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ICTD Case Study 1  
January 2010

ICT Human Capacity Building for Development

UNITED NATIONS APCICT-ESCAP

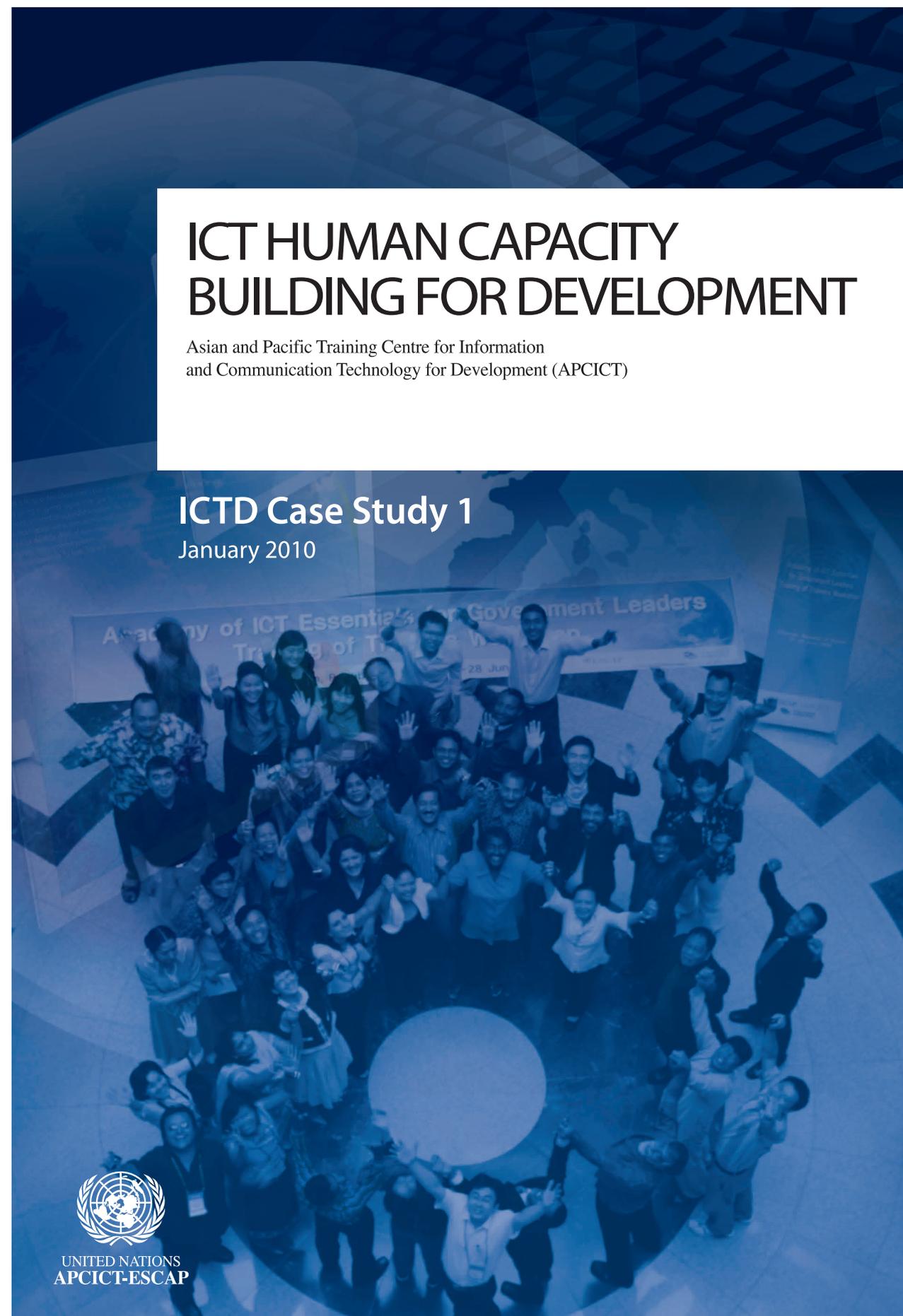
# ICT HUMAN CAPACITY BUILDING FOR DEVELOPMENT

Asian and Pacific Training Centre for Information  
and Communication Technology for Development (APCICT)

ICTD Case Study 1  
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UNITED NATIONS  
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## Issue 1: Human Capacity Building for Development

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## Acronyms

<b>Academy</b>	Academy of ICT Essentials for Government Leaders
<b>ANDS</b>	Afghanistan National Development Strategy
<b>AoM</b>	Academy of Management
<b>APCICT</b>	Asian and Pacific Training Centre for Information and Communication Technology for Development
<b>ASEAN</b>	Association of Southeast Asian Nations
<b>AVA</b>	APCICT Virtual Academy
<b>CES</b>	Career Executive Service (Philippines)
<b>CESB</b>	Career Executive Service Board (Philippines)
<b>CESO</b>	Career Executive Service Officer
<b>CICT</b>	Commission on Information and Communications Technology
<b>CIO</b>	Chief Information Officer
<b>ECA</b>	Economic Commission for Africa
<b>ELP</b>	Executive Leadership Programme
<b>ESCAP</b>	Economic and Social Commission for Asia and the Pacific
<b>FGD</b>	Focus Group Discussion
<b>HCDG</b>	Human Capital Development Group (of CICT Philippines)
<b>ICT</b>	Information and Communication Technology
<b>ICTD</b>	Information and Communication Technology for Development
<b>ICTPA</b>	Information, Communications Technology and Post Authority (Mongolia)
<b>IDLG</b>	Independent Directorate for Local Governance (Afghanistan)
<b>ISP</b>	Internet Service Provider
<b>IT</b>	Information Technology
<b>M&amp;E</b>	Monitoring and Evaluation
<b>MCIT</b>	Ministry of Communication and Information Technology (Afghanistan and Indonesia)
<b>MDG</b>	Millennium Development Goal
<b>NICS</b>	National ICT Competency Standards (Philippines)
<b>NICTCA</b>	National ICT Council of Afghanistan
<b>PICTs</b>	Pacific Island Countries and Territories
<b>PPDS</b>	Pacific Plan Digital Strategy
<b>SOPAC</b>	Pacific Islands Applied Geoscience Commission
<b>TOT</b>	Training of Trainers
<b>UI</b>	University of Indonesia
<b>UN</b>	United Nations
<b>UNDP</b>	United Nations Development Programme
<b>USAID</b>	United States Agency for International Development
<b>WSIS</b>	World Summit on the Information Society

## Foreword

Rapid advances in information and communication technology (ICT) have begun to touch - and frequently transform - the lives of people and communities in ways that were virtually inconceivable just a few decades ago. In urban centres, ICT-enabled services are opening up new windows of skilled jobs and opportunity for underserved youth. Farmers are learning about modern agricultural techniques and buying quality inputs online to increase their productivity. Doctors are diagnosing common ailments and recommending treatment to patients in far-away villages via telemedicine networks, while fishermen are accessing advance warnings of impending bad weather conditions before venturing into the sea via mobile phones, thus saving lives. The examples are indeed plentiful.

While the linkages between ICT and development are strong and well acknowledged, there are sharp disparities in access to ICT and its benefits between the developed and developing world which reflects a major digital divide. For instance, according to the International Telecommunication Union, the percentage of internet users is much higher in developed countries than in developing countries where four out of five persons are still not able to avail of the benefits of being online. Such disparities also prevail in the Asia Pacific region with Japan and the Republic of Korea alone accounting for 70% of mobile broadband users.

The task of bridging the digital divide is enormous in its magnitude, and requires concerted and mutually synergistic efforts from all relevant development agencies and institutions. Towards this objective, the Economic and Social Commission for Asia and the Pacific (ESCAP) has been fostering economic and social connectivity through ICT and providing a platform for regional cooperation. It has also accorded due importance to sharing of knowledge, expertise and best practices on ICT for development within the various stakeholders.

To promote a better appreciation of the significance of ICT for socio-economic development, the Asian and Pacific Training Centre for ICT for Development (APCICT), a regional institute of ESCAP, is successfully executing its 'Academy of ICT Essentials for Government Leaders' programme in the region. To complement this effort, APCICT's Case Study Series aims to present a useful resource for compiling and disseminating best practices in ICT for development for the reference of a range of stakeholders including government agencies, international organizations, academia, non-governmental entities and the private sector. This is an important initiative with much potential to promote south-south cooperation for building a digitally inclusive society. I encourage all to take full advantage of it!

Noeleen Heyzer  
Under-Secretary-General of the United Nations  
and Executive Secretary of ESCAP

## Preface

Nations worldwide are affected by the triple crises of finance, food-fuel and climate change that threatens to roll back decades worth of development and jeopardize the significant progress made towards meeting the Millennium Development Goals (MDGs). These current global crises serve to remind us of our inter-connectedness and the risks emerging from a highly networked economy shaped by the advent of information and communication technologies (ICTs).

Yet, these very same ICT tools can be used to help overcome the crises. The 2009 UN Economic and Social Survey of Asia and the Pacific calls for countries to boost regional cooperation in implementing a comprehensive reform agenda to foster inclusive and sustainable growth. Numerous success stories can be found in the Asia Pacific region on the effective use of ICTs to reach out to remote communities, promote cooperation, provide channels for open dialogue and information exchange, improve delivery of services, foster trade, provide healthcare for all and promote lifelong learning.

The United Nations Asian and Pacific Training Centre for Information and Communication Technology for Development (APCICT) has initiated a Case Study Series that aims to provide analyses and compilation of best practices and case studies on different aspects of ICT for development (ICTD) and capacity building. By making experiences and findings more accessible, the series can be useful for making informed decisions. New projects can benefit from the case studies, avoiding common pitfalls and using strategies that have been demonstrated as successful. Additionally, the case studies can provide opportunities for networking, collaboration and implementation of new solutions.

This inaugural issue in the Case Study Series, focused on ICT Human Capacity Building for Development, is dedicated to APCICT's national partners and features some of their experiences, achievements and issues faced in implementing the “Academy of ICT Essentials for Government Leaders” (Academy) in over a dozen countries. This flagship APCICT programme includes a comprehensive ICTD training curriculum consisting of eight standalone yet interrelated modules examining ICTD topics ranging from e-Governance to ICTD project funding. APCICT is set to launch two new Academy modules focusing on ICT for Disaster Risk Reduction and Climate Change and ICT. National Academy partners have been key players in developing each of the Academy modules. Their commitment has also maximized the reach of the Academy programme and contributed to narrowing the ICT human capacity gaps.

This issue examines the trends and challenges of ICT human capacity building for development in the Asia Pacific, and describes the integrated approach APCICT has taken to meet these challenges. The inclusive and participatory strategies APCICT has adopted in planning and implementing the Academy programme with the active involvement of government, national and regional training institutions, civil society, UN agencies, the private sector, and prominent ICTD experts and pedagogical specialists, are detailed. Investing in strengthening capacities of national partners in rolling out the Academy has resulted in a greater sense of ownership and will to develop high-quality modules and deliver training courses that meet the needs of targeted policymakers.

To facilitate the roll out and to maximize access to Academy materials through multi-channels, APCICT published the eight initial Academy modules in printed format that were launched at the Second Regional Academy Training of Trainers Workshop in March 2009. Self-paced courses based on the eight modules were also launched on the APCICT Virtual Academy (AVA - an online distance learning platform) during APCICT's third anniversary on 16 June 2009. In addition, a DVD-ROM version of AVA has been developed for those with limited or no Internet access.

Developing ICT capacity is an important policy objective for any country seeking to harness the power of ICT for development, and governments need to act swiftly and decisively to ensure that they provide an enabling environment for innovations in ICTs and use of the technologies in creative ways towards sustainable social and economic development.

These efforts of the Academy aim to promote a good understanding of what the current digital technology is capable of, where the technology is headed, and what this implies for government, businesses and citizens in today's global economy.

I hope that this inaugural issue on ICT Human Capacity Building for Development will help guide the strategies and processes adopted by future ICTD capacity building programmes, and equip policymakers and programme managers with a development-oriented framework for ICT-based and ICT-supported interventions in all development sectors, towards achieving the MDGs.

In closing I would like to express my gratitude to everyone who contributed to the success of this publication. I extend my deep appreciation to APCICT's National Academy partners for their continuous effort and dedication. Their willingness and enthusiasm to share their Academy experiences and the lessons that were learned have made these case studies a truly valuable and enlightening source of knowledge. I also want to express my gratitude to the APCICT team for its support of the authors, efficient coordination of a comprehensive production process, and commitment to the highest standard of excellence. A special note of recognition is extended to Christine Apikul for her excellent editorial work. My hope is that this has been a rewarding experience to all those involved, and one that will provide valuable insights as we continue our work to achieve respective development goals.

Hyeun-Suk Rhee  
Director  
UN-APCICT/ESCAP

# ICT Human Capacity Building for Development: Regional and National Perspectives

## Lessons Learned from the Academy of ICT Essentials for Government Leaders

### 1. Introduction

In the last three decades, the socio-economic development in Asia and the Pacific has been one of the most dynamic compared with other regions. With the adoption of new technologies, including information and communication technologies (ICTs), many of these countries have transformed their economies into leading producers of automobiles, electronics and other consumer goods. In some countries, the focus has been on building the ICT industry, including ICT manufacturing and outsourcing. India's ICT outsourcing sector, for example, is expected to generate an estimated \$75 billion in revenues from software and services exports by 2010.<sup>1</sup>

Simultaneously, there have been numerous examples of the application of ICTs to deliver public services more efficiently and effectively, extend health care to remote areas, create learning opportunities for women and various marginalized groups, and provide access to global information and knowledge that promote local innovations in sustainable development.

At the time of writing, nations worldwide are hit by the 'triple crises' of finance, food-fuel and climate change, and the United Nations has called for regional cooperation to overcome the crises through the promotion of more inclusive and sustainable development.<sup>2</sup> Innovations in digital technologies offer increasingly accessible and cost-effective tools for supporting this endeavour by allowing enhanced communication, faster information exchange, open avenues for participation and the ability to reach remote communities.

In spite of that, many policymakers have yet to acquire the knowledge and skills to leverage opportunities provided by ICTs and integrate ICT tools in

their daily work. This introductory chapter examines the trends and challenges in ICT human capacity building for development in Asia and the Pacific. It also provides some examples of current policies and programmes related to ICT human capacity building, and discusses the ICT competencies required in the networked economy. The chapter then proceeds to look at APCICT's role in ICT human capacity building for development at the regional level, and describes in detail the process the Centre took in developing an integrated approach, with the intention of sharing APCICT's key lessons and good practices.

This chapter also provides an overview of the activities undertaken by APCICT's national partners in rolling out the "Academy of ICT Essentials for Government Leaders" (Academy) that includes a comprehensive ICT for development (ICTD) training curriculum. Key lessons, good practices and challenges faced at the national level are extracted from subsequent chapters and presented here. Following this introductory chapter, details of the processes undertaken by Academy partners in rolling out the Academy in Afghanistan, Indonesia, Mongolia, Philippines and Pacific Island countries are described. Each country chapter also provides an update of the national ICT human capacity building situation, highlights the results and impact of the Academy programme, including various spin-off activities, and identifies challenges and lessons learned that other countries can use to guide future ICTD training programmes.

### 2. A Human Development Approach

ICTs - from radio to the Internet - have become widely accepted as critical tools for sustainable human development. As UN-Secretary General Ban-Ki Moon stated, "ICTs have a central role to play in the quest for development, dignity and peace. The international consensus on this point is clear. We saw it at the 2000 Millennium Summit and at the 2005 World Summit. And we saw it in the two phases of the World Summit on the Information Society."

The Millennium Development Goals (MDGs) emphasized the importance of the effective use of ICTs in enhancing efforts to reduce poverty (MDG1), increasing educational opportunities at all levels (MDG2), empowering traditionally disadvantaged groups (MDG3), and promoting global collaborative partnerships towards sustainable socio-economic development (MDG8). Governments worldwide have increasingly focused on the application of ICTD.

1. NASSCOM, NASSCOM Strategic Review 2008 Executive Summary, [http://www.nasscom.in/upload/SR2008\\_Exec\\_%20Summary.pdf](http://www.nasscom.in/upload/SR2008_Exec_%20Summary.pdf).

2. United Nations, Economic and Social Survey of Asia and the Pacific, 2009: Addressing Triple Threats to Development (2009), <http://www.unescap.org/survey2009/>.

In fostering an information society and ensuring that ICTs are available to all development sectors, many governments have invested in building and improving the ICT infrastructure. At the same time, many governments realize that bringing technologies to the people goes beyond the provision of infrastructure, hardware and software. As noted by Bridges.org: "Any technology will be insufficient if people do not understand how to put it to effective use as part of their lives or their work, either because they are not trained to use it, or they cannot imagine the possibilities for how they could use it."<sup>3</sup>

The World Bank defines 'capacity building' as "a coordinated process of deliberate interventions to (i) upgrade skills, (ii) improve procedures, and (iii) strengthen organizations. Capacity building refers to the investment in people, institutions and practices that will enable countries to achieve their development objectives."<sup>4</sup> ICT human capacity building for development focuses on the ability of countries to fully leverage and capitalize on the tools and opportunities provided by ICTs in meeting their development targets.

### 3. National ICT Human Capacity Building Policies and Programmes

Policymakers face two general issues regarding ICT human capacity building. The first is in developing a pool of ICT professionals with the capacity to develop innovative ICT applications for development. The other is to ensure that all citizens, including government and businesses, understand the capability of the technologies and have the basic competencies to use them.

Many countries already have policies and programmes in place aimed at imparting relevant ICT-related competencies for one or both of these groups. In Sri Lanka, for example, the ICT Agency has developed an ICT Skills Framework to achieve the vision of "an ICT literate society and an ICT skilled workforce that will be the building blocks for an e-Sri Lanka and leading to an improved quality of life for all its citizens."<sup>5</sup> The framework identifies the specific skills needed at different staff levels and categories, namely, Senior Managers, Chief Information Officers, Project Managers, IT Managers and General Staff, and a series of training modules are developed based on the specific competencies required by each staff level/category. The modules in the Framework are grouped under three

categories: general skills, ICT management and technical skills, and leadership skills. The type of course modules range from basic ICT awareness and literacy to more specialized and strategic management skills, such as strategic planning, business process re-engineering and change management.

