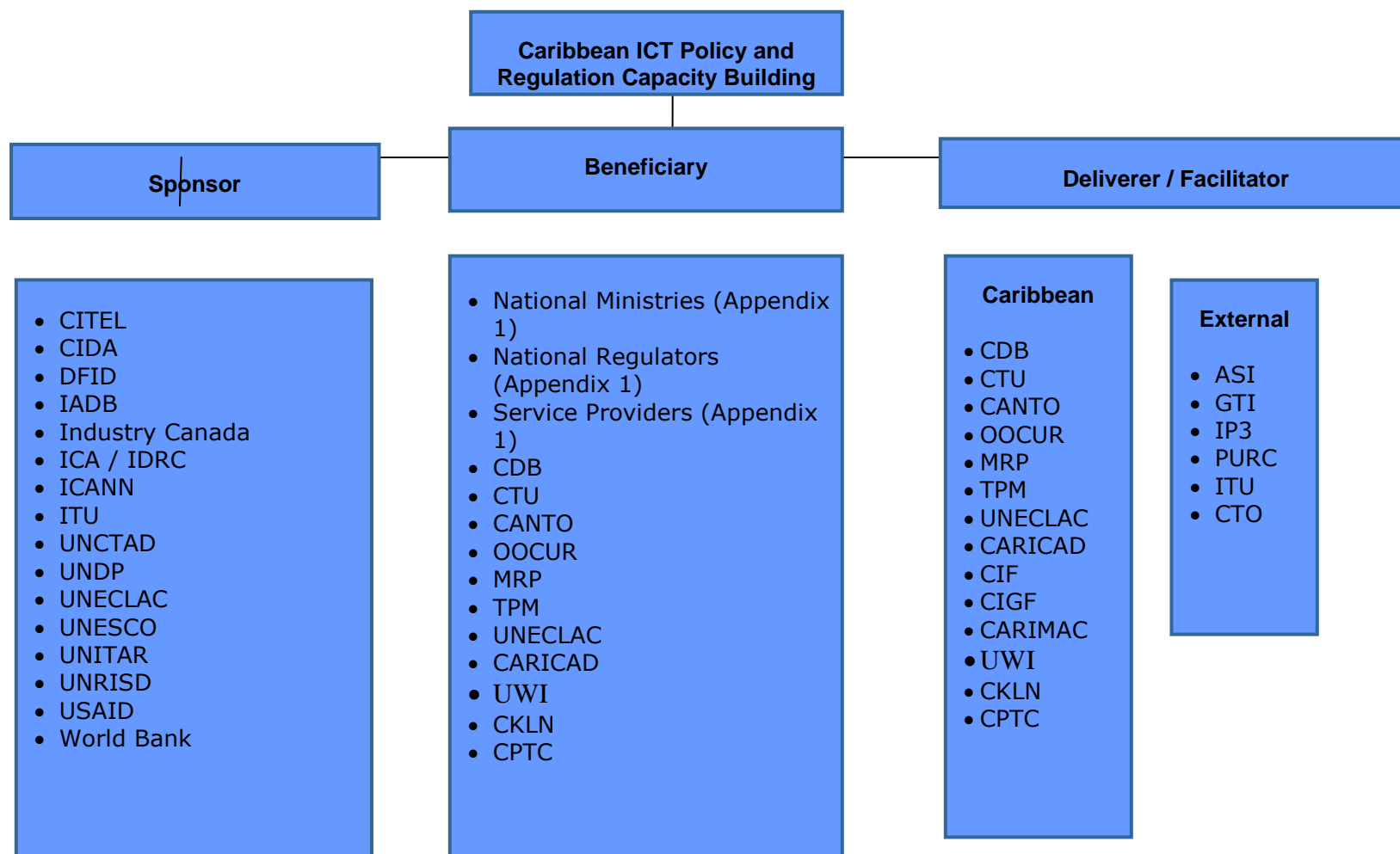
A number of other organisations in the Caribbean host three to five day events, seminars and workshops, relevant to ICT policy and regulation, with less frequency. These include UNECLAC; various CARICOM agencies, such as CARICAD; and the Caribbean Internet Forum.

The principal provider of more in-depth training is the University of the West Indies. UWI has, since 2003, produced 31 graduates from its Master's degree in Telecommunications Regulation and Policy, (MRP Telecommunications) programme, and 7 graduates from its Postgraduate Diploma in Telecommunications Regulation and Policy, DRP (Telecommunications) programme. By 2008, there will be 29 additional MRP graduates and 4 additional DRP graduates. The UWI's Telecommunications Policy and Management (TPM) programme will accept its first cohort of 25 graduate students in 2008.

Indigenous research relevant to ICT policy and regulation is primarily carried out by the Caribbean Development Bank (CDB), various CARICOM agencies and a number of institutes within the UWI. The latter include the MRP and the TPM programmes, as well as the Sir Arthur Lewis Institute of Social and Economic Studies (SALISES) and the Caribbean Institute of Media and Communication (CARIMAC).

The recently launched Latin American and Caribbean ICT policy and regulatory research initiative, Diálogo Regional sobre Sociedad de la Información (DIRSI), is gaining momentum. Other than DIRSI, there are few Caribbean-specific research initiatives that have gained momentum. One such initiative with great potential is the ICA-sponsored Caribbean Communications Policy Forum (CCPF), an online forum of organisations and individuals discussing various ICT related developments in the Caribbean. A Caribbean Regulatory Research Centre (CRRC) and a Caribbean Association for Communication Research (CACR) have been envisioned but neither has yet been fully operationalised.