The Government of Brunei in 2006 announced a long-term InfoComm Competency Training Programme under the direction of the Authority for Info-communication Technology Industry Brunei to advance ICT skills and knowledge among the Brunei workforce. The programme is aimed at developing a number of certified ICT professionals, provide training to government workers as they develop e-government initiatives, upgrade ICT skills of SME employees, and empower unemployed workers with basic ICT skills. The programme focuses on both technical and interpersonal ICT skills that are applicable in various industry sectors.<sup>6</sup>

The Government of the Republic of Korea launched a programme called the 'IT Education and Training Plan for 10 Million People' in 2000 where they educated 13.8 million Koreans, including many employees of different government organizations. In 2004, they launched another programme, called 'Mid- to Long-Term Plan for Reducing the Digital Divide', where a key objective has been to develop computer literacy and capacity by offering different training programmes.<sup>7</sup>

In the Philippines, the Career Executive Service Board (CESB) initiated the development of the national ICT competency standard for Career Executive Service Officers - who are positioned at the highest level of the Philippine civil service. This project, developed in collaboration with the Commission on ICT-Human Capital Development Group and Intel Philippines, aimed to define core competencies needed by non-IT managers and executives to support the use and management of ICT to further improve public service delivery. Two sets of ICT management competencies have been identified: 1) a set of core skills and competencies leading to e-government awareness and the 2) advanced skills to manage and implement e-government initiatives. CESB is APCICT's partner in rolling out the Academy in the Philippines and has adapted the Academy modules based on the standard that was developed (see section 8 for more details).

3. Bridges.org, "Real Access / Real Impact criteria," [http://www.bridges.org/Real\\_Access](http://www.bridges.org/Real_Access).

4. PovertyNet, "Glossary," The World Bank, <http://go.worldbank.org/7BKU4R5560>.

5. ICT Agency of Sri Lanka, "ICT Human Resources Capacity Building," [http://www.icta.lk/index.php?option=com\\_content&view=article&id=150&Itemid=70&lang=en](http://www.icta.lk/index.php?option=com_content&view=article&id=150&Itemid=70&lang=en).

6. United Nations Economic and Social Commission for Asia and the Pacific Press Release No. G/61/2008, "Asia-Pacific Governments Can Save Lives and Money By Investing in Disaster Preparedness," 2 December 2008, <http://www.unescap.org/unis/pres/2008/dec/g61.asp>.

7. ISDR, Global Assessment Report on Disaster Risk Reduction, Geneva: United Nations, 2009, <http://www.preventionweb.net/english/hyogo/gar/report/index.php?id=1130&pid:34&pih:2>.

## 4. ICT Competencies

Competency can be defined as a “cluster of related knowledge, skills and attitudes that affects a major part of one’s job (a role or responsibility), that correlates with performance on the job, that can be measured against well-accepted standards, and that can be improved via training and development.”<sup>8</sup>

Success in this Information Age requires skills that are different from skills that are useful in an industrial society. Although there is no universally-accepted definition for what constitutes ICT competencies, their classification has taken place in some countries. For example, in February 2008 the US National ICT Literacy Policy Council recommended a set of national ICT literacy standards to determine fundamental ICT skills for all students. This is seen as a first step towards a national standard for ICT literacy.

Governments also need to design programmes that will help create a workforce with specialist ICT competencies. For instance, with the growing expectation to implement e-government services, policymakers including government officials need to develop new strategic and technical competencies. The human capacity within governments to perform some of the critical tasks that are essential for building successful e-government applications include: conceptualizing the application scope and scale; developing standards and promoting interoperability; reengineering processes; architecting the solutions; developing and maintaining hardware and software; managing projects and change; and training.

Moreover, as e-government projects are being developed in various sectors and coordination is required across multiple levels (national, provincial, district), policymakers and project managers need to be trained not only in the technical aspects, but also in skills to promote cooperation and coordination, improve communications, facilitate participatory processes and multi-stakeholder dialogue, and resolve conflict.

More importantly, knowledge of e-government practices that contribute to poverty reduction and achieving the MDGs is essential. Most countries have not used any participatory approaches in the design of their e-government projects to elicit the needs of the poor and marginalized groups. As the triple crises threaten to magnify the vulnerability of the poor and marginalized, it is more important than ever to develop pro-poor projects in terms of choice of technologies, access points for service and content.

## 5. Unmet Demands for ICT Competencies

Unfortunately, existing national institutions for ICT education and training are viewed as unable to meet the demand for ICT professionals both in terms of the quantity and the quality. In the Asia Pacific region, the total demand for professionals in the ICT supply industry is expected to rise sharply from 11.2 million in 2007 to about 17 million in 2010 - a 50 percent increase in three years. The demand for professionals in the ICT user sectors will rise faster from 41 million in 2007 to 73 million in 2010 - nearly an 80 percent increase. In addition, it is expected that the need for ICT training and retraining will be extensive as ICT penetration and diffusion gain momentum in the region.<sup>9</sup>

India is anticipated to face severe human capacity gaps by 2010, even though the country hosts numerous software corporations and engineers, and has many research and IT dedicated parks and academic institutions. NASSCOM, a body representing India’s software companies, has estimated that there could be a shortfall of 500,000 IT professionals by 2010. There is also a severe shortage of good managers.<sup>10</sup> Across the Asia Pacific, we see different degrees of the same phenomenon. An exponential growth is taking place in the demand for ICT professional skills and ICT user skills, and these trends are likely to accentuate in the years to come.

In most countries of the region it would be necessary to expand the supply of ICT professionals and ICT skilled workforce by increasing enrollment in ICT courses at universities and other technical institutes, and by encouraging private sector training institutions to expand their intake. In some of the countries the increase necessary to bridge the demand supply gap could be as much as 50 percent over the existing levels of enrollment.<sup>11</sup>

At the same time, the quality and nature of training provided by ICT training institutions has to undergo significant change. Broad-based training will need to be supplemented with skill-based training, as well as cognitive and analytical skill development. And given the dynamic nature of the ICT industry and rapid advances in technological development, there is a need for continuous interaction between the ICT employers and ICT trainers.

Japan, for example, has reported a mismatch between what universities have offered students in terms of ICT education and the ICT skills that the private sector expects from young university graduates. Japanese universities tend to educate students as generalists rather than as

9. Ravi Raina, APDIP e-Note 13 - ICT Skill Development in the Asia-Pacific Region - Part one: the gap between demand and supply (Bangkok: UNDP-APDIP, 2007), <http://www.apdip.net/news/apdipenote13>.

10. The Economist, 18 August 2007.

11. Raina, op. cit.

8. Training magazine: July, 1996 cited by the US National Parks Service in <http://www.nps.gov/training/uc/whcibt.htm>.

specialists and university graduates usually need to spend a considerable amount of time in re-training to acquire practical skills and knowledge after getting a job.<sup>12</sup>

As a long-term solution, it would be important to boost ICT education at primary and secondary schools and increase content on basic ICT in school curriculum. This would create an ICT literate population in the region and set the foundation for further ICT skill development throughout an individual's career. Incorporation of ICT in non-formal and adult education is also crucial.

## 6. UN-APCICT's Role in Building ICT Human Capacity for Development

The World Summit on the Information Society (WSIS) outcome on Capacity Building states that, "each person should have the opportunity to acquire the necessary skills and knowledge in order to understand, participate in, and benefit from the Information Society and knowledge economy." To this end, the Plan of Action calls for international and regional cooperation to enhance the capacity of leaders and personnel in developing countries.

Recognizing the importance of human capacity building in achieving WSIS targets and the widening demand-supply gap for ICT human capacity, the United Nations established APCICT on 16 June 2006 in Incheon, Republic of Korea. It is a regional institute of the United Nations Economic and Social Commission for Asia and the Pacific (ESCAP) and has a membership identical to that of ESCAP.

The role and mission for APCICT is to strengthen the efforts of the 62 ESCAP member and associate member countries to use ICTs in their socio-economic development through building the human and institutional capacity for ICT. In pursuance of this mandate, APCICT's work is focused on three inter-related pillars - Training, Advisory Services and Research. Together they form an integrated approach to ICT human capacity building.

### 6.1 Training

A core activity based on the integrated approach is the "Academy of ICT Essentials for Government Leaders Programme" (Academy). As APCICT's flagship programme it includes a comprehensive ICTD curriculum and over a dozen partners that are working with APCICT to roll out the Academy at the national level.

The Academy is comprised of five key phases:

1. Needs Assessment
2. Content Development
3. Training of Trainers
4. National Roll Out
5. Outreach

An inclusive and participatory approach is used throughout these five phases to ensure a high-quality programme that meets the growing and diverse demands of policymakers. The five phases of the Academy are described below to draw out the lessons learned and good practices that can guide new projects and plans towards meeting WSIS targets on capacity building.

#### 6.1.1 Needs Assessment

In 2007, APCICT conducted a review of existing ICTD training programmes, including a needs assessment survey completed by over 20 countries. Results of the review showed that within the Asia Pacific region, there were some sporadic stand-alone training courses available to policymakers that focused on e-business applications and e-government initiatives. A closer examination of these efforts revealed several shortcomings:

- The training programmes assumed that policymakers have a prior understanding of the basic concepts of ICT and its terminologies ;
- They were not comprehensive in nature and typically focused on single topics; and
- They assumed a basic understanding of important project management skills such as how to plan, manage and evaluate ICT applications.

Based on these findings, the Academy's curriculum has been designed with eight core modules that begin with ICT basics and build up to more advanced ICTD topics in a coherent pedagogical manner. This ensures that pertinent training topics are covered in the proper depth and order, and prerequisite knowledge and skills are developed before moving to more advanced topics. The topics covered by the modules have been identified through a training needs analysis and a survey of training materials worldwide.

#### 6.1.2 Content Development

An expert group meeting was held in January 2008 to begin designing and developing the Academy curriculum. The eight modules of the Academy have been developed by prominent ICTD experts and curriculum development specialists. Included in the team is a project advisor to coordinate the content development process, and an editor to ensure quality and consistency.

#### About the Academy Modules

##### Module 1 - The Linkage between ICT Applications and Meaningful Development

Highlights key issues and decision points, from policy to implementation, in the use of ICTs for achieving the Millennium Development Goals.

12. Felix Librero and Patricia B. Arinto, ed. *Digital Review of Asia Pacific 2007-2008* (Sage, IDRC and Orbicom, 2007). <http://www.digital-review.org>.

**Module 2 - ICT for Development Policy, Process and Governance**

Focuses on ICTD policymaking and governance, and provides critical information about aspects of national policies, strategies and frameworks that promote ICTD.

**Module 3 - e-Government Applications**

Examines e-government concepts, principles and types of applications. It also discusses how an e-government system is built and identifies design considerations.

**Module 4 - ICT Trends for Government Leaders**

Provides insights into current trends in ICT and its future directions. It also looks at key technical and policy considerations when making decisions for ICTD.

**Module 5 - Internet Governance**

Discusses the ongoing development of international policies and procedures that govern the use and operation of the Internet.

**Module 6 - Network and Information Security and Privacy**

Presents information security issues and trends, and the process of formulating an information security strategy.

**Module 7 - ICT Project Management in Theory and Practice**

Introduces project management concepts that are relevant to ICTD projects, including the methods, processes and project management disciplines commonly used.

**Module 8 - Options for Funding ICT for Development**

Explores funding options for ICTD and e-government projects. Public-private partnerships are highlighted as a particularly useful funding option in developing countries.

To meet changing needs, the modules are continually being updated, and additional modules are being planned, including a ninth module on ICT for Disaster Risk Reduction and a tenth module on Climate Change and ICT.

To obtain feedback on the draft modules, APCICT organized the following activities:

- Three sub-regional workshops (for South Asia, Western and Central Asia, and South-East Asia) with government agencies and national training institutions during the months of April and May 2008. Each sub-regional workshop was specifically designed to maximize feedback from participants on the usefulness and relevance of the thematic content material and the appropriate training methodology.
- A peer review process involving representatives from governments, civil society, academia, the private sector, UN agencies, international development organizations and training institutions.

The Academy content was revised by the authors and editor to reflect the feedback solicited.

The modules have been developed to hold value for different sets of audiences and in varied and changing national conditions. They can be used for self-study by individual readers or as a resource in a training course or programme. The modules are standalone as well as linked together.

All modules include case studies that can be changed to suit local situations. These are intended for discussion and analysis, particularly in terms of the extent to which the key concepts and principles presented in the modules work in real-world projects and programmes. There are also exercises and questions to help readers check that they have understood the discussion. They also encourage users to draw on their own experience to benchmark the content and think reflectively on the issues presented. References, further readings, and online resources are listed for users to look up in order to gain additional perspectives.

When offered in formal training sessions, whether in training institutions or government offices, the duration of the training sessions for each module can be adjusted depending on the target audience and the extent of detail that is required in the presentation of content. At the end of each Academy module are 'Notes for Trainers' that offer trainers some ideas and suggestions for presenting the module content more effectively. Further guidance on training approaches and strategies is provided in a handbook on instructional design developed as a companion material for the modules.<sup>13</sup>

### 6.1.3 Training of Trainers

Subsequent to the launch of the Academy on 16 June 2008 at the OECD Ministerial Meeting, APCICT held the first regional Academy training of trainers (TOT) workshop in Cheonan, Republic of Korea for 40 participants from 21 countries. Apart from training on the modules, there were specific sessions on instructional design to train participants on various teaching methodologies for the Academy modules and on ways to customize the training content to best suit their local environments.

APCICT is committed to organizing similar regional workshops regularly. The second regional Academy TOT workshop was held in Seongnam, Republic of Korea in March 2009 for 43 participants from 18 countries, as well as representatives from five international organizations.

These regional Academy TOT workshops are critical for:

- Building a cadre of Academy trainers in the region that are capable of localizing and using the Academy resources, and delivering effective national Academy workshops;
- Strengthening existing partnerships and building new ones to extend the reach and impact of the Academy;
- Providing an invaluable opportunity for the exchange of experiences and knowledge among policymakers, trainers and project managers from different countries;
- Establishing a strong network of national training institutions committed to promoting and using the Academy programme to close the ICT capacity building gap in the Asia Pacific; and
- Updating Academy trainers on new trends and developments, and imparting knowledge of new Academy modules.

The Academy alumni are key players in the Academy programme. Comprised of government ministries, training institutions, and international and regional organizations who participated in the

13. All materials developed under the Academy Programme are available online at <http://www.unapcict.org/academy>.

Academy workshops, they have provided valuable input to the content of the modules. More importantly, they have become advocates of the Academy in their country, resulting in mutually beneficial partnerships between APCICT and a number of national and regional partner institutions to customize and deliver regular Academy courses in-country.

#### 6.1.4 National Roll Out

The process of rolling out the Academy at the national level can be divided into four key steps:

##### Step One : Partnership Discussion and Agreement

The national roll out process involves working closely with partners in:

- Customizing and translating the Academy content to better meet country-specific training needs;
- Organizing regular Academy workshops at national and local levels; and
- Institutionalizing the Academy into national ICT human capacity building frameworks.

Partnership discussion begins with clarifying roles and responsibilities between the parties involved.

APCICT is committed to :

- Share all Academy modules with partners, along with all accompanying materials including case studies, presentation slides and reading lists.
- Provide full access to the APCICT Virtual Academy (AVA), an online distance learning platform (see section 6.1.5), to foster more effective delivery of the Academy.
- Share any updates of the training modules.
- Conduct an orientation cum TOT.
- Subject to funding availability, arrange for the original authors of the Academy modules to provide hands-on training for local trainers if required, and to backstop them at the first national workshop.
- Facilitate partnerships between different organizations in a country or between different countries, including assessment of their capacities and placement of appropriate resources, including human resources, towards the implementation of the Academy.

Partner institutions, in turn, are expected to:

- Identify trainers to participate in the TOT. Once trained, the trainers become the designated focal point for the Academy in their respective countries. They are also called upon to customize the training materials to suit the national context, and to deliver national Academy courses.
- Contribute managerial, administrative, logistical, physical and financial resources for the optimal roll out of the national Academy.
- Formulate a draft implementation plan of the Academy. As many partner institutions already have existing ICT human capacity programmes, the plan should show how the Academy is to be integrated into either their own or other existing ICT human capacity efforts at the national and/or local levels. Typically, partners identify the scope of the roll out and target audiences, funding sources, local partners for implementation, and target date for the Academy launch during this process.

Once the roles and responsibilities are agreed to by both APCICT and partner institutions, a letter of

agreement is developed. Depending on the timing of the agreement, the signing of the agreement can be done via e-mail or in the physical presence of the signatories.

##### Step 2 : Planning

The planning stage involves the formulation of short-term activities leading up to the launch of the national Academy, as well as long-term strategies for sustaining the Academy and institutionalizing it in national capacity building frameworks. Strategies for resources mobilization, awareness raising and advocacy, monitoring and evaluation, and regular updating of the customized modules and case studies to ensure their relevance, are detailed in the long-term plan.

The target audience and scope of the roll out is decided at this stage. Typically, countries start with a short (two to three days) national workshop targeted at high-level government officers and/or policymakers from central government ministries and agencies. This serves to sensitize government leaders on the needs of ICT human capacity building and to mobilize or advocate for further roll out of the Academy. The reason for its short duration is due to the time constraints faced by high-level officers, and often only two or three modules are delivered (usually modules 1, 2 and 3). APCICT strongly advises interested countries to combine the national workshop with a TOT to build up the pool of trainers.

During this planning stage, APCICT and partner institutions often engage in long discussions on curriculum design and agenda setting, and the type of support required to roll out the Academy nationally. Final decision on the choice of Academy modules is made based on the needs and capacity assessments of the target group.

The quality of the customized and translated modules is a key determinant of the success of the national Academy. Customization of the modules and development of local case studies not only increase the effectiveness of the knowledge delivery but also the relevance of the content to the audience. Some countries choose to embark on translation of the Academy modules to eliminate the language barrier and reach a wider audience (see section 6.1.5). Subject to funding availability, APCICT may provide support for customization and translation activities.

To mark the successful localization of the Academy modules, APCICT encourages its partner to organize an official launch ceremony. The launch event is often held back-to-back with the first national Academy workshop. In one case, following customization, the modules were pilot tested prior to its official launch, to ensure that the Academy programme meet national competency requirements.