## Caribbean ICT Policy and Regulation Capacity Building



## ***Challenges facing regulatory agencies***

Caribbean regulatory agencies see their main challenges as a combination of administrative and technical issues. Administratively, the increasing demand on the current regulatory structure with insufficient human and financial resources is cited as a major challenge. Technically, there are complex issues relating to interconnection and cost accounting, amongst others. These are compounded by the demands for ongoing tracking and research on emerging policy and regulatory changes such as those that relate to convergence. Practically, the key challenges surround insufficient resources, most particularly human resources, required to achieve organizational objectives. The need for improved human resources input relates both to sheer numbers as well as to shortfalls in relevant skills and experience.

Insufficient staff and specialized competencies limit organizations' ability to keep up with changes in the market; to deal with various issues which crop up from time to time; and to pay due attention to on-going research. Labor market and financial limitations were identified as the key challenges to acquisition of personnel in the required numbers. Role overload within the organizations has also limited the effectiveness of technical assistance in the past.

## **III. AFRICA**

### ***Context***

The African regional report covers the 48 countries of Sub-Saharan Africa. Conventionally, Africa is divided into different geographic sub-regions that often form the basis for ICT policy and regulatory capacity building initiatives. For the purpose of this study, the sub-Saharan African countries are grouped into four different regions:

**Western Africa:** Benin, Burkina Faso, Cape Verde, Côte d'Ivoire, The Gambia, Ghana, Guinea, Guinea-Bissau, Liberia, Mali, Mauritania, Niger, Nigeria, Saint Helena, Senegal, Sierra Leone, Togo.

**Southern Africa:** Angola, Botswana, Lesotho, Madagascar, Malawi, Mozambique, Namibia, South Africa, Swaziland, Seychelles, Zambia, Zimbabwe.

**Eastern Africa:** Burundi, Comoros, Djibouti, Eritrea, Ethiopia, Kenya, Mauritius, Mayotte, Réunion, Rwanda, Seychelles, Somalia, Sudan, Tanzania, Uganda.

**Central Africa:** Cameroon, Central African Republic, Republic of the Congo, Democratic Republic of the Congo, Equatorial Guinea, Gabon, São Tomé and Príncipe.

Countries in different geographic regions also belong to different economic communities such as the Economic Community of West African States (ECOWAS), Economic Community of Central African States (ECCAS) Southern African Development

Community (SADC), Common Market for East and Southern Africa (COMESA) that were established to promote regional cooperation and integration. Smaller regional economic blocs such as the East African Community (EAC) have been more successful in forging economic integration. The EAC now comprises five countries, Burundi, Kenya, Rwanda, Tanzania and Uganda. However, there has been competition among regional economic bodies resulting in overlap of countries that belong to different economic regional groupings at the same time.

This analysis focuses on a selected number of countries from the four sub-regions and economic groupings. Among the countries covered in the case studies, Ghana and Senegal are located in the ECOWAS region while Cameroon and Gabon belong to the ECCAS region. Botswana, Mozambique, South Africa and Zambia, belong to the SADC region while Ethiopia and Sudan are members of the COMESA. Kenya, Rwanda, Tanzania and Uganda have overlapping membership to the East African Community and the COMESA, with Tanzania having a triple overlap as a member of SADC.

### ***Status of Sector Reform***

The African members of the ACP group are diverse in their social, economic, political and regulatory settings, and in the status of sector reform. Table 1 shows the different stages of sector reform in Africa.

| Reform initiative                         | Countries   | % of Africa |
|---|---|-------------|
| Privatization of incumbent                | Ghana, Nigeria and Tanzania (distressed privatization)  | 35%         |
|   | Cape Verde, Côte D'Ivoire, Guinea, Guinea-Bissau, Lesotho, Madagascar, Mauritania, Sao Tome and Principe, Senegal, Seychelles, South Africa, Sudan and Uganda ( more than 50% sold)   |             |
|   | Central African, Republic, Equatorial Guinea, Mauritius (less than 50% sold)  |             |
|   | Somalia (fully private)   |             |
| Regulatory institutions in (43 countries) | Algeria, Angola, Benin, Botswana, Burkina Faso, Burundi, Cameroon, Cape Verde, Chad, Comoros, Congo, Côte D'Ivoire, Democratic Republic of Congo, Egypt, Ethiopia, Gabon, Gambia, Ghana, Guinea-Bissau, Kenya, Lesotho, Liberia, Madagascar, Malawi, Mali, Mauritania, Mauritius, Morocco, Mozambique, Namibia, Niger, Nigeria, Rwanda, Senegal, Seychelles, South Africa, Sudan, Tanzania, Togo, Tunisia, Uganda, Zambia, Zimbabwe | 80%         |
| Competition in cellular market            | The rest of Africa, except for Comoros, Cape Verde, Eritrea, Ethiopia, Equatorial Guinea, Guinea-Bissau, Namibia, Sao Tome & Principe   | 85%         |

|                                      |  |     |
|--------------------------------------|--|-----|
| Competition in the Internet services | Fifty two countries, except for Ethiopia | 98% |
|--------------------------------------|--|-----|

Source: World Bank, International Telecommunications Union

African countries have made significant gains in telecommunications restructuring and promoting access to ICT services over the last decade partly as a result of capacity building efforts by development agencies and in part due to advances in wireless and mobile technologies and new business models. However, the policy and regulatory environment has remained inadequate in many ways. Most of the policy and regulatory frameworks were designed for an era when clear functional differences existed between services and infrastructure, but these are increasingly becoming inadequate for dealing with convergence of services. They have not been updated in the light of recent developments in technology and markets.

In Africa, the issues of convergence, the development of next generation network, open access, broadband wireless networks, quality of service and linking up to regional and international backbone networks are moving on to the top of the agenda of policy makers and regulators that are still preoccupied with classical reform initiatives. The ICT sector has also brought substantial international policy challenges in infrastructure (standardization, resources management, trade in ICT goods, Internet identifiers, network security and ICT for development) and content and transactions (trade in services, intellectual property rights, information security, dispute resolution, privacy, electronic commerce, taxation, spam and consumer protection) that need to be addressed within the second wave of reforms centered around technological convergence and regional integration.