An official launch ceremony has the ability to:

- Generate awareness about this important resource among high-level government officials;
- Bring together key stakeholders and potential partners that are interested in implementing the Academy programme in their countries; and
- Gather inputs from the stakeholders in order to develop a comprehensive implementation plan for the national Academy roll out.

An effective launch programme plays a pivotal role in forging strategic partnerships in rolling out the

national Academy, and in influencing the expansion and reach of the Academy.

### Step 3 : National Roll Out

National roll out can take many different forms depending on the capacity, resource and mission of the partner institutions. There are three general selections and most partners have decided to implement more than one of these selections. They include:

**Pilot Roll Out** - In this case, the partner institution organizes a pilot training of the Academy to field test the Academy content to a sample group of their target audience. Feedback is collected for the partner institution to set directions on how to customize the Academy modules and to improve on the roll out efforts in general.

**Training Workshop** - This has been the most popular choice for many partners. In general, partners have organized the inaugural training workshop in capital cities targeting high-level government officials from the central government ministries and agencies. This first workshop is often held immediately after a launch ceremony and one of its aims is to solicit political support and advocate for further roll out. Subsequently, a series of training workshops are organized in other cities and provinces targeting central as well as local government officials.

**Training of Trainers** - A regional-level TOT is organized annually in the Republic of Korea (this is covered in 6.1.3). At the national level, TOT is a vital step to build and strengthen the pool of local resource persons who can teach the Academy modules. Partners have often integrated a TOT component to national workshops. In this case, local trainers are asked to sit through the workshop to acquire the knowledge imparted from the Academy modules. Afterward, they have separate sessions allocated for in-depth discussion and questions with the original Academy authors.

### Step 4 : Monitoring and Evaluation (M&E)

To maintain the high quality of the modules, the expansion and reach of the Academy programme is closely monitored in collaboration with partner institutions. M&E are crucial for obtaining feedback on the usefulness and relevance of the Academy modules, and on the effectiveness of the national roll out. Popular mechanisms used by partners for M&E include the following:

**Evaluation Survey** - Participants are requested to fill out an evaluation survey at the end of each training course. This feedback is useful for determining the overall effectiveness of the training, and the extent to which the training content is useful to the participants. It is also useful for improving subsequent Academy roll outs.

**Roundtable Discussion** - APCICT and partner institutions conduct roundtable discussions at the end of each training workshop in order for the participants to freely comment on different aspects of the training and provide insights into how to improve upon the training delivery. Another purpose for these roundtable discussions is to discuss strategies for course replication and sustainability. These roundtable discussions are often attended by local implementation partners, relevant government ministries and selected participants interested in being part of the Academy roll out.

**Online Feedback** - Users of the Academy modules can provide their comments, feedback and suggestions on AVA, APCICT's e-Collaborative Hub (see section 6.1.5), or send them via email to APCICT and partner institutions.

Since the launch of the Academy, APCICT has been proactive in engaging with regional and national training institutions that are already networked with central-, state- and local-level governments, to roll out the Academy in countries throughout the Asia Pacific. Training workshops have already been held in Afghanistan, Cambodia, Cook Islands, Indonesia, Mongolia, Myanmar, Philippines, Samoa, Tonga and Tuvalu. Similar arrangements are underway in Armenia, Bangladesh, Bhutan, Kyrgyzstan, Lao PDR, Pakistan, Sri Lanka, Uzbekistan and Viet Nam.

Specific examples, strategies and processes used in national level implementation are briefly described in Section 8.

#### 6.1.5 Outreach

There are still limits to conducting face-to-face training, especially with the large number of officials in Asia and Pacific countries that need to be trained or retrained, and the time and resource constraints these officials face. In response, APCICT recently launched its Virtual Academy (AVA - <http://ava.unapcict.org>), an online distance learning platform for the Academy. This is part of APCICT's strategy to diversify its delivery channel, extend outreach, and encourage continuous and self-learning.

On AVA, the Academy modules and all accompanying materials including case studies, presentation slides and reading lists are made freely available. AVA also enables learners to take self-paced courses online. These courses are based on the Academy modules and incorporate virtual lectures and quick quizzes. Registered learners are rewarded with APCICT's certificate of participation upon successful completion of courses. A DVD version of AVA is available for those with no or limited Internet access.

A parallel initiative to AVA is the e-Collaborative Hub (e-Co Hub - <http://www.unapcict.org/ecohub>), which aims to facilitate more in-depth interactions on the topics covered in the Academy modules. The e-Co Hub provides a forum for discussion and collaboration among members, including opportunities to provide feedback, improve and update the modules. The e-Co Hub also houses a growing database of resources and case studies relevant to the Academy modules.

To further expand the reach and impact of the Academy, APCICT has supported national partners in translating the Academy modules. Translation of the Academy modules is an integral part of many national Academy roll out processes, and often takes place hand-in-hand with customization of the modules, including development of local case studies. The Bahasa Indonesia and Russian translations of the first eight Academy modules are complete. In progress are translations in Dari, French, Mongolian and Pashto.

By providing a well-developed curriculum and advisory services to the national partners to undertake the necessary customization and translation, this approach has not only enabled APCICT to build the institutional capacities of national training institutions and policymakers by ensuring that a long-term strategy is put in place, but has also expanded the reach and impact of the Academy.

### 6.1.6 Other Training

Apart from the Academy, APCICT offers tailored ICTD courses based on the training needs of the participants at regional, sub-regional and national levels. APCICT has offered demand-driven training courses for government officers, academia and development practitioners on different aspects of ICTD. The themes covered include e-government, e-business, gender and ICT, information security, ICT accessibility for people with disabilities, and statistics on the information economy.

## 6.2 Research and Sharing of Best Practices

Complementing APCICT's training programme is research on ICTD. APCICT has two research series to help member countries make timely and appropriate decisions in the choice and adoption of relevant ICTs tools, and to facilitate sharing of best practices as well as lessons learned. They are the Briefing Note Series and the ICTD Case Study Series. This issue is part of the ICTD Case Study Series.

As part of this same series, APCICT is commissioning a research study on the development of common and internationally sharable e-Competency for e-Government (eCeG) standards - a set of skills, knowledge and attributes required for government officials to be able to work effectively and efficiently in an ICT-enabled environment.

This is fundamental because although there is general agreement on the importance of ICT training for government officials and employees in the development and implementation of e-government, there is no consensus on what the content of such training should be. A competency-based training on e-government provides a useful way to resolve the issue of training content.

The Briefing Note Series, intended for high-level policymakers, includes: 1) highlights of conventional research papers, assessment and survey reports, and publications; 2) policy considerations drawn from the Academy modules; and 3) key challenges and lessons learned based on analyses of best practices and case studies. The first set of Briefing Notes focuses on policy considerations drawn from the Academy's eight core modules.

## 6.3 Advisory Services

APCICT is currently actively offering advisory services to national training partners of the Academy in localizing and delivering the Academy, and promoting the institutionalization of these training courses in national capacity building frameworks to maximize their reach to relevant policymakers.

Related to the eCeG study, a multi-stakeholder study group will be convened to develop the eCeG standards, and APCICT will assist countries in: 1) the assessment of various national e-government training programmes against these standards; 2) the adaptation of the standards to reflect unique country context; and 3) the alignment of national Academy courses or development of a customized training programme to achieve specified/preferred eCeG levels in these countries. Academy partners will be engaged in this activity.

To build the ICT capacity of youths, APCICT is collaborating with the ASEAN University Network, Ministry of Foreign Affairs and Trade of the Republic of Korea and Daejeon University on the Future ICT Leaders Programme, which offers exchange scholarships for undergraduate students from ASEAN nations to study ICT for socio-economic development. APCICT provides advisory services on the curriculum design of this programme, and offers internship to select students to gain practical experience and participate in ICTD research.

## 7. Lessons Learned - A Regional Perspective

This section explores key lessons learned and good practices derived from APCICT's experiences in developing and implementing an integrated approach to ICT human capacity building for development.

**Develop needs-based programmes:** Different countries and communities have different capacities and needs. It is therefore imperative to conduct capacity and training needs assessments, and ensure that the training and other capacity development efforts are relevant to the local context by, for example, conducting pilots, consultative workshops and peer reviews.

**Adopt a participatory and inclusive approach:** At the heart of APCICT's strategy, particularly in developing the Academy, is the immediate involvement of all relevant stakeholders from the design/planning stage, to the implementation and monitoring stages. This approach has not only resulted in high-quality modules, but also commitment from participating countries in customizing, translating and delivering the Academy at the national level on a regular and sustainable basis.

**Invest time and resources into identifying and nurturing champions to roll out the Academy at the national level:** Identification of suitable and capable partners who are committed to adopt/utilize/institutionalize the Academy is a challenge. Development of mutually reinforcing and synergistic partnerships is a time consuming process with extensive discussions on the conditions and modalities of the partnership. Furthermore, the development of an appropriate implementation arrangement that ensures the sustainability of the Academy at the national level is a complex process that needs to take into account the various stakeholders' capacities, interests and mandates. But ultimately, champions play key roles in ensuring the successful implementation and the sustainability of the Academy. Academy workshops at the regional level have served as an ideal platform to identify such partners.

**Promote the incorporation of programmes in national ICT capacity building**

framework: Existing regional and national training institutions that are already networked with central-, state- and local-level governments should be tapped, and the integration of capacity building programmes in national policies and plans should be encouraged.

Localize training materials to suit local context and target groups: By providing support to national partners in undertaking necessary customization and translation, this process has not only resulted in the development of course materials that are both relevant and more easily understood by national policymakers, it has also strengthened capacities of national training institutions, thus contributing to the national Academies' effectiveness and sustainability.

Develop a flexible programme: The extensible modular design of the Academy curriculum is intended for maximizing flexibility and minimizing job disruptions for learners. This means that the modules can be chosen for delivery depending on the needs and skills of the learners. Those with little or no background in ICTD can choose the pre-determined sequence of comprehensive training that begins with the basics and move on to more advanced topics. Those with some knowledge of ICTD can select specific modules from which they would benefit most.

Diversify delivery channels: It is useful to make training materials available through different media (print, online, in CD-ROMs) and consider the development of online courses to allow flexibility in learning and promote continuous learning.

Establish knowledge sharing platforms and facilitate ongoing dialogue: In conjunction with promoting continuous learning, it is useful to establish a network of people with the mandate and interest to promote ICT human capacity building for development. It is also important to provide them with a platform to share experiences and knowledge, and engage in ongoing dialogue on possible synergistic partnerships and joint projects. The network can be sustained through a combination of face-to-face interactions and use of online tools such as web portals, discussion boards and e-mail lists.

Promote synergistic partnerships: The rich diversity of the South provides an excellent opportunity for forging mutually beneficial partnerships that work towards the common goal of sustainable social and economic development. Examples of such partnerships could range from sharing of experiences to collaborations in joint initiatives. APCICT focuses not only on establishing partnerships with other organizations, but facilitates partnerships between different countries. APCICT also supports the exchange of local resource persons.

Maintain rapport with partners: Management of partnerships in a way that keeps up the momentum and yields results is a challenge. Considerable effort needs to go into continuously engaging partners and keeping their commitment level up. Another reason for maintaining rapport with partners is to track and monitor progress and output, and conduct quality control and evaluations of Academy roll out. Partners' feedback on the Academy modules is also essential to ensure that the modules are up-to-date and relevant.

## 8. Experiences from National Academy Roll Out

The different strategies used by the national partners have produced positive outcomes and a number of notable spin-off activities, as well as sustainable national Academy programmes with delivery of regular workshops throughout the implementing countries.

The first national roll out was successfully held in Mongolia in December 2008, and demonstrated the successful work of a multi-stakeholder partnership involving the Information and Communications Technology Authority of Mongolia (ICTA - a government agency) and Intec Co., Ltd. (a private company), and supported by APCICT as well as the World Bank. Subsequently, the Academy of Management (AoM - a state-run academic institute with a track record of training government leaders) has adopted and incorporated the Academy as part of its regular training programme, and the second Academy workshop in Mongolia was organized by AoM in May 2009. At both workshops the training sessions were conducted by local resource persons from ICTA and Intec who participated in APCICT's regional TOT programme. Additional workshops are being planned by ICTA, Intec and AoM. The Academy modules are being translated into Mongolian through this tripartite partnership. Moreover, the General Police Authority of Mongolia has officially requested for a department-wide training of the Academy.

The Philippines Career Executive Service Board (CESB), in partnership with three local institutions - the Development Academy of the Philippines, La Salle University and Idea Corp - is rolling out the Academy programme in the Philippines. The CESB, responsible for setting standards and defining competencies and training needs of about 6,000 directors, managers and highest career-level government positions, has included a customized Academy in its roster of courses for government agencies and in its residential Executive Leadership Programme (ELP). The Academy is also a fully credited programme of CESB awarding participants 40 credit hours, which is the total training hours required per year for career executives. Additionally, CESB has included an ICT component in its qualifying examination for potential career executives, incorporating twenty questions extracted from the Academy modules. The three local institutions are accredited training providers for CESB and other government organizations. They have helped customized the Academy modules and provide local resource persons for the delivery of the Academy courses. The first national Academy TOT workshop was held in Tagaytay City during February 2009 for 27 participants from 17 agencies and departments from the Philippines. Prior to that, a pilot national Academy workshop was held

during October 2008 with 30 senior government officials from the Philippines to solicit feedback on the course content and delivery methodology. The Academy was incorporated in a CESB's ELP training course held in Naga City in July 2009 for 51 officials from various government agencies nationwide. Other similar courses are being planned.

In Indonesia, the Academy is being led by the Ministry of Communication and Information Technology (MCIT), the University of Indonesia (UI) and APCICT in a tripartite partnership. The strong partnership between MCIT and UI based on previous collaborations in many ICT capacity building efforts has contributed to the success in rolling out the Academy in Indonesia. Recognizing the significance of localization in ensuring more effective delivery of the Academy programme, UI has been translating the Academy modules into Bahasa Indonesia, which MCIT will publish. A series of national and provincial Academy workshops have been organized through the tripartite partnership since March 2009 for local government officials. And UI is developing a Master's degree programme that is based on the Academy curriculum.

By adopting the South-South cooperation modality, APCICT coordinated a partnership between Indonesia and Timor-Leste at the first Academy workshop in Indonesia, which was also attended by high-level government officials from Timor-Leste. This led to the successful organization of the first Academy workshop in Timor-Leste with support from the Indonesian team in July 2009, using the Bahasa Indonesia version of the Academy modules.

Afghanistan has also been organizing a series of workshops for central and local governments since May 2009, spearheaded by the Ministry of Communication and Information Technology (MCIT). Together with the Independent Directorate of Local Governance, training for provincial governments is being planned at the ICT training centres of MCIT. MCIT is also translating all the Academy modules into Dari and Pashto, the official languages of Afghanistan.

Roll out of the Academy in the Pacific Islands is being led by the Pacific Islands Applied Geoscience Commission (SOPAC). SOPAC organized a sub-regional Academy workshop in the Cook Islands and national ones in Samoa, Tonga and Tuvalu with plans to further roll out the Academy in other Pacific Island countries. Dialogue with the South Pacific University has been initiated on possible collaborations with its five campuses.

In September 2009, the Russian version of the Academy was launched in Kyrgyzstan, and was followed up with its first workshop for government officials, as well as academia and researchers of the Central Asia Research and Education Network from five countries - Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan and Uzbekistan. The National Information Technology Center of Kyrgyzstan is responsible for the Russian translation and is the key organizer of the national Academy workshops. The Tashkent University of Information Technology in Uzbekistan will also be conducting national Academy workshops later this year for government officials, using the Russian version of the Academy.

Moving South-South cooperation beyond regional boundaries, the Academy modules are being made available in Africa through the UN Economic Commission for Africa (ECA), and discussions are going ahead between APCICT and the UN Economic and Social Commission for Western Asia in developing

the Academy for the region. ECA is leading the French translation of the Academy modules.

The Government of the Republic of Korea is using the Academy modules to deliver ICTD training as part of their international development cooperation programme. They include the IT Capacity Building Programme for Women in the APEC Region co-organized by the Korean Ministry of Gender and the Korea Productivity Center; and the Pacific Islands Forum Officials' e-Government Training Programme organized by the Pacific Islands Forum, the Ministry of Foreign Affairs and Trade of the Republic of Korea, and the Global e-Policy and e-Government Institute of Sungkyunkwan University.

## 9. Lessons Learned - A National Perspective

This section explores key lessons learned and good practices derived from national partners in rolling out the Academy programme and incorporating it as part of the national capacity building framework.<sup>14</sup> National Academy partners include government agencies, universities, training institutions and private companies.

Capacity building is a continuous process: It is important to bear in mind that most senior policymakers are between 40 and 50 years of age, and began their careers well before all these technological advancements came into existence. As ICT is new to most officials, it takes time to understand the various concepts and issues, which means that longer and/or more frequent training sessions are more effective. Capacity building requires follow-up to the trainings, including review and update of training materials, as well as re-training and refreshers courses, all of which needs to be incorporated into the ICT capacity building framework and budget.

Capitalize on existing partnerships and networks: Engaging in partnerships that have worked in the past and with organizations that have common goals are more likely to generate positive results.

Develop a roster of Academy trainers that can adequately meet demands: Two different models have been used to develop a pool of competent trainers:

1. By developing in-house capacity of the institutions involved in the Academy.

14. These lessons learned and good practices focus on the management of the national Academy roll out process. Lessons learned and good practices in its instructional design (i.e. who to include as training participants, what topics to cover and in what sequence, how long the training programme should be, and how it should be conducted so that participants can learn about the topics in the most effective way possible) are discussed in the Handbook on Instructional Design for the Academy of ICT Essentials for Government Leaders accessible from <http://www.unapcict.org/academy>.

2. By outsourcing the delivery of training to a number of accredited training institutions. It is recommended that resource persons from these institutions also attend the APCICT-organized TOT.

Engage private and non-profit training institutions to meet the growing training needs for ICTD: This is related to the above lesson. The module customization and delivery of training can be outsourced to private and non-profit training providers. If possible, developing a system for accreditation will help to maintain the quality of the delivery.

Translate and customize training materials to:

- Depict the benefits of ICTs in the context that are familiar to the target groups;
- Facilitate easy understanding of complex issues; and
- Enhance the relevance of the content to suit national and local contexts.