Governance remains the key challenge to ICT policy and regulation in the region. Institutional arrangements in many countries continue to make regulators in African countries highly dependent on governments for their operations and consequently they have limited legitimacy or autonomy. The market continues to be dominated by incumbents (fixed line now joined by mobile) and by information asymmetries between operators and regulators. There are few civil society organisations that are able to influence policy and regulation.

E-strategy development in Africa began in the mid-90s under the leadership of the ECA through its National Information and Communication Infrastructure (NICI) programme. The NICI programme is part of a broader African Information Society Initiative implemented by the ECA in collaboration with other agencies. The ECA supported about half of the African countries including Benin, Burundi, Burkina Faso, Cameroon, Cape Verde, Central African Republic, Chad, Comoros, Democratic Republic of Congo, Gabon, Ghana, Guinea, Lesotho, Mali, Mauritania, Malawi, Mozambique, Niger, Nigeria, Rwanda, Sierra Leone, Swaziland, Tanzania, Uganda, Zambia and Zimbabwe to develop their national e-strategies. The UNDP joined the efforts towards the end of the 1990s following its experiences in Asia and Eastern Europe and supported a number of

African countries such as Djibouti, Malawi and Uganda to come up with policies and plans that integrate ICTs in development.

However, despite the rhetoric of the integration of ICTs in development, there have been difficulties in articulating what integrated ICT policies should achieve at national levels and how they link to the broader sector reform agenda and the regional and international regimes. E-strategies tended to be “cut and paste” rather than analyses of the underlying development challenges and how ICTs address these concretely along with other measures. The limited interaction between reforms that address affordable access to ICTs and integrated national ICT policies and e-strategies that focused on application and content was partly due to absence of capacity to develop integrated policies that bring reform objective together with poverty and growth dimensions of ICT infrastructure, content and applications.

This is so despite the enormous amount of time and resources that has been expended on the development of national ICT policies and strategies in recent years to bring policy makers into the mainstream ‘ICT for development’ debates. While these have improved the awareness on the role of ICTs for social and economic development, much of commitment remains rhetorical, with few gains made in creating the necessary governance environment to effectively meet the challenges identified. By and large policy makers and regulators, civil society, media, development professionals and ICT experts still lack the necessary skills to establish sectoral objectives and pursue reforms that bring immediate benefits to the society. Consequently, policies remain reactive to local, national, regional and global events rather than proactively, innovatively and appropriately promoting the diffusion of ICTs for social and economic development.

There are no quick fixes to these challenges. They demand cutting-edge skills and practical technical and policy making capabilities that need to be built over a longer period. Generally, regulators are required to have or develop some understanding of policy making in order to regulate effectively, but generally there is little understanding of the technical challenges such as spectrum management, or of the basics of the Internet, in the broadest sense, by policy makers. Mutual understanding of these processes is critical to effective delivery. Often due to concerns around the autonomy of the regulator, the importance of these linkages is neglected.

As a result, the focus has often been on developing ICT policy capacity through workshops and seminars without developing any understanding of the technical capabilities required to address these challenges. At the same time, more formal professional development training and academic training has also been ad hoc and fragmented.

## ***Supply of Capacity Building***

Governments, particularly the Ministries of communications and regulators, are the major recipients of policy and regulatory capacity building initiatives. Recent changes in structures of the government, in general and the emergence of separate ICT agencies in particular has expanded the scope and number of institutions that receive support in this area. However, in spite of increasing support, local capabilities to articulate ICT policy and regulatory capacity needs and engage with the donors are missing, often leading to replication of policies and regulation that are ineffective in terms of promoting affordable access and competition.

Capacity building tends to be concentrated in about half of the 48 African members of the ACP group countries, most of which are covered by the NetTel@Africa training and peering program. Initiatives vary from one time or regular workshops addressing specific ICT policy issues, to long term capacity building efforts by institutions such as the International Development Research Centre (IDRC), the International Telecommunications Union (ITU) and the World Bank that have invested consistently in capacity building in ICT policy, regulation and research over the last two decades. The World Bank is a key supporter to capacity building efforts for reforms in Ethiopia, Mauritania and Rwanda along with activities in west Africa that are aimed at policy and regulatory harmonization within the ECOWAS region. The IDRC has been funding capacity building in ICT policy in Kenya, Mozambique, Senegal, South Africa and Uganda and research networks such as the Research ICT Africa network (RIA!) and the African Technology Policy Studies.

Regional Economic Communities like the Common Market for Eastern and Southern Africa (COMESA), the Southern African Development Conference (SADC), the Economic Community for West African States (ECOWAS) and the East African Community (EAC) have been playing a key role in aggregating demands and creating platforms for capacity building. There have been initiatives to harmonise policies and regulations across the regions in Africa through regulatory associations such as the West African Telecommunications Regulatory Association, (WATRA) the Communications Regulatory Association of Southern Africa (CRASA), the Association of Regulators of Information and Communication for Eastern and Southern Africa (ARICEA) and East African Regulatory, Postal and Telecommunications Organisation (EARPTO).

Progress so far has not been uniform. EARPTO has seen a considerable success in developing policies and regulation through consultations that bring the concerned private sector institutions, regulators and policy makers; CRASA was able to create a sustained platform (NetTel@Africa) for training of regulators; WATRA has been working closely with the ITU to develop common legislation for the region. Significant work remains to strengthen the impact of these organisations. In short, few countries in Africa have the capacity for sustained effective institutional determination of policy and regulation, but regionally there has been some success in consolidation of capacity building efforts



through regulatory associations sponsored by regional economic communities (RECs). Broader institutional frameworks such as NEPAD have recently had an influence on policy in areas such as open access. The ECA has been instrumental in raising awareness on broader policy issues. The next section discusses the supply of ICT policy and regulatory training, technical assistance, research and advocacy initiatives in Africa.