Organize a well-publicized launch event and use every opportunity to raise awareness: Widely publicize the Academy to generate awareness and appreciation of the value of the training resources among high-level government officials. A launch event provides an opportunity to bring together key stakeholders and potential partners that are interested in implementing the Academy programme, and gather inputs from the stakeholders in order to develop a comprehensive implementation plan. Its success will play an important role in influencing the expansion and reach of the national Academy. Normally, the inaugural national Academy workshop is held immediately after the launch ceremony.

Use ICTs as tools for communication and outreach: ICTs are also increasingly being used to promote dialogue and information exchange, and to make decision-taking more transparent through 'e-consultations' with stakeholders.

Demonstrate ICTD concepts and issues with case studies and site visits: The development of local case studies and organization of site visits have proven useful to participants in understanding ICTD concepts and issues.

Promote ICTD as a cross-cutting issue: The involvement of resource persons from different institutions (government, non-government, private sector, etc.) and different sectors provides varying perspectives and is believed to add value to the training workshop.

Put in place mechanisms to regularly assess needs and monitor progress: Due to the dynamic nature of ICTs, it is important to regularly ensure that the Academy modules and training workshops continue to be relevant to target groups. Mechanisms that can be used include:

- Completion of capacity and needs assessment surveys
- Development of standard evaluation forms for participants to fill in at the end of each workshop or training session
- Organization of a roundtable discussion at the end of each workshop among partner organizations and other relevant stakeholders to discuss current status and plan next steps.

'Piggy-back' relevant events: The national Academy workshops in the Pacific have been held back-to-back with major ICT events, and in collaboration with relevant national government ministries. This

strategy has not only maximized its cost effectiveness, as travel costs are high in the Pacific, it has also boosted the exposure and reach of the Academy to the right group of people that would benefit most from the Academy.

## 10. Conclusion

Former UN Secretary-General Kofi Annan defines the 'information society' as a place "in which human capacity is expanded, built up, nourished and liberated...with the education and training to use [technologies] effectively.' It is clear that the UN is committed to achieving this vision of the information society, and the creation of APCICT is a critical component of that commitment.

The developing countries of the Asia Pacific region are increasing their share of the world ICT markets and their domestic ICT consumption. As a result, the demand for ICT competencies both in the ICT supply and user sectors is increasing rapidly. Nonetheless, there are significant gaps between the demand and supply of ICT professionals. Existing institutions for ICT education and training in the region are unable to meet this demand in terms of the numbers needed and the quality of training demanded.

Reflecting its central role, capacity building is emphasized through all the Action Lines in the WSIS Plan of Action. APCICT is committed to meeting WSIS targets through ICT human capacity building, promoting its central and cross-cutting role, and facilitating cooperation in developing comprehensive capacity building programmes with the objective that the built capacity and acquired knowledge would be translated into concrete actions towards a people-centred, development-oriented and inclusive information society.

## Country Case Studies

1. Afghanistan
2. Indonesia
3. Mongolia
4. Philippines
5. Pacific Island Countries

## Country Case Studies

# Afghanistan

Mohammad Qais Lakanwal and Mohammad Aimal Marjan

### 1. Introduction

Afghanistan is one of the world's poorest and least developed nations - with about 40 percent of the population estimated to be below the poverty line.<sup>15</sup> Due to decades of conflict, roads, power, water, telecommunications, healthcare, and education have been disrupted or are dysfunctional. But since the fall of the Taliban regime in 2001, there has been significant economic growth and social development. The Government of Afghanistan recognized the building up of the ICT and telecommunication infrastructure as a priority in setting the foundation for development, security and good governance. As stated clearly in Afghanistan's ICT policy and strategy, improved communications is an enabling factor for the nation's reconstruction process, in allowing greater ease in finding and exchanging information, and in expanding the reach and accessibility of services, particularly in connecting to high-threat areas.

The Ministry of Communications and Information Technology (MCIT) is the main body mandated to provide strategic leadership in shaping ICT policies and implementing ICT projects, towards achieving the goals and targets set in the Afghanistan National Development Strategy (ANDS). Over the last half decade, MCIT has taken great strides in public access to ICTs from adopting a dysfunctional system with almost zero telephone subscribers to having over 2.5 million telephone subscribers in four years. This represents a telephone penetration rate of 8 percent, a milestone that took India and Pakistan over 10 years to achieve.<sup>16</sup> Internet penetration is lower but is growing rapidly through Internet cafes as well as public 'telekiosks' in Kabul.

Capacity building is one of the four core sections of MCIT.<sup>17</sup> In Afghanistan, there has been significant 'brain drain' during the war years, and there

15. 2007 Resident Coordinator Annual Report - Afghanistan, United Nations Development Group, <http://www.undg.org/rcar07.cfm?fuseaction=RCAR&ctylDC=AFG&P=589>.

16. Larry Wentz, Frank Kramer, and Stuart Starr, *Information and Communication Technologies for Reconstruction and Development: Afghanistan Challenges and Opportunities*, Center for Technology and National Security Policy, National Defense University, January 2008.

17. <http://www.mcit.gov.af>.

remains a serious shortage of professionals skilled in ICT and other 21st century skills. In response, the international community including UNDP, USAID, World Bank, and other organizations, is supporting MCIT in a number of capacity building initiatives. These include rehabilitating the MCIT Telecoms Training Centre, upgrading it to a modern ICT institute, and establishing 34 MCIT ICT training centres (one in each province), as well as a number of CISCO networking academies around the country to train Afghans in the use of computers and IT. University courses are being developed and degrees in Computer Sciences are being offered at major institutions, such as Kabul, Jalalabad, and Khost Universities. Local businesses are also emerging to teach computer usage skills and English language.

ICT capacity building has started but much remains to be done. ICT competency of many government officials remains low. The MCIT has established ICT training facilities for its staff, but lacks a comprehensive ICT for development (ICTD) training programme that can be rolled out nationwide to build the human resources that understand and have the capability to harness ICTs for achieving the goals set in ANDS. This includes the effective use of ICTs to reduce poverty, improve healthcare, raise literacy rates and promote good governance.

## 2. Rolling out the Academy Programme

On 29 August 2008, MCIT signed an agreement with APCICT to collaborate in implementing the “Academy of ICT Essential for Government Leaders” (Academy) in Afghanistan.

A four-year plan has been developed to deliver the Academy curriculum to central and provincial governments. Training will not only be targeted at the ICT departments, but ministers, deputy ministers, governors, deputy governors, directors, deputy directors of various sector departments and divisions of ministries, as well as representatives of international organizations based in Afghanistan.

Training will take place in Kabul for central government and at the MCIT ICT training centres established in the provinces for local government. Provincial-level training will be organized in partnership with the newly established Independent Directorate for Local Governance (IDLG). IDLG is mandated to promote good governance at the local level, improve service delivery and better connect citizens with the government. It is responsible for guiding and supervising provincial governors, district governors, provincial councils, and municipalities except Kabul Municipality, as well as enhancing their capacities in achieving the targets set in the ANDS.

The MCIT ICT training centres are equipped with video teleconferencing facilities and are used by MCIT and other ministries for training, as well as for making announcements and holding discussions with government officials, civil society and media representatives at the local levels.

In preparing for the national roll out of the national Academy programme, MCIT had customized the Academy modules with local case studies and relevant information to suit the needs of high- and mid-level government officials.

The modules and other training materials such as presentations and handouts are being translated into Dari and Pashto, the official languages of Afghanistan, to eliminate any language barriers. MCIT has started with translation of the modules into Pashto as it is more commonly used in Kabul and among central government officials. Based on the experience from the Pashto translation, MCIT will proceed to translate the modules into Dari in time for the provincial roll out.

The Academy for central government will cover five modules of the Academy listed below. The training will take place at the Afghanistan Civil Services Institute in Kabul.

Targeted Modules for Central Government
Module 1 : The Linkage between ICT Applications and Meaningful Development
Module 2 : ICT for Development Policy, Process and Governance
Module 3 : e-Government Applications
Module 4 : ICT Trends for Government Leaders
Module 7 : Project Management in Theory and Practice

The provincial level trainings will include seven modules of the Academy listed below and they will be carried out over the next three to four years. The Academy programme will be included as a certificate track in the existing curriculum of the ICT training centres located in various provinces. This programme targets not only local government leaders but also the general public to raise their awareness of ICTD and its related policy issues.

Targeted Modules for Local Government
Module 1: The Linkage between ICT Applications and Meaningful Development
Module 2: ICT for Development Policy, Process and Governance
Module 3: e-Government Applications
Module 4: ICT Trends for Government Leaders
Module 5: Internet Governance
Module 6: Network and Information Security and Privacy
Module 7: Project Management in Theory and Practice

The first National Academy Workshop for central government took place in Kabul on 31 May - 3 June 2009, and focused on modules 1 and 2 of the Academy. Both these modules were delivered by the original authors with the intention to re-train the local trainers who will lead subsequent provincial-level workshops. In addition to the delivery of modules 1 and 2, the original authors had separate Training of Trainers sessions with the local trainers in the evenings to discuss the training methodology. These evening sessions were also opportunities for the smaller group of local trainers to seek further clarification on any issues regarding the modules, and technical support on the module customization process.

Towards the end of the first workshop, roundtable discussions were held in the local language in order for all the participants to freely comment on different aspects of the training and provide insights into how to improve upon the training delivery. Strategies for course replication and sustainability were also discussed. The second workshop for central government is planned for 2010. This methodology of incorporating roundtable discussions in the training workshops will be used in other workshops as one of the evaluation tools.

This first workshop has generated significant momentum for the further roll out of the Academy in Afghanistan. The minister of ICT, Mr. Amir Zai Sangin, announced his full support to the Academy roll out. The Independent Administrative Reform and Civil Service Commission of the Government of Afghanistan also announced the adoption of five Academy modules in its regular training curriculum for civil servants.

There were discussions of MCIT modifying the Academy modules into a 4-month curriculum, giving local government officials and community leaders adequate time to digest new concepts and applications. MCIT also plans to provide certification for the completion of the Academy course, and will develop certificate- and diploma-level Academy courses.

In recognition of the limits to conducting face-to-face training, especially with the large number of government officials and other personnel in Afghanistan that either need to be trained or retrained, MCIT is planning the development of the Afghan version of the APCICT Virtual Academy (AVA). AVA is an online distance learning platform with self-paced courses and virtual lectures developed by APCICT to maximize outreach and promote continuous learning. For those with limited or no Internet access, a DVD version is available. In preparation for the Afghan version of AVA, MCIT has started videotaping the training sessions.

### 3. Results and Impacts

Though still at the early stage of implementation, the first national Academy workshop has generated significant interest among participants comprised of high- and mid-level government leaders, some of whom are trainers who will be rolling out the Academy. The enthusiasm is largely because the Academy curriculum together with APCICT's technical support fills a gap in the nation's ICT human capacity building framework. The Academy makes available comprehensive and internationally peer-reviewed training content that is in line with the country's goal in looking at ways in which ICTs can help to achieve the development targets in the ANDS.

### 4. Challenges and Opportunities

A favourable enabling environment has been critical to ICT human capacity building and the successful roll out of the Academy. This includes the Government of Afghanistan's understanding of the importance of ICT for social and economic development evident in the early establishment of ICT policies, regulations, laws and institutional arrangements.

In June 2002, the Ministry of Communications (renamed as MCIT in February 2007 to emphasize the importance of ICTs) was designated to take the leadership role in ICT policy and development. In October 2002, a National Telecommunications Development Strategy was published, and in October 2003, the Telecommunications and Internet Policy was approved. A five-year MCIT development plan was issued in 2005 that has served to guide activities towards making ICTs widely accessible and affordable to the people of Afghanistan. MCIT's strategy and plan have the support of the President of Afghanistan, and are being implemented through collaborations with the private sector and the international community.

Afghanistan has also placed early emphasis on ICT capacity building, including the establishment of related educational institutions, training facilities and capabilities.

MCIT, with support from the United Nations University, is conducting a first nationwide e-readiness survey, which will indicate the current state and future needs of ICT in the country (including infrastructure, applications and human resources). Based on the results of the e-readiness survey, an e-Government Master Plan will be developed. Efforts need to be made to incorporate a comprehensive ICT for development capacity building framework as a core component of this plan, and the Academy modules can be customized to correspond with the plan.

A National ICT Council of Afghanistan (NICTCA) has been created to facilitate coordination of ICT interventions among the different government

sectors. With the creation of NICTCA, the MCIT has taken on the role of the National Chief Information Officer (CIO), and the Ministry representatives of the council have adopted the role of Ministry CIOs. The Academy modules can help CIOs develop a better understanding of the ways in which ICTs can be effectively used in their respective sectors towards meeting the goals set in the ANDS.

One of the constraints faced is the difficulty of engaging high-level government officials in the Academy due to their busy schedule. As ICT is new to most officials, it takes time to understand the various concepts and issues, which means longer and/or more frequent training sessions have greater effectiveness. Hopefully, with the launch of the Afghan version of AVA, more officials will be able to benefit from the Academy courses as they will be able to go through the modules at their own pace.

In Afghanistan, women have less access to education and employment opportunities. The adult literacy rate is 43 percent for males but only 14 percent for females. The high level of illiteracy reduces the impact of many Internet applications. Yet, women constitute 25 percent of the National Assembly, exemplifying a growing window of opportunity for women in Afghanistan.<sup>18</sup> AVA has also been developed in the light of higher female participation in online distance learning courses. AVA can be utilized to strengthen the ICT capacity of female policymakers.

## 5. Key Lessons Learned

Based on the short period of implementation of the national Academy in Afghanistan so far, the key lessons learned are as follows:

Targeting high-level government officials is essential for leveraging support for new initiatives such as the Academy.

Capacity building is a continuous process and requires follow-up to the trainings, as well as the incorporation of re-training or refreshers courses in the ICT capacity building framework and budget.

Take advantage of local government mechanisms for ICT human capacity building for development.

Use roundtable discussions to help further improve the training content and its delivery when face-to-face workshops are implemented.

Make use of ICT tools such as video conferencing facilities to engage

stakeholders at the local level in designing, planning and implementing the Academy programme, particularly in high-threat areas where travelling is a constraint. They can also be used to conduct needs assessments.

Investment in the customization and translation of training content is crucial to foster better understanding, particularly on a subject that is new to most participants of the training.

Platforms (both online and face-to-face) to exchange experiences and encourage networking among partners are helpful in building institutional capacity to carry out the Academy roll-out efforts.

## 6. Conclusion

In rebuilding Afghanistan, the ANDS sets the target for a national telecommunications network so that more than 80 percent of Afghans will have access to affordable ICTs by 2010 for improving services delivery, fostering the rebuilding process, increasing employment, creating a vibrant private sector, reducing poverty and supporting underprivileged groups. In Afghanistan, the development of the ICT infrastructure is taking place hand in hand with an ICT capacity building framework so that people have the knowledge and skills to benefit from the opportunities presented by ICTs when they are made available to them.

18. UNDP, Afghanistan Human Development Report 2007, [http://www.undp.org.af/Publications/KeyDocuments/nhdr07\\_complete.pdf](http://www.undp.org.af/Publications/KeyDocuments/nhdr07_complete.pdf).

Country Case Studies

# Indonesia

Yudho Giri Sucahyo and Yova Ruldeviyani

## 1. Introduction

Information and communication technologies (ICTs) have transformed all aspects of our lives. The use of ICT in government is commonly known as e-government, which has contributed to increased effectiveness, efficiency and transparency of public service delivery. ICTs are also used to facilitate integrated approaches and cost-effective solutions in key sectors of development.<sup>19</sup> Leaders from several countries are committed to increasing the role of ICT for development (ICTD) and promoting e-government.

The extensive use of ICTs, however, has several consequences. One important factor to consider is the capacity of institutions and individuals in using the ICTs. A carefully planned and structured capacity building programme needs to be developed, not only for citizens and businesses, but also for policymakers, government officials and managers in the public sector, who will together harness the technology for national development.

In response to a gap in ICT capacity building, APCICT has developed a comprehensive curriculum for ICTD training - the ‘Academy of ICT Essentials for Government Leaders.’ The Academy aims to build up awareness on important issues related to ICTD from a policy and technology point of view. The topics covered range from developing ICTD policy, project management and funding, to information security and privacy.

This chapter discusses ICT human capacity building for development in Indonesia, and focuses on the Academy programme in particular. The content of this chapter is divided into seven sections, as follows: the second section sets the context by looking at ICT practices and trends in Indonesia compared with other countries. The third section explains the role of the different organizations involved in the nation’s ICT human capacity building

19. Usha Rani Vyasulu Reddi, Academy of ICT Essentials for Government Leaders: Module 1 - The Linkage between ICT Applications and Meaningful Development (Incheon: UN-APCICT, 2009).

## 2. Indonesia ICT Profile

effort. Details of the roll out of the national Academy programme are given in the fourth section followed by an examination of the results and impacts, the challenges and opportunities, and the lessons learned in section five, six and seven respectively.

Ranked fourth in population after China, India and USA, Indonesia is considered a large developing country. Comprised of 17,508 islands that cover an extensive area of 1,919,556 square kilometres, Indonesia is a republic led by an elected parliament and president. Monetary crises, political crises, and disaster after disaster are obstacles that Indonesia must face as part of its effort to utilize ICT for development. Furthermore, ICT is not yet affordable to the majority of the population. Figure 1 shows the ICT density in ASEAN countries for year 2006, and that with a density of 6.57 fixed phones (average 8.54), 28.30 cellular phones (average 33.48), 1.47 computers (average 3.65) and 7.18 Internet users (average 10.15) per 100 people, Indonesia is still below the ASEAN average.