Most of the donor and multilateral institutions finance projects that run for short (2 years) to medium (3 to 5 years) terms. The major initiatives supported by such organisations over the last five years are shown in the table below.

**Major Projects funded by donor agencies, bilateral and multilateral institutions that have a strong ICT policy capacity building components**

| Project                                   | Sponsor                           |
|---|-----------------------------------|
| African Technology Policy Studies         | IDRC                              |
| Catalyzing Access to ICTs in Africa       | DFID, SIDA                        |
| Building Digital Opportunities            | DFID                              |
| Pro Poor Pro Market Policy and regulation | IDRC                              |
| Regional ICT Support Programme            | European Union                    |
| Research ICT Africa Network               | IDRC                              |
| African Information Society Initiative    | UNECA, Danish Cooperation, GTZ    |
| NetTel@Africa                             | USAID, SIDA, DFID                 |
| ScanICT Project                           | UNECA, IDRC, Norwegian Aid        |
| African ICT Policy Monitor                | APC, UNDP, Open Society Institute |
| Information Technology Centre for Africa  | UNECA, Korean Government          |

Programs with specific mandates to provide capacity building through research in ICT policy and regulation include:

- Afralti - sponsored by the ITU;
- Ecole Supérieur Multinationale du Telecommunication (ESMT) – Sponsored by the ITU;
- NetTel@Africa – Sponsored by USAID, DFID and SIDA;
- Research ICT Africa (RIA) – Sponsored by IDRC;
- Collaboration on International ICT Policy for Eastern and Southern Africa (CIPESA) – Originally sponsored by DFID;
- Centre for ICT Policy for West Africa (CIPACO) – Originally sponsored by DFID.

Afralti and ESMT stand out as the oldest initiatives in Africa that have been transformed, at least in intent, into Centres of Excellence in ICT policy and regulation. They provide both technical and policy capacity building. Afralti is a founding member of NetTel@Africa, but a lack of the requisite human resource capacity when the network started limited Afralti's effective participation. The participation of ESMT has, on the other hand, been limited initially by the Anglophone content of NetTel@Africa.

Consequently, there has been little interaction between the Centres of Excellence and other programmes such as NetTel@Africa and RIA!

There are a few universities offering degree programmes such as the Masters in Policy and Regulation at the Graduate School of Public and Development Management at the University of the Witwatersrand in South Africa, and the Post Graduate Diploma In Telecommunications and Information Policy at the University of South Africa. The World Bank in collaboration with the University of Ouagadougou has launched a programme for training experts in policy and regulation in West Africa. Similar initiatives are required in Eastern and Central Africa to improve the understanding of ICT policy and regulation.

Some institutions identified through the study focus primarily on ICT policy and regulatory advocacy, such as

- Association for Progressive Communication (APC);
- E-Policy Resource Network (ePol-NET);
- International Institute for Communication and Development (IICD)

Advocacy initiatives and institutions draw their resources from bilateral and multilateral agencies and focus on the public interest aspects of ICT policy and regulation and the participation of civil society in national and international debates. However, there has been a considerable shift in the subject-matter of advocacy programmes due to an over dependence on funding and the changing national, regional and international ICT policy environment.

Most of the current supply of policy and regulatory support is North/South. Despite being sought after, South/South capacity building is not available to the majority of the countries in the study area, with the partnership between Mozambique and Brazil being one of the few notable exceptions. Experience-sharing between Asia and African countries and within ACP countries as a means of capacity building was found to be very limited.

Most ICT related initiatives are targeted at the implementation level, though there are a few initiatives that are policy and regulation specific. A survey of related programmes, events and publications, indicates that more emphasis is placed at the operational level as opposed to the policy level. This supports the finding that with respect to the various levels of capacity building, more technical expertise and training is provided and directed at persons working at an operational level in the regulator, for example, than policy and advocacy, which is more likely to be directed at government officials and decision-makers at the policy level. The capacity building interventions tend to be broad-based, focusing largely on applications and content, and are detached from sector reform that underpins access to communication services. The disconnect between broad based ICT policies and strategies on the one hand, and sector reform on the other hand, is one of the major shortcomings that a coherent capacity building, research and advocacy initiative would address.

A wide variety of organisations are engaged in ICT policy and regulatory capacity building in Africa. More than 30 (thirty) major institutions/initiatives have been operating in sub-Saharan Africa and supplying ICT policy capacity building, through research, training, advocacy and expert assistance. Although comprehensive, the initiatives identified are not exhaustive of the fast changing environment, but are representative of actions undertaken by major ICT policy and regulatory capacity building institutions.

The geographic scope of ICT policy and regulatory capacity building varies widely with some donors focusing on a set of selected countries and others providing support at regional levels. Historically, the World Bank, DFID, IDRC, SIDA, and USAID as donors and CTO and ITU as multilateral agencies, have the broadest coverage.

The main donor organisations, bilateral and multilateral institutions working in the area of ICT policy and regulatory capacity building in Africa include:

- Development Bank of South Africa (DBSA)
- Department for International Development (DFID)
- European Union
- Industry Canada
- International Development Research Centre
- Open Society Initiative (OSI)
- Open Society Initiative for Southern African (OSISA)
- Open Society Initiative for West Africa (OSIWA)
- Swedish International Development Agency (SIDA)
- SWISS Aid
- United States Trade Development Agency
- United States Agency for International Development (USAID)
- The World Bank

International organisations and entities that often work in conjunction with bilateral and multilateral institutions include:

- International Telecommunications Union (ITU)
- Commonwealth Telecommunications Organisation (CTO)
- United Nations Educational, Scientific and Cultural Organisation (UNESCO)
- United Nations Economic Commission for Africa (ECA)
- United Nations Development Programme (UNDP)
- World Intellectual Property Organisation (WIPO)

The ICT policy and regulatory capacity building supply varies considerably from sustained, long term technical assistance provided by institutions like the World Bank and IDRC to short term training organized by a host of other institutions. Availability of technical assistance and long term complementary financing makes capacity building more focused on certain goals such as sector reform, or strengthening the regulator to enable it to manage resources such as radio frequency spectrum effectively. Sustained

funding in ICT policy and regulation by the IDRC in recent years has been instrumental in creating a critical mass of Africa-based researchers in the subject.