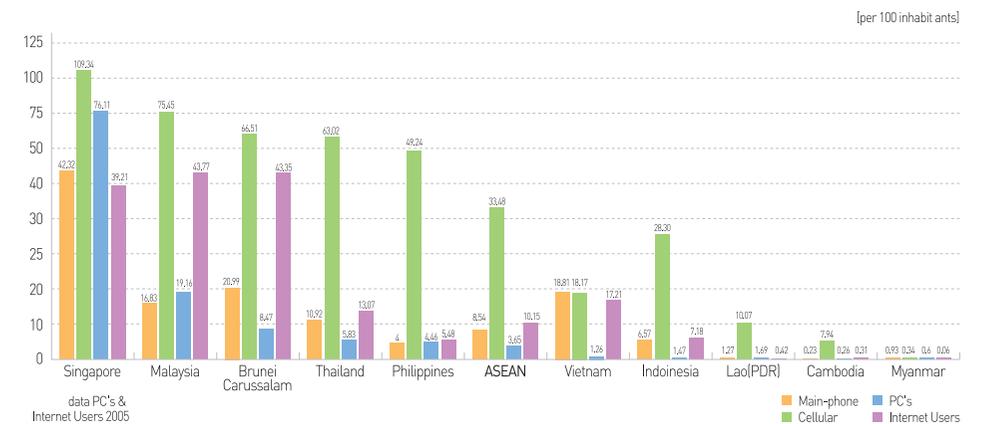


Figure 1. ICT Density of ASEAN Countries<sup>20</sup>

The high cost of connectivity and technology distribution imposed by Indonesia’s physical environment has deterred private investors, resulting in disparities, particularly between rural and urban areas, caused by the uneven distribution of ICTs. Access to ICTs is concentrated in the urban areas although the majority of Indonesia’s population lives in rural areas. For example, the availability of fixed phones in urban areas has reached 89 percent, but only 23 percent in rural areas enjoy the resource.

An annual survey conducted by the Economist Intelligence Unit evaluating

20. Indonesia ICT Indicators 2007, Agency of Technology Assessment and Implementation, Republic of Indonesia, December 2007.

the e-readiness (or the quality of a country's ICT infrastructure and the ability of its consumers, businesses and governments to use ICT to their benefit) of 70 countries shows that Indonesia ranked 67 in 2007, and 68 in 2008 (only better than Azerbaijan and Iran). The survey measures six indicators comprising of: 1) connectivity and technology infrastructure, 2) business environment, 3) social and cultural environment, 4) legal environment, 5) government policy and vision, and 6) consumer and business adoption.<sup>21</sup>

Another survey from the International Telecommunication Union, titled the Digital Opportunity Index, ranks Indonesia 105 out of 180 countries with an index of 0.33.<sup>22</sup> The indicators used are opportunity, infrastructure and utilization.

Concerning e-government, a survey by Waseda University in Japan, ranked Indonesia 29 out of 32 countries in 2007 (better than Vietnam and Russia).<sup>23</sup> In 2008, Indonesia improved its e-government condition to rank 22 out of 34 countries.<sup>24</sup>

The conditions depicted by Figures 1 and 2 together with the results of the surveys mentioned above, raise strong calls to many organizations including government, non-government, universities and also the private sector to collectively develop basic ICT literacy in the country.

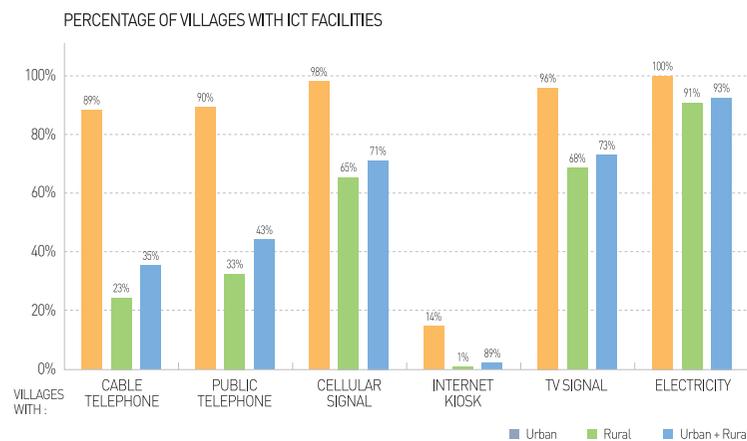


Figure 2. Percentage of Villages with ICT Facilities<sup>25</sup>

The Government of Indonesia's commitment to ICT is evident from the establishment of the Ministry of Communication and Information Technology (MCIT) in 2001. Although its progress is slower compared with neighbouring countries - Malaysia, Philippines and Thailand - having MCIT has significantly accelerated the development of ICT in Indonesia with many ICT-related projects initiated.

21. Economic Intelligence Unit, E-readiness rankings 2008: Maintaining Momentum, 2008.  
 22. International Telecommunication Union, World Information Society Report, 2006.  
 23. 2007 World e-Government Ranking, Waseda University Institute of e-Government, Japan, 2007.  
 24. 2008 World e-Government Ranking, Waseda University Institute of e-Government, Japan, 2008.  
 25. Ibid.

### 3. Universities in ICT

As can be seen in Figure 3, a study conducted by MCIT shows that the number of ICT human resources available is insufficient to meet demands during the past five years. One way to reduce the huge demand/supply gap is to promote collaboration between government and educational institutions in strengthening ICT capacities. Among the educational institutions involved in building human capacity, universities in Indonesia play a significant role in fulfilling human resources, particularly in the field of ICT. Out of 2,874 universities in Indonesia, there are 812 universities that have courses related to ICT with a ratio of 1 lecturer to 22 students.

Established in 1950, the University of Indonesia (UI) is one of the oldest universities in Indonesia and has an excellent track record of providing quality education and research. The university has actively been developing a number of significant initiatives with international partners that include joint teaching programmes, research, and exchange of students and staff. UI has 12 faculties, one of which is the Faculty of Computer Science with undergraduate and graduate programmes.

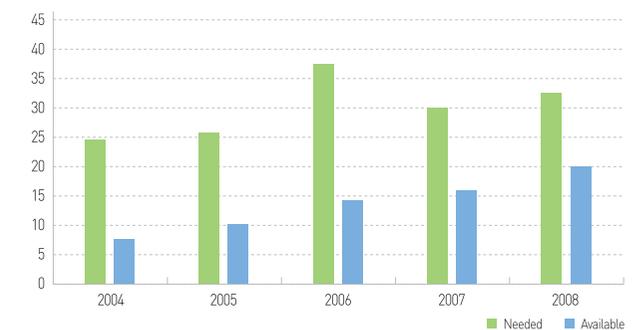


Figure 3. ICT Human Resources Gap (in millions)<sup>26</sup>

The curriculum for the Computer Science Programme is structured to create a balance between theory and practice by relating the relevant use of ICTs to public needs. In line with the nation's development of ICT in education, UI also established the Center for Learning Resources to provide e-learning facilities.

As directed by the Ministry of National Education, all higher education institutions in Indonesia must conduct activities in three areas: education, research, and services to community. In line with the government programme, UI's Faculty of Computer Science has a strong partnership

26. "Availability and need of ICT Human Resource Indonesia," <http://www.bnsp.go.id:81/default.asp?go=news&id=141>.

with the Ministry of Communication and Information Technology (MCIT) in implementing activities in all the three areas, as follows:

- Education - MCIT and several local governments have regularly been sending staff to further their studies in Information Technology at the postgraduate level at UI.
- Research - UI has been actively involved in research for MCIT. Most recently, UI conducted an evaluation of IT Governance in Indonesia. UI is also involved in the national e-government ranking exercise conducted annually by MCIT.
- Services to community - Being involved in the Academy of APCICT, in partnership with MCIT to increase the ICT competency of government leaders in Indonesia, is one of the activities in this category.

#### 4. Rolling Out of the National Academy Programme

Partnership with APCICT began when the Government of Indonesia delegated representatives from MCIT and UI to participate in APCICT's e-Government Workshop in April 2007. When APCICT started developing the Academy modules in 2008, MCIT and UI were actively involved in their review, and hosted the sub-regional Academy workshop for South-East Asia in May 2008 to pilot test modules 7 and 8 on ICT project management and funding options for ICTD, respectively. MCIT provided the venue, and covered the cost of meals and transportation. UI provided support staff during the event. Representatives from seven countries including Cambodia, Indonesia, Lao PDR, Philippines, Thailand, Timor-Leste and Viet Nam participated in the workshop. In addition, several representatives of local governments in Indonesia attended the training.

In June 2008, one representative of UI was invited to attend the First Training of Trainers (TOT) Workshop of the Academy in the Republic of Korea. Subsequently in March 2009, two delegates from Indonesia attended the Second TOT. Apart from training on the modules, the TOT had specific sessions on instructional design that has helped MCIT and UI to design and deliver the national Academy programme.

Recognizing the importance of localization in ensuring more effective delivery of the Academy programme, MCIT and UI have invested resources and time into removing the language barrier by translating all the Academy modules into Bahasa Indonesia. Delivering the contents using local languages by local trainers who have undergone TOT training will significantly ease the understanding of the contents.

The translation process is carried out in several steps. After each manuscript has been translated, it is edited and proofread before the manuscript is sent for layout and printing. Each module has accompanying presentation slides that also need to be translated.

A series of national and provincial Academy workshops has been planned throughout 2009 and 2010 by MCIT, UI and APCICT. Three workshops have been conducted so far:

The First National Workshop took place on 30 March - 2 April 2009 in Bali, covering Modules 1 and 2. Over a period of four days, 26 local government leaders from various provinces, municipalities and cities of Indonesia were trained. A field trip to a one-stop-service facility at the capital city of Bali was also organized.

The Second National Workshop was conducted in Cisarua, Bogor, West Java Province on 27-30 April 2009, covering Modules 3, 4 and 5. In this workshop, 31 local government leaders from various provinces, municipalities, and cities of Indonesia were trained. Each day was divided into five sessions with the last session of each day designated for discussions.

The Third National Workshop was organized in Solo, Central Java Province, on 30 June - 3 July 2009, covering Modules 6, 7 and 8. In this workshop, about 30 local government leaders from various provinces, municipalities, and cities of Indonesia were trained. A field trip to a one-stop-service facility at Sragen municipality was arranged. This facility is one of the best e-government implementations in Indonesia.

The successful roll out of the Academy in Indonesia can be attributed to synergy among these parties:

- APCICT who has developed the Academy modules and provided support in translating the modules.
- UI who has translated the modules and provided trained resource persons for the workshops.
- MCIT who has committed resources for the roll out of the Academy in Indonesia. The venue, accommodation, local transportation and meals for all the workshops were provided by MCIT.
- Local governments in Indonesia who have sent representatives to the national workshops and covered their travel costs.

## 5. Results and Impact

During the workshops, it has become standard practice that the last session of each day be devoted to holding open discussions where participants can raise questions on the content of the course and provide feedback on the way in which the modules have been delivered. At the end of every workshop, participants were also asked to complete an evaluation form. The evaluation form used is the same as the one used by APCICT, consisting of both closed and open questions.

The closed questions are grouped into four categories: 1) general questions on the module; 2) case studies and exercises; 3) training design; and 4) the speaker. Table 1 shows the feedback by simply adding up the responses from the respondents for each question.

From the table, it can be seen that in all categories, for all modules, most participants gave a score of four out of five, which means they agree with the questions. Some of the participants gave a score of two for case studies and exercises, and the training design. Further investigation revealed that participants in fact demanded more case studies and exercises, and they felt that the time allocated for the exercise and training were inadequate.

Category	Module 1					Module 2					Module 3					Module 4				
	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
Overall Questions about The Module				20	24			18	71	8		8	20	118	56		1	25	162	37
Case Studies and Exercises			3	21			2	23	25	2		6	18	55	4		7	31	65	4
Training Design			4	29	9		4	17	45	4		3	21	86	27		6	37	103	21
The Speaker				7	6			4	22	4		1	6	40	13		1	13	39	19

Category	Module 5					Module 6					Module 7					Module 8				
	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
Overall Questions about The Module		1	16	120	41			21	144	48		1	22	134	41		1	9	104	30
Case Studies and Exercises		4	15	58	8		3	26	76	9		2	21	74	13		4	12	54	10
Training Design		7	22	98	16		5	29	95	25		3	23	113	15		3	17	76	16
The Speaker			6	37	17			6	44	16			8	42	16				35	13

Legend - 1: strongly disagree, 2: disagree, 3: neutral, 4: agree, 5: strongly agree

Table 1. Feedback from Participants

A sample of responses to the open questions in the evaluation form is provided below:

- This kind of training is really essential for both executive and legislative regional decision makers.
- The time spent on this training/workshop should be longer and there should be more Indonesian case studies.
- There should be many trainings/workshops of this kind held in the region.

- Please create a communication channel for participants to keep in touch with each other.
- We need a lot of this kind of training to improve our knowledge.

Some of the participants have practiced their knowledge gained from the training to develop their region. For example, one participant has made arrangements with a telecommunication company to provide hotspots for Internet access in his region. Another participant has started developing a plan for ICT development in her area; while another participant conducted a seminar to raise the ICT awareness of the head of agencies in his region.

Knowledge sharing among the Academy alumni is important in maintaining the roll out momentum. A mailing list was created after the first TOT and now there are around five e-mail exchanges per day. The spirit for information exchange promoted during the TOT is continued in the mailing list. One participant shared examples of regulations in his area, and another shared the IT Plan of his region. This process has boosted the learning process among the alumni.

On 31 May 2009, in a national meeting attended by around 60 ICT agency heads, a national forum on e-government was established in Indonesia. Its establishment was an indirect impact of the Academy where some of the national Academy workshop participants expressed that such a forum was urgently needed to facilitate communication and coordination among ICT government leaders in each region.

Beyond Indonesia, APCICT facilitated a South-South partnership between Indonesia and Timor-Leste at the first national workshop, which was attended by senior government officials from Timor-Leste. At the workshop, discussions were held on rolling out the Academy in Timor-Leste with support from the Indonesian team. Subsequently, the First National Workshop in Timor-Leste was held on 6-10 July 2009 in Dili, covering Modules 1 and 2. Over a period of five days, 63 local and central government leaders from various agencies and districts of Timor-Leste were trained. Module 1 was delivered by the local resource persons from Timor-Leste, and Module 2 was delivered by the Indonesian team.

Having seen the relevance and impact of the Academy, the Faculty of Computer Science of UI is currently developing a Master's degree programme on e-Government where the modules of the Academy will be one of main sources for reference.

Additionally, modules of the Academy are being integrated into the Technical Guidance for Chief Information Officers Programme. It is one of the regular programmes of the Research and Development Agencies of MCIT conducted annually at several cities in Indonesia, and attended by the Head of ICT from various local governments.

## 6. Challenges and Opportunities

All the modules were delivered within a one-year period with positive feedback, results and impacts. The challenge now is ensuring the continuation of the workshops. Many participants stressed this aspect in their feedback. They hope that the workshop can be regularly conducted so that their colleagues can also benefit from the Academy training.

However, Indonesia has 33 provinces, 398 municipalities and 93 cities - totaling 524 institutions. Assuming that for each region, two government leaders need to be trained, the national Academy will need to reach over 1,000 government officials. This is a huge challenge. Therefore, alternative learning modes, other than face-to-face training, need to be provided to deliver the contents of the modules. One solution is to provide an e-learning facility, which can also be made available and distributed on DVDs or streamed from the Internet. The availability of the e-learning facility is also important due to the fact that some participants have started to invite the Academy resource persons to help increase the ICT awareness of leaders in their region. In the long run, the number of requests may exceed the availability of resources.

A Bahasa Indonesia version of the APCICT Virtual Academy, an online distance learning platform for the Academy available at <http://ava.unapcict.org>, has been developed.

## 7. Key Lessons Learned

Based on the roll out of the Academy in Indonesia, the following lessons learned have been identified:

- Develop local case studies to demonstrate the application of concepts. While the quality of the modules is outstanding, many participants are of the opinion that the number of case studies from Indonesia is insufficient. Participants feel that many initiatives have been promoted in Indonesia and should be incorporated in the modules.
- Organize site visits or benchmarking exercise. Out of three workshops that have been conducted, two of them have a site visit to observe the implementation of e-government. Since participants come from various regions with a range of e-government implementation levels, visiting an e-government facility has opened their eyes on both its advantages and disadvantages. In addition, a benchmarking activity is also recommended in the modules as one way to identify challenge and opportunities.
- Build a pool of multi-disciplinary instructors. It has been observed that the kind of questions being asked to instructors from government

institutions is different to those from universities. When the instructor is a government official, participants raise questions related to policies, government programmes and activities, and future plans, including collaborations between central and local governments. On the other hand, when the instructor is a lecturer from university, participants ask for the ideal measures and policies, benchmarking, and practical tips on ways to improve their existing condition. Resource persons from different sectors provide varying perspectives that add value to the training course.

- Emphasize flexibility and improvisation in course delivery. All the modules are created by experts and contain case studies from different countries. Participants are interested in how these concepts, experiences and lessons can be applied in their region. As mentioned in Module 1 of the Academy, there is no one-size-fits-all, and a solution that works admirably in one region can fail in another region. Therefore, instructors need to improvise the delivery of the contents so that participants can come up with their own thoughts on how to implement good ideas that are suitable for their region.

## 8. Conclusion

The roll out of the Academy in Indonesia has produced positive feedback, results and impacts. Some challenges and opportunities have been identified and several lessons learned have also been obtained. APCICT's initiative to translate the modules into local languages has removed a barrier in delivering the modules, and has effectively built the ICTD capacity of policymakers. Participants have expressed their wish for the continuation of the Academy in Indonesia.

## Country Case Studies

# Mongolia

D. Baigal, L. Ariunaa, and L. Sayanaa

### 1. Country Context

The new era of information and communication technology development in Mongolia began when the first Internet Service Provider (ISP) - Datacom - started operating in 1996. The access to Internet and World Wide Web services opened up opportunities to Mongolians by making available information that was earlier not possible or hard to get.

A document entitled, Vision for Information and Communications Technology Development in Mongolia by Year 2010 was developed and approved by the delegates of the First Summit of Information and Communication Technology (ICT) in Mongolia held in June 1999. This visionary document was approved by the Parliament of Mongolia in February 2000.

In 2005, the Information, Communications Technology and Post Authority (ICTPA) of Mongolia, was established and it developed the "E-Mongolia National Program," which was adopted and approved by the Government of Mongolia. The E-Mongolia National Program has 16 objectives to be achieved by year 2020 (see Figure 4).



1. Data density doubled approximately every 18 months
2. Towards 'digital' democracy
3. One Home-One PC, Internet access for everyone, mobile phone for every herdsman
4. Low-cost PC and affordable Internet
5. In top ten of Asia by year 2012
6. Outsourcing
7. e-Commerce, distance learning, telemedicine
8. IT literacy for all
9. No corruption + no bureaucracy + 24/7 services through e-government
10. Registration = The mystery of capital
11. Fibre to home
12. Smart card for citizens and institutional memory of government
13. Integrated code, zip code
14. National Fibre Network
15. Web for each organization and e-mail for everyone
16. The shortest Euro-Asia fibre link through Mongolia

Figure 4. The 16 Objectives of the E-Mongolia National Program

According to the census of civil servants conducted in 2008 through a World Bank project, there are over 145,000 civil servants in Mongolia, including those working in central and local aimag<sup>27</sup> level government administration. Among these 145,000 civil servants, there are about 500 officials working as information technology (IT) specialists in government organizations. They maintain the IT network at organizations, deal with hardware and software issues, conduct training for staff on the use of computers and applications, and when required, serve as primary resource persons on ICT-related issues, such as policy, infrastructure, hardware, software, applications, capacity building of human resources, the Web and Internet, etc.

Although no study has been conducted so far on the level of ICT competency of civil servants, the fact that they are expected to be experienced and knowledgeable on computers and applications shows that

27. The 21 Aimags are the top-level administrative divisions (provinces) of Mongolia [Wikipedia].

there is a great demand among civil servants for ICT. In last year's exams for potential civil servants, a number of questions were included related to their knowledge and experience on computers, software and applications (for word processing, spreadsheets, presentations, etc.) and their ability to browse the Web and find relevant information on the Internet.

As of now, all ministries and agencies are equipped with computers and necessary equipment (printers, copiers, scanners, etc.) connected to a local area network and the Internet. The availability of ICT infrastructure in government organizations enables officials to easily develop and exchange documents and communicate with each other. In addition, with the support of international and donor organizations and by initiatives of government organizations themselves, the software and applications essential for the operation of government organizations are widely utilized. Almost all government organizations have their own website and portal.

The fast and escalated development of ICTs have not only enabled government officials to communicate with each other, but also provided opportunities for them to deliver basic information and services to citizens. Moreover, they serve to improve communication with citizens. The ICT infrastructure built in government organizations and the opportunities ICTs provide for government organization and civil servants, however, create the necessity to build capacity of government officials on all matters related to ICT - policy issues, infrastructure, network, software and applications, security, privacy and other issues.

The ICTPA recognizes the importance of ICT human capacity building and has been providing ICT training to government officials in partnership with other government organizations, private companies, and international and donor organizations.

The ICTPA has been working with the Ministry of Education, Culture and Science on policy and coordination of activities related to ICT human capacity building, particularly in tertiary education, and the training and re-training of ICT professionals. One of the recent efforts of ICTPA is the introduction of the IT engineer's fundamentals exams, adopted from Japan. These exams have been held in Mongolia for the past two years and are intended for Mongolian IT engineers to evaluate their knowledge and skills by Japanese standards. Upon passing the exams, there are opportunities for Mongolian engineers to do some off-shore outsourcing jobs or even work in Japan. The majority of the participants of these exams are engineers working in private companies.

There have also been specific ICT training courses organized by international and donor-supported projects, such as the training course on Oracle enterprise resource planning solutions. Nevertheless, the country lacked a dedicated and comprehensive ICT human capacity building programme targeted at government officials.

The ICTPA and Intec Company immediately recognized the importance of the "Academy of ICT Essentials for Government Leaders Programme" (Academy) in filling this gap, and have been cooperating with APCICT in rolling out the Academy in Mongolia since June 2008 when the Academy was launched by APCICT. A letter of agreement was signed between ICTPA and APCICT in September 2008 that outlines details of this partnership in adopting the Academy modules for government officials

in Mongolia. To implement the Academy, ICTPA has partnered with Intec Company and the Academy of Management (AoM).

## 2. About Our Organizations

There are three organizations actively involved in rolling out the Academy in Mongolia - ICTPA (a government agency), AoM (a state-run academic institution with a track record of training government leaders) and Intec (a private company) with APCICT.

The ICTPA is a government agency established in 2004 to carry out the country's ICT policies and their coordination and implementation. ICTPA has been an enthusiastic supporter of the Academy from the beginning and partook in the review and evaluation of the modules. Under the leadership of ICTPA, the first ever Academy workshop organized at the national level was held in Mongolia on 10-12 December 2008.

The Intec Company is an ICT consulting firm in Mongolia established in 2004. It provides ICT consulting services for both public and private organizations, conducts research and studies related to ICT, and works on building ICT capacity. Related to capacity building, Intec has launched a training centre in Mongolia, a franchisee of India's Aptech WorldWide. Intec was involved with the Academy right from the start with ICTPA in coordinating, organizing and delivering training courses to other trainers and government officials.

The AoM is an education, research and public administration and management development institution established in 1994 from three institutions - Management Development Institute, Public and Social Studies Academy, and Public Policy and Social Study Center, and was renamed AoM in 1999. AoM trains more than 1,500 government officials every year.

The AoM was introduced to the Academy at the First National Academy Workshop in December 2008. By the end of the workshop, the Rector of AoM expressed commitment to customize the Academy modules and deliver them as part of AoM's ICT for governance and public administration curriculum for central and local government officials by 2009. Subsequently, Mr. D. Baigal, AoM's Lecturer and Director of the Public Administration Programme participated in APCICT's Second Regional Academy Training of Trainer's Workshop in March 2009 and spearheaded the co-organization of two one-week long courses with ICTPA and Intec for ICT specialists working in government ministries and agencies.

The common recognition by all three parties of the need to train ICT

professionals as well as non-ICT professionals in developing a shared understanding of ICT-related matters, has contributed to the success of this multi-stakeholder partnership. There is consensus among the partners that the priority areas for ICT training include ICT policy development, access and infrastructure, security and privacy issues and ICT project management. The Academy provides quality ready-made training contents that have been 'tried and tested' to meet this need.

All the partners have also agreed on the target groups as follows:

- ICT specialists at line ministries, agencies and government organizations, in particular, local government officials;
- Heads and directors of departments at ministries, agencies and government organizations, in particular, non-ICT managers;
- State secretaries of ministries and government agencies, heads of governor's offices at aimag governor's offices;
- Ministers and deputy ministers; and
- Directors of agencies and government organizations.

#### Box 1. Roles and Responsibilities of Implementing Organizations

##### ICTA

- Ensuring participation of representatives of governmental agencies, ministries, institutions and academia
- Providing policy-related guidelines to the project team with regard to implementation of the national Academy
- Supporting the implementation of the Academy with human resources, technical support and financial resources, where possible and needed
- Raising financial funds from governmental budget, international organizations and donor community needed for successful implementation of the Academy at the national level

##### Intec Company

- Providing technical support and training facilities to support the implementation of the Academy
- Creating a pool of domestic and international resource people to be invited for the preparation and delivery of the Academy modules
- Conducting the Academy training in the premises of the APTECH Worldwide Mongolia Training Center, which is partially financed by Intec Company
- Participating in the delivery of the Academy modules

##### AoM

- Providing local resource people to prepare and deliver the Academy modules

- Customizing the modules so that they reflect the needs and situations of provincial government leaders, and developing local case studies
- Translating the modules into Mongolian
- Conducting national Academy training in the premises of AoM
- Participating in the delivery of the Academy modules

### 3. Rolling out the National Academy Programme

The first draft of the National Implementation Plan for the Academy roll out in Mongolia was developed in June 2008 by representatives of ICTPA and Intec Company who participated in the First Regional Academy Training of Trainers Workshop.

The plan included hosting of the First National Academy Workshop in Mongolia in December 2008 and the introduction of Modules 1 and 2 of the Academy on the linkage between ICT and development, and ICT policymaking, respectively. This first workshop was successfully held as planned at the conference room of the Government House of Mongolia, thanks to the strong endorsement from the Prime Minister's Office. The workshop was attended by 55 representatives of government organizations, including ICT specialists and heads/directors of information and communication departments of the government organizations. A few members of parliament and representatives from various national universities in Mongolia also attended, bringing a wide range of perspectives during discussions.

The training of the first and second modules was conducted by Dr. Usha Rani Vyasulu Reddi, author of Academy module one. Odgerel Ulziikhutag from ICTPA, Ariunna Lkhagvasuren from Intec, Dr. Reddi and APCICT staff put in significant time and efforts in designing and developing the curriculum in order to meet the training objectives of sensitizing high-level policymakers and government officials within a condensed timeframe, and pave the foundation for further roll out of the Academy. Extensive discussions were held on selecting and condensing module topics, discussing course flow and designing group work sessions.

Modules 1 and 2 presentations were fully translated into Mongolian by L. Sayanaa, senior consultant of Intec. Upon completion of translation, the contents of the modules were verified against English language text by resource persons L. Ariunaa and U. Odgerel to ensure consistency of text, accuracy of translations and in particular, the appropriate use of terms. As the training venue was equipped with two projector screens, one screen showed the English presentation while the other showed the Mongolian

one. This arrangement allowed lecturers and participants to follow the contents of the modules easily.

To facilitate knowledge transfer and link concepts in the modules with practical examples, the local resource persons prepared eight local case studies. All case studies were prepared in both English and Mongolian.

APCICT coordinated resource persons meetings where the original Academy author and local resource persons spent two full days prior to the workshop to meticulously walk through and validate lecture topics, materials and case studies, discuss the roles and responsibilities of each resource person, and fine-tune the delivery mode. Although the majority of the participants showed fluency in English, all participants were provided with interpretation headsets and throughout the workshop, lectures, questions, participants' presentations and discussions were simultaneously interpreted in both English and Mongolian.

At the end of the workshop, roundtable discussions were held with representatives of AoM, APCICT, Civil Services Council, ICTPA, Intec and Mongolian Development Gateway. Their inputs were sought on the localization of the training content into Mongolian, and the adaptation of the modules for training of government officials at AoM, as well as translation of the modules once they have been customized to meet national and local needs.

Following this first workshop, participants from the National Police Agency expressed interest in using the Academy as part of their training of chiefs of police departments at aimag and district levels. After extensive consultations and discussions carried out between ICTPA, Intec and the National Police Agency, the training for over 30 chiefs of police departments of districts and aimag levels was organized in February 2009. The training workshop covered modules 1 and 3 of the Academy on the linkage between ICT and development and e-government applications, respectively.

When representatives from AoM and Intec participated in the Second Regional Academy Training of Trainers Workshop in March 2009, the national implementation plan for the roll out of the Academy was revised based on the new knowledge gained from this regional workshop. Upon return from training, the two trainers briefed ICTPA on their future plans for adaptation of the Academy for government leaders in Mongolia.

In April 2009, AoM was asked to conduct training on e-government for government officials. For this training AoM used the relevant modules of the Academy. In May 2009, two one-week training workshops were conducted - the first targeted ICT specialists in implementing agencies of Mongolia, and the second workshop, at ICT specialists in ministries and coordinating agencies.

Based on discussions between ICTPA, AoM and Intec, the decision was made to use modules 1, 2, 3, 4, 6 and 7 in these trainings. It was also agreed that the trainings should not be limited to trainers, but also include experts and specialists knowledgeable in the areas of e-government, networking and information security and privacy. This included experts from the Mongolian Emergency Response Team, lecturers of the AoM, and trainers of ICTPA and Intec. In addition to the Academy modules, a 4-hour lecture on free and open source software (FOSS) was included in this training. This addition was in

response to ICTPA's introduction of Joomla, a FOSS content management system, for the development of government websites. The training on FOSS was conducted by representatives of UNIX Group and specialists working with Joomla.

In all, the two week-long trainings accommodated over 80 officials. General feedback from the participants included the expressed need for similar training for government officials. Upon completion of these trainings, discussions were held among the three implementing partners - AoM, ICTPA and Intec - to introduce similar trainings for government officials working in aimags of Mongolia as part of AoM's regular training programme, including the Master's and Doctorate programmes offered by AoM. The ICTPA as a signatory to the Letter of Agreement with APCICT will continue its commitment to rolling out the Academy nationally, including the organization of regular national Academy workshops in Mongolia.

## 4. Results and Impact

So far, over 130 government officials have received national Academy training in Mongolia. The training content of the Academy has been highly praised and appreciated by the participants. In the evaluation conducted after each training course, most of the participants gave an overall score of 4 to 5, with 5 being highly satisfied.

One of the comments received from a number of participants after the second national workshops was the importance of the network and information security and privacy module for government officials.

Another comment was made to conduct similar trainings for non-ICT government officials, in particular for decision makers. This is so that they can be better equipped to make informed choices on ICT-related issues, as well as provide necessary support and assistance to ICT professionals working in government organizations. The customized Academy modules have helped to set ICT interventions within the context of Mongolia's development objectives toward achieving the Millennium Development Goals. This has been fundamental for formulating ICT policies and strategies, and implementing e-government and other ICT projects that are inclusive and people-centred.

## 5. Key Lessons Learned, Challenges and Opportunities

The implementing partners identified a number of lessons learned, challenges and opportunities during the roll out of the Academy in Mongolia. They include the following:

1. It is important to introduce the Academy modules to representatives of the private sector and non-governmental organizations.
2. It is crucial to integrate the Academy modules into the training programme of AoM. To do so required extensive lobbying and awareness raising to ensure support and assistance in the approval and integration of the Academy modules into AoM's training programme.
3. The development of locally-relevant content is essential to the success of the national Academy programme. The localization/translation of all Academy modules into Mongolian was one of the challenges faced. Although the ICT field is quite 'English-language savvy', considering that not all Mongolians speak, read, write and understand English, it is important to localize/translate the Academy to suit the Mongolian context.
4. The recent trainings conducted at AoM proved the need to have a roster of ICT specialists for the topics of the Academy to ensure that resource persons are constantly available for the conduct of Academy trainings.
5. Related to point 4, it is essential to train local trainers on the content of the Academy. It is important to have two to three trainers knowledgeable on each of the modules, and experienced and independent enough to deliver modules of the Academy.
6. An assessment of the ICT competency level of government officials is required to develop national Academy courses that are tailored to their needs and demands.

## 6. Conclusion

The Academy has been successfully adopted in Mongolia. This was made possible due to the commitment of officials and staff of ICTPA, AoM, Intec Company and others involved in the project such as the National Policy Agency. The support from APCICT staff in the localization/translation process and organization of workshops has been crucial to the Academy's successful implementation.

Participation in APCICT-organized regional Training of Trainers workshops enabled resource persons to gain rich knowledge in ICT for development issues through exchanges of experiences and sharing of ideas with trainers

from other countries. The regional training also boosted trainers' capacity and allowed them to become ambassadors of the Academy in Mongolia.

The leadership and commitment of ICTPA, in particular, of Ts. Nyamkhuu, former Director of the Policy Planning Department of ICTPA has made possible the hosting of the first national Academy workshop in Mongolia at the Government House, a prestigious venue for events. Equally important is the commitment of Mr. D. Baigal of AoM in leading the second national Academy workshops and in integrating the Academy in AoM's regular training programme and postgraduate studies. The identification of the ICT competency level of government officials, as well as their needs and demands from ICT-related trainings are vital to the continued success and integration of the Academy into the training programme of AoM.

It is critical to put in place a long-term ICT human resource capacity building strategy in Mongolia. The implementing partners envision that this strategy will focus on enhancing the ICT human resource capacity of ICT professionals, non-ICT professionals, ICT government officials and leaders, and non-ICT government officials and leaders. As the Government of Mongolia is discussing the development of an e-Government Plan of Mongolia it is more critical than ever to understand ICT issues and its application for development.

## Country Case Studies

# Philippines

Maria Anthonette Velasco-Allones

## 1. Introduction

This chapter describes the experience of the Philippine Career Executive Service Board (CESB) in developing a framework and training programme to address the capacity enhancement needs among its third level career service executives,<sup>28</sup> specifically in the area of ICT management. The initiative to develop the national ICT competency standards for Philippine career executive service officers (CESOs) is discussed,<sup>29</sup> along with the processes undertaken to adapt and deliver the training modules of the Academy of ICT Essentials for Government Leaders (Academy). The challenges faced in these efforts are identified and transferable lessons are synthesized to determine practical recommendations that may be useful to other ongoing or future undertakings.

## 2. The Philippine ICT Competency Development Context

In the past decade, the Philippines has embarked on e-governance efforts to transform existing mechanisms for service delivery using ICTs. This strategic governance goal has become an imperative given that the country's archipelagic topography presents a challenge to effectively and efficiently reach a large number of citizens, especially in rural and remote areas. While Manila has been considered the 'texting capital' of the world, the government and its institutions have not been as fast as it would want to be in harnessing the benefits of ICTs to further reach its citizens.

ICT human capacity is recognized as a critical requisite to achieving e-governance projects. At present, the Commission on Information and Communications Technology (CICT) serves as the primary ICT policy, planning, coordinating, implementing, regulating and administrative institution in the Philippines. It seeks to promote, develop and regulate integrated and strategic ICT policies and systems. One of its strategic

groups is the Human Capital Development Group (HCDG) that endeavours to promote the development of Filipino ICT expertise and enhance the global competitiveness of Filipino ICT professionals.

Among the projects implemented by the HCDG are the following:

### 1. Development of the National ICT Competency Standards (NICS)

- It lists and defines the most basic set of knowledge and skills that all Filipino ICT practitioners across various agencies, industries and sectors can and should be able to demonstrate at given levels of proficiency.

### 2. i-Schools

- This project contributes to efforts of bridging the digital divide by developing an Educational Digital Network that will equip all public high school teachers and students with ICT literacy skills as well as provide them access to relevant digital content and applications in education that they can use to enhance effective learning.

### 3. eSkwela

- This initiative provides ICT-enhanced educational opportunities for Filipino out-of-school youth and adults by bringing e-learning opportunities and ICT for learning resources to mobile teachers, instructional managers and out-of-school learners.

### 4. ICT Proficiency and Certification Exams

- These are tests administered to verify competence in computer use across most commercial software platforms.

### 5. National Computer Institute

- It provides appropriate and high-value ICT training courses for government officers and staff as developers, users and planners of information systems.

Outside of CICT, several organizations including the National Computer Center, the Technical Education and Skills Development Authority, Department of Science and Technology, and the Development Academy of the Philippines, as well as state and private universities serve as active partners in training potential ICT professionals.

CESB is the national government agency that provides training, including the development of ICT skills, for the Philippine higher civil service.