Other initiatives fall between focused technical assistance and long term capacity development. The ITU provides short-term but ongoing training workshops on policy and regulation at different venues. All countries that are members can access and benefit from ITU training workshops. The incentive for travel and the wide range of topics make the ITU workshops very attractive to participants from developing countries. For some countries like Sudan, the ITU training workshops are the only opportunities for capacity building.

Bilateral institutions such as the DFID, SIDA, the United States Trade Development Agency (USTDA), United States Agency for International Development (USAID) and other institutions such as the IDRC, and the Open Society Institute have made significant contributions to well defined capacity building initiatives for ICT policy and regulation in the region.

Some short and medium term initiatives have also been launched over the last ten years to address ICT policy and regulatory training, technical assistance, research and advocacy challenges. The Building Digital Opportunities (BDO), CATIA and the Regional ICT Support Programme are among the key initiatives. While the lessons from BDO were carried over to CATIA because of DFID funding of both programmes, there has been little synergy between the EU-funded Regional ICT Support Programme and previous initiatives in ICT policy and regulatory support. It is evident that:

- The level of coordination and information sharing among the various initiatives has been very low due to absence of information on “who is doing what” in ICT policy and regulation in Africa. Efforts to create platforms such as the Partnerships for ICT in Africa (PICTA) under the auspices of the African Information Society Initiative (AISII) remain ineffective partly due to a tendency to focus more on applications and content than on the core sector reform agenda (competition and regulation)
- Lessons that were learnt from one project were not carried over to the other due to the absence of institutions that systematically gather and disseminate knowledge on what is taking place in ICT policy and regulation. There have been some initiatives by the private sector, such as Balancing Act Africa, to disseminate information on the ICT sector in Africa. A similar initiative is required to gauge progress that was made in ICT policy and regulation.
- There has been limited synergy between institutions providing training for example between the ITU Centres of Excellence and NetTel@Africa that often intend to address the same groups of policy makers and regulators

However, there has been increasing collaboration between research and training programmes such as NetTel@Africa and RIA! The interaction has presented opportunities for capacity building based on an understanding of the context of countries and the formulation of policies and regulation based on evidence. Further analysis shows that:

- The majority of ICT policy and regulatory capacity building initiatives tend to concentrate in less than half of the sub-Saharan African countries
- Regulatory support to countries is spread across different themes often mediated by institutional core mandates and funding commitments rather than the urgent needs of the countries
- Much of the current supply for policy and regulatory support is North-South. South-South capacity building is sought after but has not been available to most countries, with the exception of a few such as Mozambique which has partnered with Brazil (though this based on a common language rather than geographic proximity)
- Language remains a key barrier to the consumption of the supply of ICT policy and regulatory support in Africa. For example, it has been difficult for Arabic and French-speaking countries to participate in online training and there has been a greater focus on English speaking countries for regulatory and policy training.

By and large, there is a limited supply of capacity building in ICT policy and regulation compared to the demand. The demand is higher for advanced policy analysis, research, project management and implementation. There are relatively high levels of variation between, on the one hand, resources spent and attention paid to training and, on the other hand, to research in ICT policy and regulation. There is a general understanding of and interest in the training aspect of capacity building, but equal attention has not been paid to research in ICT policy and regulation at national and regional levels.

## ***Regional Capacity***

Regional economic communities and the associations of regulators that they sponsor remain a key platform for capacity building. One of the underlying drivers that calls for more forward-looking approaches to capacity building is regional harmonisation. Regional economic communities such as ECOWAS have played a significant role in bringing regulators and policy makers together to build regional networks and harmonize their policies (e.g. roaming agreements).

Regional economic communities and regulatory associations have already begun addressing cross-cutting challenges and topics that have regional dimensions such as spectrum management and monitoring, cross-border interconnection, new approaches to licensing in a converged environment, dispute resolution and open access. ARICEA held a spectrum management and monitoring workshop, while CRASA organized a regional conference on the implication of convergence on policies and regulation in May and June 2007 respectively.

The efforts of regional regulatory associations and economic communities to date demonstrates that these structures will continue to play a key role in addressing, from a capacity building perspective, the pertinent issues that have a regional dimension such as cross-border interconnection, regional and national policies and plans for broadband networks, frequency spectrum management, dispute resolution and open access. Regional regulatory associations like CRASA and WATRA face a chronic shortage of financial resources to continue these important roles.

The research disclosed a strong diversity of projects, initiatives and organisations involved in ICT policy and regulatory capacity building in the Caribbean. It revealed that the significant governmental unevenness in capacity across the region is partly redressed through regional initiatives as well as by those led by the private and non-government sectors and even agencies managed by volunteers. This has created a pattern of multiple influences on policy and created a diverse range of platforms for bi-lateral or multi-lateral engagement with the region by extra-regional development agencies and donor-governments.

## **IV. THE PACIFIC**

### ***Context***

The Pacific Islands consist of thousands of islands scattered through the Pacific Ocean. Although Pacific Islands share some common traits, there are huge differences in size, culture, ethnicity, economic development, legal system and population amongst them (World Bank 2005). The Pacific Island Countries (PICs) can be broadly clustered in three subregions: Melanesia, Micronesia and Polynesia. For the purposes of the current study, seven representative countries were selected from the three subregions:

1. Melanesia: Fiji, Solomon Islands, Vanuatu
2. Micronesia: Federated States of Micronesia (Micronesia), Palau
3. Polynesia: Samoa, Tonga

Additionally, Papua New Guinea (PNG), which borders the region and has the largest population, was also included in the study.

Exogenous factors such as remoteness and isolation from major ports, relatively recent transition from colonial rule to independence, strong indigenous communal cultures, susceptibility to natural disasters and dependence on external aid have all played a significant role in shaping the economic environment in the PICs (World Bank 2005).

The PICs face serious development challenges because of their remoteness from major ports and capital markets. The nearest major ports are Auckland, Sydney and Tokyo which on average are more than 3000 miles away (World Bank 2005). The remoteness of the PICs is underscored when they are compared to the Caribbean islands that are, on average, only 1000 miles away from the vast US market.

The strong emphasis on the clan and communal ownership of lands “mean that there is generally widespread support for the involvement of the public sector in many economic activities that in other countries would be regarded as solely in the sphere of private

activity” (World Bank 2005, p.3). The government involvement in PICs’ ICT sectors remains strong despite reforms.

Most of the PICs are heavily dependent on foreign aid, in absolute terms as well as on a per capita basis, as can be seen on Table 1. With the exception of Fiji, most PICs rely extensively on aid. As much as 70.5 percent of Solomon Island’s Gross National Income (GNI) is composed of external aid. PICs are also heavily dependent on external remittances. Remittances to the Pacific region have trebled within a decade to total USD \$425 million. The largest beneficiaries of remittances are Tonga (41.9 percent of GDP), Samoa (26.3 percent of GDP) and Fiji (6.7 percent of GDP) (World Bank 2007).

Table 1. Characteristics of Pacific Island Countries

| Subregions | Countries                      | Population<br>( ‘000,<br>2005) | Km to<br>nearest<br>major port | Atlas<br>GNI per<br>capita<br>(US\$,<br>2005) | Avg aid<br>per capita<br>(US\$,<br>2005) | Aid as %<br>of GNI<br>(US\$,<br>2005) |
|------------|--------------------------------|--------------------------------|--------------------------------|---|--|---------------------------------------|
| Melanesia  | Fiji                           | 848                            | 3,215                          | 3,280   | 75.47                                    | 2.3%                                  |
|            | Solomon Islands                | 478                            | 2,854                          | 590   | 414.22                                   | 70.5%                                 |
|            | Vanuatu                        | 211                            | 2,471                          | 1,600   | 184.83                                   | 12%                                   |
| Micronesia | Federated States of Micronesia | 111                            | 3,703                          | 2,300   | 954.95                                   | 43.97%                                |
|            | Palau                          | 20                             | 1,677                          | 7,630   | 1150                                     | 15.8%                                 |
| Polynesia  | Samoa                          | 185                            | 4,340                          | 2,090   | 237.83                                   | 11.2%                                 |
|            | Tonga                          | 102                            | 3,580                          | 2,190   | 313.72                                   | 13%                                   |
|            | Papua New Guinea               | 6,000                          |                                | 660   | 44.33                                    | 6.6%                                  |

**Source: World Development Indicators, 2007, OECD Aid Recipient charts.**

Although PICs share common characteristics, they vary considerably by population, landmass and size of their economies. For example, PNG with a population of six million dwarfs Palau’s population of 20,000. Papua New Guinea, Fiji and Solomon Islands are the most populous countries in the region and have over 80 percent of the region’s population (Okamura and Duran 1996). Per capita income also varies widely from USD \$660 in Papua New Guinea to USD \$7630 in Palau, as can be seen on Table 1.

The institutional scope in this study covers regulators, policymakers, operators, and regional and international organisations that either provide capacity building or are affected by the lack of adequate capacity.

## ***Status of Sector Reform***

The liberalisation of ICT/telecom services in the Pacific Islands is still in the early stages and most governments continue to provide basic fixed line services while allowing limited participation of the private sector in cellular and Internet services. With the exception of Samoa that has benefited from Postal & Telecom Reform Program sponsored by the World Bank, most PICs have either ineffective regulatory bodies or none at all. ICT sector performance in the Pacific region has been uneven at best.

PICs that have undertaken reforms and have absorbed the technical assistance provided to them are performing better than their peers in the region. For example, within a year of introducing competition, Tonga's mobile and Internet penetration levels have doubled and mobile prices have dropped by 20%. Since undertaking telecom reforms under a World Bank sponsored technical assistance program, the number of Samoa's fixed and mobile customers increased from 12,500 in 2002 to over 85,000 in June 2007. The introduction of new Internet Service Providers (ISPs) in Samoa has resulted in a 50% price reduction and a 100% growth in Internet traffic (World Bank 2006).

PICs are at different points in the ICT reform trajectory. In some countries, the sector is dominated by a single provider, usually government-owned, and administered by the Ministry of Communication/ICT/Telecom. Palau belongs to this category although the ICT sector is administered from the Ministry of Commerce and Trade. There are other countries, such as Fiji, that have taken early steps in the reform process by introducing one or more new entrants in the sector although regulatory functions remain embedded in the Ministry. The third category of countries is those that have opened more than one market (i.e. fixed, mobile, Internet, international gateway etc.) to competition and have separated policy and regulatory functions by setting up a regulatory body. Samoa falls into this category. Although the reform process has many more stages, none of the countries in this study have moved beyond the third category.

## ***Current Supply of Capacity-Building***

Capacity across the region is uneven despite substantial participation from PICs in training programs. Countries that were furthest ahead in the reform process (Samoa, Tonga) and those lagging behind (Vanuatu, Solomon Islands) all participated in a significant number of training programs. However, among these countries, Samoa, Fiji and Papua New Guinea had a significantly larger number of programmes conducted nationally compared to the other countries. This is partly because Fiji and PNG have significantly larger populations compared to their peers.