28. The Philippine civil service consists of three levels. The 1st level is composed of administrative and technical support positions while the 2nd level is comprised of technical and supervisory positions. The 3rd level is composed of managerial and leadership positions starting at Director 1 up to the level of Undersecretary.

29. The National ICT Competency Standards for CESOs were developed by the CES Board in collaboration with the Commission on Information and Communications Technology - Human Capital Development Group, starting in the fourth quarter of 2005. It was co-funded by Intel Philippines.

### 3. Competency-based ICT Training for Government Leaders

The Career Executive Service (CES) is the executive level in the Philippine bureaucracy. It was created in 1972 “to form a continuing pool of well-selected and development-oriented career administrators who are expected to provide competent and faithful service.”<sup>30</sup> Members of this group occupy the highest and most strategic positions in government starting at the level of ‘Director 1’ up to the level of an Undersecretary.

A total of 6,389 CES positions compose the CES in national government agencies<sup>31</sup> (3,489), and in government-owned and controlled corporations and government financial institutions (2,900). Of these, 3,075 are currently occupied by CESOs and CES eligibles.

The relevance of the CES lies not only in the seniority of positions held by its members, which implies that public policy decisions usually emanate from this level and the management of government programmes are executed by the CES members, but more so in the fact that the CES, through its promotion of careerism and professionalism, provides policy continuity and programme stability amidst constant changes in the country’s political leadership.

It is thus at this level that the need to constantly enhance the capacity of third-level managers to appreciate ICT policy and programme management is real, urgent and also evolving.

### 4. Before the Academy : The NICS-CESO Project

The development of the National ICT Competency Standards for Career Executive Service Officers (NICS-CESOs) started towards the end of 2005, as a collaboration between CESB and CICT-HCDG, with funding support from Intel Philippines.

#### 4.1 Project Framework

A number of factors constitute the framework that guided the conceptualization, development and execution of the NICS-CESO Project.

To begin with, outside of public organizations managed by CES members, there are global and national macro-trends and strategic policies to consider. These include continuing ICT innovations, changes in the way work is done, redefinition of skill competencies of the workforce, and evolving procurement policies, to name a few.

A second external factor is political vision and leadership. It requires public organizations to contend with varying levels of political support and leadership, which are both essential in overcoming challenges to instituting new ways of public service delivery. Historically, Philippine presidents have had their respective share of policies and fund support to various e-governance initiatives. Former President Joseph Estrada is credited for having launched Philippine Government Online in June 2000 and cited ICT as an indispensable productivity tool and an important component of a “development strategy for economic growth and global competitiveness.”<sup>32</sup>

A core element in the framework and in the NICS-CESO Project is the compelling goal to create public value among government organizations, CES leaders and managers in service delivery.

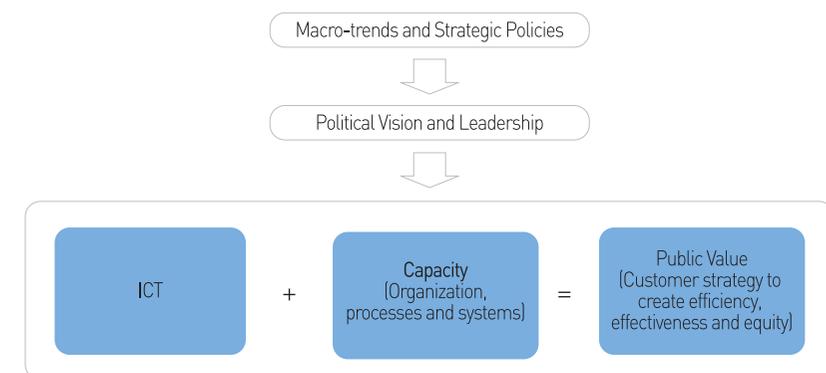


Figure 5. Strategic Project Framework<sup>33</sup>

Internal to public organizations, factors to consider include continuing technological shifts that are more frequently private sector-led. Changes in ICT confront public organizations with issues on financial sustainability given limited public resources, availability of personnel who are ICT competent, and the unceasing need to keep pace with rapid technological changes.

The drive among public organizations to engage in continuous systems improvement is an equally important input to creating public value. This encompasses the processes of the organization that bring about the desired systems improvements, the buy-in among the organization’s personnel, as well as the knowledge and know-how of human resources, particularly among CES leaders and managers.

#### 4.2 Project Goals and Objectives

The NICS-CESO Project was driven by an aim to establish a set of knowledge and skills needed to support the use and management of ICTs to further improve public service delivery.<sup>34</sup> The resulting output sought to provide the basic reference on what to understand and what can be done in varied

30. Integrated Reorganization Plan and Presidential Decree No. 1, 24 September 1972.

31. There are no CES positions in local government units.

32. Foreword in the document, “Philippine Government Online: Government Information Systems Plan,” June 2000.

33. Adapted from Jerry Mechling’s Framework for Analysis as part of a course on Leadership in a Networked World, KSG-Harvard University, Fall 2006; Mark Moore’s strategic triangle theory; and Antonio M. Otelie.

34. NICS-CESO Terminal Report, page 4, August 2006.

public agencies, particularly those that have established e-government mechanisms to engage with their constituents.

More specifically, the project aimed to define core competencies needed by non-IT managers and executives, as well as formulate and implement a training design to enhance the capacities of executives on ICT management.

### 4.3 Project Approach

Eight significant processes comprised the overall approach taken by the project team in developing the NICS-CESOs. They include:

1. Articulation of the relevance of ICT in the larger strategic e-government context;
2. Identification of selected global best practice standards;
3. Conduct of focus group discussions (FGDs) among CESOs representing different government agencies based in the three major Philippine islands: Luzon, Visayas and Mindanao;
4. Consolidation of the FGD results into a matrix that defines the various knowledge and skills requirement;
5. Validation and forging of agreement on the knowledge and skills domain among stakeholders during a national workshop. This was also used as an occasion to create buy-in among the members of the CES;
6. Formulation of the training programme;
7. Pilot conduct of the training programme; and
8. Evaluation of the pilot training programme as well as planning for next steps.

### 4.4 Core and Advanced Skills Sets

Two sets of ICT management skills comprise the NICS-CESOs:

1. A set of core skills and competencies leading to e-government awareness; and
2. Advanced skills to manage and implement e-government initiatives.

The core skills set defines the requisite ICT skills to lay down a broad e-government vision and foster commitment to that defined vision by articulating the positive impact of e-government on efficiency, service quality and customer satisfaction, and identifying the potential benefits of e-government.

The domain and content under the identified core skills included:

- Organization, Policies and Practices
- Business Process Management
- Adoption and Use of ICT Solutions
- Ethics, Legal and Security Issues

The advanced skills set define the qualifications of executives and managers to effectively design, implement and manage e-government programmes and projects. The advanced skills include strategic planning and management, enterprise architecture, programme and project management, and service management and governance.

### 4.5 Training Programme Components

The contents of the training programme focus on four major areas: 1) e-Government Framework, Policy Direction and Strategic Planning; 2) e-Services Solutions; 3) Business Process Management; and 4) Essentials of Project Management.

### 4.6 Initial Results and Ensuring Relevance of Skills Sets

Based on the NICS-CESOs, the CESB has been conducting annual training sessions for the last three years, benefiting sixty CES members. Participant evaluation has indicated a high level of agreement on the positive value of the course materials, programme design and delivery by the training facilitators.

To ensure the continuing relevance of ICT skills to the demands of public service delivery, CESB maintains a regular session evaluation to elicit participant feedback. Another monitoring mechanism is in the area of performance management that requires CESOs and their performance raters to identify the relevance of ICT trainings and to also determine future training needs.

### 4.7 Critical Concerns

After the initial implementation of the training programme, a number of programme concerns now confront CESB, as the primary government institution with the mandate to look into the professional development and capacity enhancement of CESOs.

How to be able to train the more than 3,000 active career officers and eligibles is a fundamental challenge faced by CESB. This question is significant on three considerations:

1. The challenge of changing the mindsets of target participants;
2. The capacity of CESB and CICT to fully roll out the training programme; and
3. The cost of conducting the training sessions.

On changing mindsets, CESB data shows that the average age of a CESO is 53. This presupposes that most CESOs were born before all these technological advancements came into existence. Thus, fear of computers and other new ICTs is a factor cited by most participants in their reluctance to undergo training.

Related to the conduct of the training programme, the CESB and CICT pool of training facilitators conduct the training session only once a year. With twenty participants per session, you can mentally multiply the number of CESOs who can be trained in the next two decades.

Each training session charges a fee of PHP5,000 (about US\$100) and is usually paid for by the government agency that sends the participant to training. Noting the current austerity measures observed by most government agencies, a greater acceptance of the value of the ICT training has to be achieved in order for agencies to earmark a part of their human resources development budget to fund the participation of those who would be keen in attending the training programme.

Finally, there is cognizance of the challenge to continuously evolve the framework, design, training methodology and delivery of the ICT training programme. This evidently requires additional investments and sustained commitment.

## 5. The Academy Roll Out : A Timely Opportunity

It was timely that CESB was invited to be part of process in reviewing the Academy modules, including participation in various pilot workshops and in APCICT's regional Academy training of trainers workshops. These opportunities have allowed CESB to become familiar with the content of the modules. In addition to reviewing the modules from a regional perspective, CESB was also able to assess their relevance for CESOs in the Philippines. CESB also benefited from having module authors that are Filipino, who are called upon from time to time to deliver the adapted Academy courses for CESOs.

### 5.1 Aligned Strategic Goals and Critical Interests

It is evident that the strategic goals of both the Academy and CESB to capacitate government leaders on the essentials of ICT management are aligned. In addition, there is harmony in the perspectives shared by both institutions that ICT is an essential means to meet crucial development goals.

### 5.2 The Roll Out Roadmap

The effort to fully roll out the Academy modules in the Philippines was purposive, strategic and adequately supported by relevant policies and programme initiatives. To ensure political support for the Academy roll out, the approval by the CESB Governing Board was sought through the signing of the CESB-APCICT letter of agreement.

There were at least two key steps undertaken to ensure a smooth Academy roll out, including: 1) customization of the Academy modules; and 2) institutionalization of key policy and programme support mechanisms.

### 5.3 Customizing the Academy Modules

Following a pilot roll out of Academy modules in the Philippines in October 2008, a customization exercise was undertaken by CESB to make sure that the contents and learning objectives of the Academy modules would be relevant to Philippine participants. Actual case studies from ICT and ICT-related projects in the Philippines were utilized to enrich and achieve a national focus in training discussions.

A three-day training session was held to adapt and incorporate the training content in the Academy module into the following core courses developed under the NICS-CESO Project: ICT Governance, ICT for Development and Governance, ICT Skills Capability Building Management, ICT Sourcing Management, and Strategic Planning and Management.

Many of the former trainees that participated in the training courses organized as part of the NICS-CESO Project have taken part in the validation of the Academy module contents for customization purposes. Combining the feedback and suggestions from participants during this pilot roll out phase, with previously suggested improvements on the NICS-CESO training modules, as well as the FGDs held among resource persons and officers of the CESB training division in November 2008, a detailed customization process was laid out.

This was followed by a series of write-shops for the actual module customization from December 2008 to January 2009. By the end of January 2009, the customized Academy training programme modules were formulated, ready for the first formal roll out in February 2009.

### 5.4 Establishing Policy and Programme Mechanisms

Key to the successful and smooth Academy roll out in the Philippines were the institutionalization of important and strategic policy and programme support measures by CESB. These measures include the integration of Academy modules in the CES core programmes, starting with recruitment and selection mechanisms that candidates to the CES must undergo, and more significantly, in its residential training courses - the Executive Leadership Program.

Since 2008, the CES Governing Board has included 20 questions on ICT in the CES written qualifying exam using the Academy modules as basic reference. This serves both as a diagnostic tool to assess the level of ICT adeptness among senior officials in government and also as a means to impart awareness on the relevance of ICT for development. When CESB developed a new competency grid for CESOs, competencies on ICT management were made an integral part of the core competencies that CESOs ought to possess.

An incentive mechanism to encourage greater attendance and participation in Academy training was also put in place. Since 2008, attendance in the Academy roll out session confers training credits required for promotion in rank of career officers.

Finally, to promote greater appreciation of the value of ICT, ICT-based innovation has been included as a separate category in the CESB annual Presidential recognition programme for outstanding career executives where winners receive US\$2,000 cash prize, among other incentives.

### 5.5 Monitoring Milestones

In retrospect, CESB managed to effectively and efficiently roll out the Academy training programme due to institutional internal and external strengths, including among others:

1. The presence of supportive and competent Academy authors/resource persons in the Philippines who patiently and expertly guided the customization of the Academy modules;
2. The overwhelming political support from members of the CESB Governing Board who shared the value of sustaining a training programme to enhance the capacities of senior officers in the civil service on ICT policies and management; and evidently
3. The existing legal mandate and capacity of CESB to train government leaders.

## 6. Lessons Learned

Outside of the CESB, strategic opportunities strengthened the efforts of CESB to roll out the Academy. These include the availability and commitment of capable trainers, the real demand to be trained from among the CESOs themselves, and the presence of support and interest from partner institutions.

As of October 2009, a total of 157 career officers have been trained in four separate sessions held in Tagaytay City (February 2009), Naga City (July 2009), General Santos City (October 2009) and Tagbilaran, Bohol (October 2009).

We have learned a few instructive lessons out of our limited experience in the roll out of the Academy while keeping it aligned with the substance of the NICS-CESOs. Foremost of these lessons is the need to have an ICT champion to advocate for sustained capacity building among government leaders. The other tested indispensable strategy is to advocate and mobilize support from all directions and at all levels.

Part of the advocacy measures has been to strengthen a core of political leaders who head strategic government agencies such as the former Civil Service Commission Chairman Ricardo L. Saludo, and Mr. Antonio Kalaw, the President of the Development Academy of the Philippines, who are staunch believers in the value of ICT for development among the government agencies. These two key figures helped institutionalize ICT training programmes in the curriculum of government training institutions. The other part of CESB's advocacy has been to identify ICT champions in each agency who can follow through the initial ICT training programmes of CESB.

### 6.1 Pursuing Convergence and Intra-agency Collaboration

The need to break from traditional silos within and among organizations was apparent in our effort to formulate the NICS-CESOs. Within CESB, among the various government agencies and across the country's numerous islands, people and agencies collaborated in order to identify the training needs, validate the findings and then build consensus on the domain and contents of the competency sets. Beyond the government, there was private sector support from Intel Philippines to fund the developmental costs and operational requirements of the project, as well as the technical assistance from Ideacorp in formulating the customized Academy modules in the Philippines.

### 6.2 Institutionalizing Stakeholders Buy-in

Crucial in any effort that introduces change is the challenge to reduce conflict, confusion and thus resistance among those who are intended to have a wide and sustained use of whatever the change will bring. In our experience, we have shown that because we have ensured a representation system that allowed for our constituents' needs and concerns to be voiced out and heard, we successfully minimized if not totally did away with confusion and conflict among the intended participants of the training programme.

### 6.3 Outsourcing is an Option

Right from the start, CESB has collaborated with other partner institutions knowing well that it lacked the full competence - policy and technical wise - to enhance the ICT capacity of CESOs on its own. Thus, project consultants were hired, the assistance of technical experts was availed of and the overall project approach was consistently vetted against ICT policy expert evaluation.

In the actual implementation of training programmes, CESB has put in place accreditation mechanisms that allow qualified and competent private training providers to conduct the ICT training modules. There are presently three private institutions that are accredited to roll out the Academy modules, including Ideacorp, the Development Academy of the Philippines and the De La Salle Institute of Governance.

## 7. Next Steps and Aspirations

CESB planned another Academy roll out session by integrating selected Academy modules to form one learning track in the National CES Conference in November 2009. To ensure the sustained implementation of the Academy roll out, CESB has also allocated about PHP300,000 (approximately US\$6,300) in its 2010 budget to fund the requirements of additional training sessions next year.

In the medium-term, CESB aspires to expand the implementation of the Academy modules to the first and second levels of the Philippine civil service, 'penetrate' the autonomous region of Muslim Mindanao, and include local government gatekeepers in the training programmes.

## 8. Conclusions

Governance in this age of rapid and constant technological changes faces new kinds of challenges. Advanced ICTs have subjected public organizations to greater scrutiny. Government agencies struggle to keep

pace with technological changes - understanding its different language and systems, spending on ICT architecture, hardware and programmes, competing with private sector in recruiting ICT-adept personnel, and managing the evolving customer relations with public constituents.

CESB's decision to embark on and formulate the NICS-CESO Project and then the roll out of the Academy modules was driven by this current governance context and its concomitant challenges. Beginning with a clear vision to create public value in service delivery, proceeding with committed leaders and stakeholders, we collectively shared appreciation for the benefits derived from ICT-enabled public management.

More fundamental in the goal to improve service delivery is the ability of public organizations to rethink policies, question existing processes, venture to work together and across agency boundaries, and engage stakeholders so that new ways of serving the public can be done with greater speed, widest access and with the least cost.

## Country Case Studies

# Pacific Island Countries

Siaosi Sovaleni

## 1. The Pacific

The Pacific Island countries' population of less than 10 million is spread over the Pacific Ocean, which covers one third of the Earth's surface. This geographical divide provides unique challenges when trying to provide certain services, like energy and ICT, to rural and remote island communities.

The Pacific Islands Forum Leaders recognized that ICTs, while not an end in themselves, are essential for social development and economic growth, as well as good governance. As a result, the Pacific Forum Leaders in 2005 endorsed the Pacific Plan with the Pacific Plan Digital Strategy (PPDS) as an essential component.

The PPDS goals are to provide direction to the development of ICT in the Pacific region, highlight priority areas, and identify ICT obstacles and issues to be addressed. The PPDS identified lack of capacity, 'tyranny of distance' and 'cost of access' as priority areas to be addressed. These priorities were further endorsed in Wellington, New Zealand in 2006, by the Forum ICT Ministers in the Wellington Declaration.

In February 2009 the Forum ICT Ministers met again in the Pacific ICT Ministerial Forum in Nuku'alofa, Tonga. This Ministerial Forum established five priority thematic areas, as follows:

1. Affordable access - domestic and international connectivity;
2. Enabling environment - more online resources, appropriate regulatory environment, and the building of telecommunication/ICT capacities;
3. Cyber security - enactment of cybercrime legislation and establishment of the Pacific Computer Emergency Response Team;
4. Emergency communications - ICT for disaster warnings and management; and
5. Human capacity building - severe lack of ICT capacity and better coordination of capacity building initiatives required.