The lack of national level initiatives in some of these countries underlines the cost of holding capacity building programmes in island countries that are sparsely populated and remote. Regional initiatives that bring participants from a number of PICs in one location to impart training are financially and logistically more viable. The larger proportion of regional initiatives versus national initiatives indicates that sponsors, organizers and participants also recognise this fact. However, because PICs are at different points in the



reform trajectory, have different endowments of human and financial capital and range in population from 20,000 to 6 million they also have different capacity building needs.

In comparison with research organisations and the private sector, development agencies and regional organisations have played the most significant role in capacity building initiatives in the region. As can be seen in Table 2, development agencies and regional organisations have been involved in 172 initiatives whereas research organisations have been involved in two and private sector in 26 initiatives<sup>1</sup>. From this evidence it is clear that universities and research organisations have played a relatively negligible role in building ICT policy and regulatory capacity in the Pacific region. However, a number of research and education initiatives have been provided by entities other than universities.

---

<sup>1</sup> One initiative may have the participation of more than one entity (donor, regional, research or private).

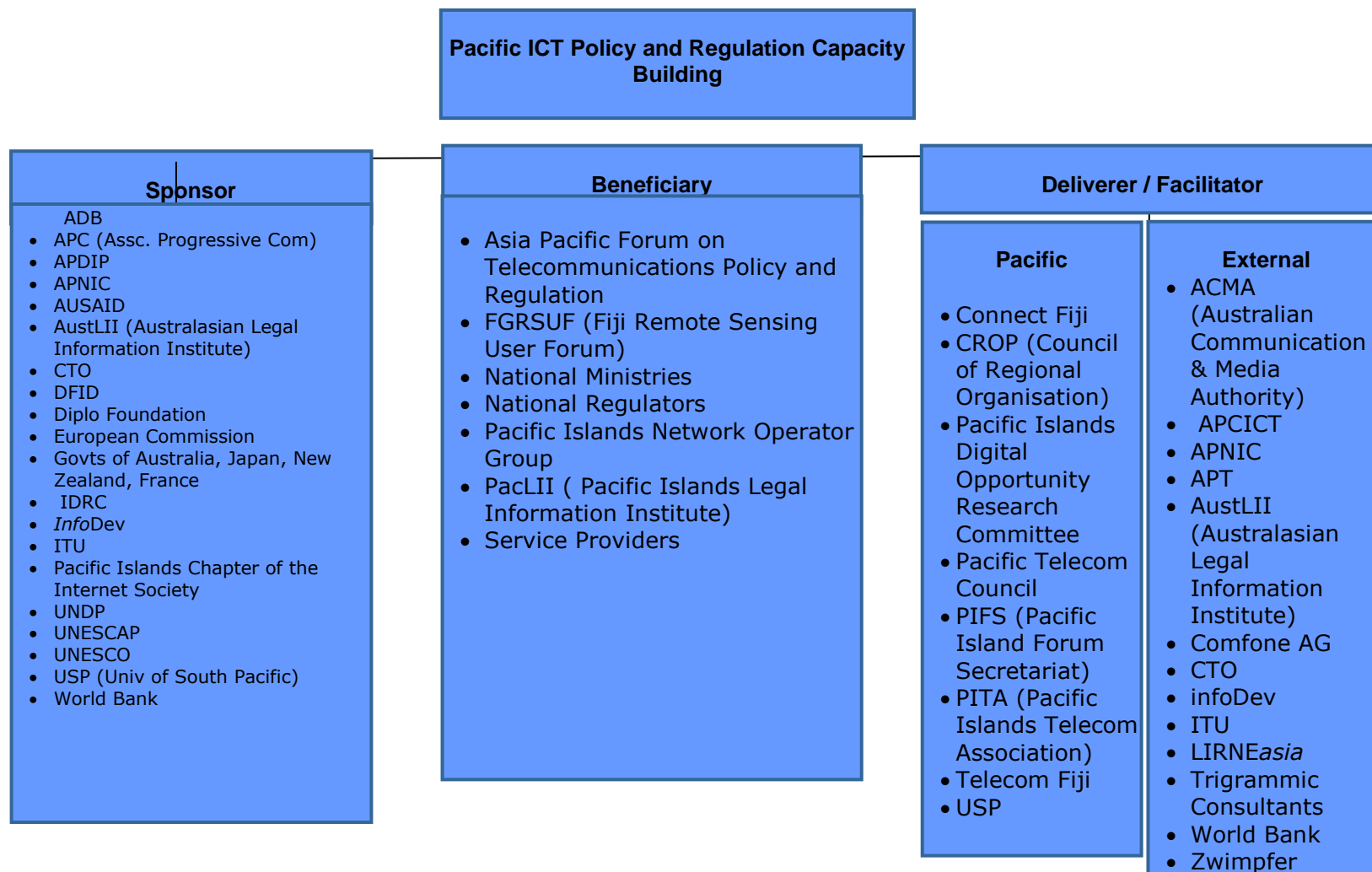
**Table 2: Analysing capacity building, research & advocacy initiatives**

|                  | Sponsoring Organisation |          |          |         | Scope                |          |                        |          | Focus         |            |                |               | Duration |   |    |
|------------------|-------------------------|----------|----------|---------|----------------------|----------|------------------------|----------|---------------|------------|----------------|---------------|----------|---|----|
|                  | Donor                   | Regional | Research | Private | Technical assistance | Training | Research/<br>Education | Advocacy | Policy makers | Regulators | Private sector | Civil society | S        | M | L  |
| Fiji             | 17                      | 12       | 1        | 6       | 24                   | 3        | 3                      | 13       | 27            | 7          | 11             | 12            | 14       | 2 | 16 |
| Micronesia       | 11                      | 7        |          | 3       | 14                   | 2        | 2                      | 8        | 17            | 4          | 7              | 8             | 8        | 1 | 10 |
| Papua New Guinea | 11                      | 8        | 1        | 3       | 16                   | 3        | 4                      | 8        | 20            | 13         | 5              | 9             | 8        | 3 | 10 |
| Palau            | 7                       | 7        |          | 1       | 10                   | 2        | 2                      | 5        | 12            | 4          | 4              | 5             | 4        |   | 9  |
| Samoa            | 20                      | 10       |          | 2       | 21                   | 7        | 3                      | 3        | 16            | 7          | 10             | 8             | 14       |   | 10 |
| Tonga            | 10                      | 10       |          | 5       | 18                   | 2        | 2                      | 7        | 17            | 6          | 8              | 10            | 11       | 1 | 9  |
| Vanuatu          | 14                      | 9        |          | 3       | 18                   | 3        | 2                      | 10       | 20            | 5          | 8              | 11            | 10       | 1 | 12 |
| Solomon Islands  | 11                      | 8        |          | 3       | 15                   | 1        | 2                      | 8        | 17            | 5          | 5              | 9             | 5        | 1 | 13 |
| Total            | 101                     | 71       | 2        | 26      | 136                  | 23       | 20                     | 62       | 146           | 51         | 58             | 73            | 75       | 9 | 89 |

**Table 1: Ranking of PIC by number of capacity building initiatives**

|                  | # of initiatives |
|------------------|------------------|
| Fiji             | 32               |
| Samoa            | 24               |
| Vanuatu          | 23               |
| Papua New Guinea | 22               |
| Tonga            | 21               |
| Micronesia       | 19               |
| Solomon Islands  | 19               |
| Palau            | 13               |
| Total            | 172              |

## Sponsors & Beneficiaries of ICT Policy and Regulation Capacity Building in the Pacific Region



Despite the large numbers of seminars, workshops and training programs that have been held in the region, the benefits of capacity building have remained elusive. In the absence of enabling legal/regulatory frameworks, many PICs have been unable to absorb or implement the learning from the various initiatives. The current inventory suggests that capacity-building needs to go hand-in-hand with policy/legal reforms (which may require special assistance). PICs that are reluctant to embark on the reform path need capacity building that is directed at persuading policymakers about the economic and political benefits of reforms. Once reforms have been initiated, the focus of capacity building initiatives needs to shift to developing the functional skills required to run an effective policy and regulatory organisation.

### ***Technical Assistance***

The primary scope of most capacity building initiatives in the region encompasses technical assistance in the form of experts who provide assistance to draft new legislation, set-up a regulatory agency or help with licensing frameworks or interconnection regulations. An overwhelming 56.4 percent of initiatives provided technical assistance, followed by 25.7 percent of initiatives which were advocacy oriented. The percentage of initiatives that provided training and research was 9.5 percent and 8.3 percent, respectively. Considering that most PICs are in the early stages of the reform process, it is expected that the focus of most capacity building initiatives would be in the form of the technical assistance. However, as more countries embark on the reform path the need for personnel to develop policy and administer the ICT sector will increase and training that addresses that need will become necessary.

### ***Advocacy***

There are a significant number of advocacy oriented initiatives but these do not necessarily indicate that capacity is being built in civil society organisations. The advocacy initiatives in the Pacific region are targeted at niche groups that are not directly related to ICT policy and regulation. Hence, it would not be surprising if advocacy groups have not been active or effective participants in the ICT policy process in the Pacific region.

The main beneficiaries of capacity building initiatives in the PICs were policymakers (44%), followed by civil society (22%), private sector (18%) and regulators (16%). Since PICs are in the early stages of reform, it is expected that policymakers will be the primary focus of capacity building initiatives. It is only when policymakers see the benefits of liberalizing the ICT sector that reforms can be initiated effectively. Due to the fact that most PICs are early in the reform process and have not separated their policy and regulatory functions, policymakers continue to remain the main beneficiaries of capacity building even in PICs that have embarked on reforms. As more PICs set up regulatory agencies or strengthen the administrative capacity of their ministries, it is recommended that new initiatives should focus on building the core skills required for regulating the ICT sector.

Out of 173 initiatives, 75 initiatives (43% of total) were short-term (seven days or less) and 89 (52% of total) were long-term (more than one year). Nine initiatives (5% of total) were medium-term (eight days to one year).

Capacity building initiatives and advocacy for ICT-related issues are being led by Pacific regional organisations or have their participation, although they are heavily supported by external donors. This bodes well for potential harmonisation of regulatory approaches in the region. The majority of ICT capacity-building initiatives in the Pacific region were undertaken on a regional or sub-regional basis, although there are a few examples of national level initiatives. In the first instance, training, technical assistance, advocacy and research initiatives, collectively “ICT capacity building initiatives,” are presented by country and region. They are subsequently organized by sponsoring institution. Annex 1 summarises capacity building initiatives by theme, duration and sponsoring institution for each of the PICs. Annex 2 organizes the initiatives by theme for a selected number of sponsoring institutions engaged in capacity building in the region.

A substantial number of initiatives are undertaken on a regional basis. Although well-coordinated regional initiatives can be both cost-effective and build capacity, the diversity of needs in the PICs must be acknowledged as a challenge that has to be met by capacity-building programmes. National capacity building institutions are almost non-existent in the individual PICs. With the exception of Papua New Guinea and Fiji, the PICs are too small in terms of population and are constrained for resources to support viable national capacity building organisations. For example, the leading institution of higher learning, USP is located in Fiji but is jointly owned by 12 PICs and has campuses in each of the 12 member countries.

The many regional organisations in the Pacific have overlapping functions and coordination problems. CROP has been formed to coordinate the activities of ten inter-regional organisations in the South Pacific. CROP’s main objective is to promote harmonisation and collaboration among member programmes and to avoid duplication of efforts and resources. The regional institutions share a number of organisational challenges, chief among them the ability to attract and retain highly skilled personnel. Many of the regional institutions are dependent on external assistance from donor governments and multilateral institutions. It is not clear whether they will be able to generate enough internal resources to remain viable should external assistance stop for any reason.