The resulting Ministerial Communiqué noted that the Forum:

- Recognized that the building of human capacity in the use and application of ICTs has been previously identified by the Pacific region as a strategic priority;
- Acknowledged that a widespread lack of ICT skills and the high costs of recruiting and retaining qualified professionals continues to be a significant barrier to regional development; and
- Welcomed the increasing number of human capacity building initiatives in the region, and request that where possible relevant agencies coordinate their activities with a view to building synergies amongst these initiatives.

The lack of ICT capacity in the Pacific has been widely acknowledged. The major challenges to building ICT capacity in Pacific include:

- Tyranny of distance/geographical divide - difficulties in accessing training institutions/schools
- Costs of access to ICT education and/or training
- Lack of schools and/or training institutes that offer ICT education/training
- Lack of relevant and updated training material
- Diseconomy of scales due to widely dispersed population of Pacific countries
- Lack of teachers and trainers
- Poor career prospects and recognition for ICT professionals - despite the increasing demands for ICT this has not readily been translated into senior ICT jobs

Fortunately, these challenges have been identified and Pacific leaders and ministers have recognized them and have, to some extent, designated them as priority areas to be addressed. To address the lack of ICT capacity, some organizations are actively working on building ICT capacity in the Pacific, especially on a regional basis. They include the:

- Pacific Chapter of the Internet Society (PICISOC - <http://www.picisoc.org>)
- Pacific Islands Telecommunication Association (PITA - <http://www.pita.org.fj>)
- Secretariat of the Pacific Community (SPC - <http://www.spc.int>)
- South Pacific Islands Applied Geoscience Commission (SOPAC - <http://www.sopac.org>)
- University of the South Pacific (USP - <http://www.usp.ac.fj>)

## 2. SOPAC

SOPAC is an inter-governmental, regional organization with 18 full and 3 associate members, including the Pacific Island Countries and Territories (PICTs) as well as Australia and New Zealand<sup>35</sup>. SOPAC is dedicated to providing services to promote sustainable development in the PICTs that it serves.

SOPAC's work is carried out through its Secretariat, based in Suva, Fiji. SOPAC was founded in 1972 as a United Nations project called the Committee for Coordination of Joint Prospecting for Mineral Resources in South Pacific Offshore Areas, to promote offshore mineral and petroleum prospecting. It became autonomous in 1984. While its initial focus was on marine mapping and geosciences it has since broadened its scope and capabilities to also include disaster risk reduction, and disaster management, environmental vulnerability, oceanography, energy, water and sanitation, and ICT.

SOPAC focuses on providing assistance to its member countries in three key technical programme areas of: managing Ocean and Islands, developing Community Lifelines and managing Community Risk. These programmes are supported by Corporate Services.

### 2.1 SOPAC and ICT Capacity Building

SOPAC and in particular the ICT Outreach Unit has adopted a three-pronged approach to building ICT capacity in Pacific countries targeted at:

- ICT users - for awareness and basic ICT skills;
- ICT Professionals - for specialized and focused training; and
- Policymakers - targeting decision- and policy-makers.

To assist 'users', SOPAC is undertaking a number of interventions including Internet awareness programmes (e.g. Internet 'Dos and Don'ts' posters and Internet booklet for schools), in collaboration with the Internet Society. SOPAC also supports PICISOC's annual PacINET conference, with its ICT staff heavily involved in organizing as well as being resource persons for this premier ICT conference in the region.

SOPAC regularly provides technical and very specialized ICT training to strengthen local capacity as well as increase the number of available ICT experts. Training workshops have been conducted on Linux, Windows, Content Management System, Geographical Information Systems and Remote Sensing.

35. As this Case Study went to press, SOPAC was in the process of integrating into the Secretariate of the Pacific Community (SPC). For more information about SOPAC visit <http://www.sopac.org>.

To sensitize policymakers on the benefits of ICT for development and linkages to development goals, SOPAC formalized collaborative efforts with APCICT to rollout the “Academy of ICT Essentials for Government Leaders” (Academy) in Pacific Island countries. Decision-making and responsibilities for the setting of ICT development strategies resides with policymakers. They need to be aware of the benefits of ICT as well as the challenges facing development of ICT. In response, SOPAC proactively highlights the need for ICT capacity building and encourages its incorporation into national ICT policies.

### 3. The Academy in the Pacific

In recognizing the lack of ICT capacity and the slow progress of ICT development in the Pacific, SOPAC has taken up a lead position in rolling out the APCICT Academy in the Pacific, and signed a Letter of Exchange with APCICT. This Letter defined the collaboration and cooperation efforts between SOPAC and APCICT. As part of this collaboration, SOPAC with assistance from APCICT has conducted the following workshops:

1. Sub-regional workshop as a side event during PacINET 2008 in Rarotonga, Cook Islands on 2-4 September 2008
2. National workshop in Nuku'alofa, Tonga on 25-26 February 2009 as a post event to the Pacific ICT Ministerial Forum
3. National workshop in Tuvalu on 29-30 June 2009
4. National workshop in Apia, Samoa on 9-10 July 2009 as a post event to the Using ICT for Effective Disaster Management Pacific Forum organized by the Commonwealth Telecommunication Organization

The above workshops covered modules 1, 2 and 3 of the Academy curriculum:

1. The Linkages between ICT Applications and Meaningful Development
2. ICT for Development Policy, Process and Governance
3. e-Government Applications

Academy workshops are being planned for the rest of the Pacific Island countries but are very much dependent on available resources.

#### 3.1 SOPAC's Approach

To roll out the Academy in the Pacific, SOPAC decided to conduct national rather than regional Academy workshops. The main reasons are:

- **To better utilize financial resources** - The cost for one local participant to participate in a regional workshop is about the same as that required to fund a resource person from SOPAC to conduct a national workshop.

- **To have more control on target participants** - The target group is senior and high level policymakers, and there is a better opportunity to engage more of them through the conduct of national workshops.
- **To have more relevant content** - The level of ICT development in terms of policy, infrastructure and capacity vary among the different Pacific islands, and for some of the larger islands, disparities are evident even within an island. National workshops allow SOPAC to customize the Academy course to suit local contexts, by presenting and discussing country-specific cases studies. This approach will be less effective in a regional workshop.
- **To maximize local buy-ins** - Instead of one participant attending a regional workshop, the national impact is greater when there are 30 participants attending a national workshop.

Notwithstanding the above, SOPAC does recognize the benefits of having a regional workshop to:

- Share good practices between countries; and
- Build a network of policymakers in the Pacific.

To take advantage of the benefits of regional workshops, Academy courses have been held back-to-back with major regional ICT forums such as the Pacific ICT Ministerial Forum and Using ICT for Effective Disaster Management Pacific Forum. This approach targets regional participants attending these forums as well as a much larger number of local participants. It has proven to be a cost effective way of providing good networking opportunities while enabling a larger number of local participants.

For each workshop, SOPAC with the assistance of APCICT has to:

- Develop a budget for the workshop;
- Ensure funding is secured;
- Establish contact with a local partner who is willing to collaborate in organizing and conducting an Academy workshop;
- Customize the content based on the duration of the workshop, local knowledge, potential participants and agreed objectives;
- Develop local case studies to make discussions relevant and useful for participants; and
- Conduct evaluation and reporting.

#### 3.2 Local Partners

In rolling out the Academy in the Pacific, SOPAC has been working closely with national ministries and departments responsible for communication and/or ICT. For example, for the Tonga workshop, the national partners were the Ministry of Finance and Department of Communication. In Tuvalu, it was the Ministry of Communication, Transport and Tourism.

There are three main reasons for SOPAC's engagement with ICT/communication ministries/departments as a strategy for national Academy roll out, as follows:

1. The Academy is an 'ICT' training programme and it seems logical to work with ministries responsible for ICT. 'Neglecting' ICT ministries could be counter-productive and the programme could lose essential 'political will'.

2. SOPAC's ICT Outreach Unit, responsible for the Academy roll out, has good rapport with the ICT ministries of Pacific Island countries. It is therefore natural for SOPAC to take advantage of and build upon these well-established contacts.
3. SOPAC is helping Pacific Island countries develop national ICT policies and e-government plans, and intends to incorporate discussions on these important initiatives in the Academy workshops. The potential workshop participants (CEOs, policymakers, managers) are key stakeholders, and the ministries of ICT/communication are the drivers of these two important initiatives.

While the national Academy workshops are crucial for networking and putting a face to the name or email, more importantly, they contribute to SOPAC's understanding of local needs and priorities. The workshops served as a 'kick start' to formalizing collaboration and cooperation between SOPAC and these ministries, which are key drivers of ICT development in these countries. Co-organizing and working together in customizing the Academy further built stronger working relationship.

Without these key local partners it would be difficult to customize the Academy and develop locally relevant case studies. These key partners have better local knowledge and know who should be attending the workshop, where to have it, and for how long. Running a workshop without their support and assistance may lead to substandard results, with inappropriate participants and workshops that do not meet needs and expectations. The development of national ICT policies and e-government plans are key initiatives and to discuss them without their main drivers (ICT Ministries) is foolhardy, and may even dampen the political will needed to advance ICT development.

## 4. Results and Impact

Modules 1, 2 and 3 have been used in the roll outs of the Academy in the Pacific. They focus on the linkages between ICT and the Millennium Development Goals (MDGs); ICT for development policy, process and governance; and e-government applications, respectively. By delivering these three modules, the roll outs have seen tangible results including:

- Greater awareness of the MDGs and the status of Pacific Island countries' progress towards meeting these goals - The Academy workshops also served as forums for discussions on these countries' MDG efforts, resulting in a better understanding of the developmental issues and challenges in-country.
- Improved understanding of the contributions of ICT to development - Academy workshop participants have expressed appreciation of the benefits of ICT in health (e.g. online consultations and resources), education (e.g. PFNet) and disaster management (e.g. pacificdisaster.net), among other development sectors. After the workshops, computers were less perceived as 'glorified expensive typewriters', and more as important tools that, if used effectively, can result in positive development.
- Increased knowledge of ICT policy development, and issues that need to be addressed in an ICT policy - As a result, there have been more active engagements in the development and revision of national ICT policies e.g. Tuvalu Computer Department drafting a National ICT Policy; and the Cook Islands ICT Unit, under the Office of the Prime Minister, revising their National ICT Policy.
- Review of policy at the national workshops - National ICT policies, either in draft or endorsed form, were discussed in a session under Module 2. Accordingly, various sectors were made aware of the ICT policy, and sector feedback was documented to suggest possible policy improvement.
- More effective e-government - As part of the e-government module, there were discussions and information gathering sessions on e-government priorities. As a result, clear needs were identified and, consequently, a number of projects were initiated, including development of ministries websites and government portals.
- Heightened awareness and knowledge of key stakeholders on cyber security issues.
- Raised profile of the ICT ministry and its activities.

### 4.1 Follow up actions

Evaluation and follow up actions are crucial for continuing the collaboration and cooperation between SOPAC and local stakeholders. Typical follow up actions include:

- Technical assistance to ICT ministries in the development/revision of national ICT policies and/or e-government plans
- Provision of resources and necessary contacts requested by the Academy alumni (e.g. legislation, online resources, case studies, etc).
- Updating of the Academy alumni contact lists and mailing lists

### 4.2 The Academy and SOPAC

The Academy is an important part of SOPAC, especially for the ICT Outreach Unit. The unit's mandate is to provide ICT technical and policy advice to SOPAC member countries. Some of the reasons why the Academy is sustainable and an integral part of the ICT Outreach Unit include:

- Good feedback and comments received from the Academy workshops that SOPAC has conducted;
- The use of the workshops as stakeholder forums and launch pad for strategic initiatives that continues on beyond the duration of the workshops;
- The Academy being a tried and proven training programme;
- The Academy being the basis for development of materials for seminars and workshops for parliamentarians in 14 Pacific Island countries as part of the activities of the EU-ACP project 'ICT Access for the Poor';
- SOPAC's investment in ICT staff - the recruitment of two new staff and training of two senior staff as resource person for Academy workshops; and

- ICT capacity building being a priority area in the implementation of the Pacific Regional Digital Strategy.

## 5. Challenges and Opportunities

Having conducted four Academy sub-regional and national workshops, SOPAC has encountered the following constraints and challenges:

- Securing financial resources to support the Academy programme
- Customizing the Academy modules without losing their original intentions and objectives
- Developing locally relevant case studies
- Ensuring that the ICT Outreach Unit has the capacity to roll out the Academy programme given the unit's other mandates and projects

The average teledensity in the Pacific is about 10 percent, with broadband Internet penetration at less than 1 percent. Only about one-third of the countries have national ICT policies with only one having cybercrime legislation. These statistics highlight the enormous amount of work still needed in the ICT sector.

Policy makers have shied away from developing ICT policy and legislation because it is hard to effectively regulate what one does not understand. But leaving ICT policymaking to technologists is also wrong because often they are unaware of the policy implications of technologies they are developing and using. The Academy workshops in the Pacific countries have targeted policy makers for this reason. Being able to address this concern has contributed to the success of the Academy workshops. Though workshops have been well received by the participants, it has been a challenge following up with them after the workshops.

SOPAC does not have the necessary resources to evaluate the impact of the Academy programme on all the various stakeholders, except the local partners. It could not be determined whether the workshop participants have implemented activities that were discussed at the workshops, or changed their behaviour or perception of ICT as a tool for sustainable socio-economic development.

## 6. Key Lessons Learned

SOPAC has identified some important lessons learned and has adapted its approach accordingly in rolling out the Academy in the Pacific. Some of the lessons learned and actions taken are as follows:

- The conduct of national workshops ensures greater participation from a

wider range of stakeholders, and it is easier to reach the targeted participants.

- The Academy workshops provide the right forums to discuss priority initiatives such as national ICT policies and e-government plans.
- It is crucial to identify and engage with compatible local partners. In rolling out the Academy in the Pacific Island countries, the ministries responsible for ICT/Communication have been the right local partners. Without their assistance the workshops would not have been such a success.
- It is important to allow sufficient time to organize Academy workshops, to fully consult local partners and prepare appropriate training materials with relevant case studies.
- Forging alliances and partnerships are crucial to the successful roll out of the Academy as shown in the workshops in Cook Islands, Tonga and Samoa.
- Adding an 'ICT Introduction' session at the start of the workshop is useful to ensure that participants have a basic understanding of ICT, including the terminologies, services and applications.
- Adding an 'ICT in the Pacific' session is also useful to provide an overview of ICT developments in the Pacific and set the stage for discussions on MDGs, policy development and e-government.
- There is still a need for more Pacific case studies. Participants have repeatedly pointed out that the case studies in the original Academy modules are predominantly Asian examples.
- There have been requests for training on organizational policy, such as information policy and the acceptable use policy, to be covered under the policy sessions (module 2).
- Business continuity planning has been a popular request and SOPAC intends to address this in upcoming workshops.
- More tangible outputs such as draft policies or real-life case analyses are popular with participants.
- Using videos in training sessions has been well received and improved the level of participants' interests.
- Incorporating local presentations into the workshop programme is important to prompt discussions that are locally relevant and useful. In the workshops conducted so far, local presentations on the country's MDGs status, national ICT policies and e-government efforts were developed.
- At least two days are required to cover selected sections of modules 1, 2 and 3.
- When conducting workshops, time management is crucial to allow interactions but also to provide ample time to adequately cover the training materials.
- There is huge demand for the electronic copy of the Academy modules, presentations and handouts, especially on APCICT flash drives.
- There is a need for more Pacific institutes implementing the Academy programme. SOPAC is currently the only institute in the Pacific conducting Academy workshops.

## 7. Conclusion

A severe lack of ICT capacity has been acknowledged as a major obstacle for ICT development in the Pacific. In response, SOPAC has made capacity building a priority in all its areas of interest. To strengthen ICT capacity in Pacific Island countries, SOPAC has taken a three-pronged approach focusing on three target groups - ICT users, professionals and policymakers. For the latter group, SOPAC recognized the value of APCICT's "Academy of ICT Essentials for Government Leaders" in better informing policymakers about the benefits of ICT in development, and sensitizing them to issues and obstacles in ICT development. In 2008, SOPAC and APCICT signed a letter of exchange to cooperate and collaborate in rolling out the Academy in the Pacific. To build a pool of resource persons to roll out the Academy, SOPAC's senior ICT staff participated in APCICT's 'Training of Trainers' courses.

Since conducting the first Academy in the Pacific in Rarotonga, Cook Islands in August 2008, SOPAC has further conducted three Academy workshops in Tonga, Tuvalu and Samoa. The participants in these workshops were heads of ministries/departments, policymakers and senior government officials. These first set of Academy workshops were based on modules 1, 2 and 3, focusing on the linkages between the MDGs and ICT, ICT policy development and e-government. Developing national ICT policies and e-government plans are two areas that have been identified as priorities by Pacific leaders and their ICT/communication ministers. As a result, Pacific Island countries have been willing and very receptive to hosting Academy workshops.

SOPAC learned valuable lessons while conducting four Academy workshops in four Pacific Island countries. It is clear that the Academy modules need to be customized to suit the target country. All Pacific Island countries have their own distinct languages such as Samoan, Tongan and Tuvaluan. Fortunately, English is the prevalent business language in these countries and translation was not required. Having said that, when the resource persons prepared the case studies, effort was made to incorporate local terminologies and names.

In the Pacific, travelling and logistical costs are high. Forming alliances and partnerships has helped to pool resources to deliver cost effective workshops and ensure broad stakeholder participation. From experience, organizing Academy workshops as side events to other regional events has lowered costs and exposed the Academy to varied stakeholders, as in the case of the Samoa workshop. An important realization is the need to have

an introductory session to ICT at the beginning of the training. Equally important is the clear need to set an appropriate framework for discussions by informing participants about the status of ICT in their country as well as in the region.

The Academy, especially modules 1, 2 and 3, is filling a gap in capacity building efforts in the Pacific by targeting policymakers. Better informed policymakers are better placed to champion ICT development. Furthermore, the Pacific leaders and their ministers have determined that ICT is a regional priority and this will ensure the relevancy and need for training programmes such as the Academy.

