Empowered lives.
Resilient nations.

FROM CONNECTIVITY TO SERVICE DELIVERY:

Case studies in e-governance

United Nations Development Programme

DEMOCRATIC GOVERNANCE

FROM CONNECTIVITY TO SERVICE DELIVERY:

Case studies in e-governance

Authors/editors: Raúl Zambrano and Ruhiya Kristine Seward

For further Information please visit: http://www.undpegov.org/

CONTENTS

LIST OF FIGURES AND TABLES

ACRONYMS & ABBREVIATIONS

A2I	**Access to Information**
CIA	**Central Intelligence Agency (United States)**
EIU	**Economist Intelligence Unit**
EU	**European Union**
GDI	**Gender-related Development Index**
GDP	**Gross domestic product**
GII	**Gender Inequality Index**
GNI	**Gross national income**
GNP	**Gross national product**
HDI	**Human Development Index**
HDR	**Human Development Report**
iCA	**iCentres Association (Bulgaria)**
ICT	**Information and communication technology**
ICTD	**Information and communication technology for development**
IMF	**International Monetary Fund**
ITU	**International Telecommunication Union**
MDG	**Millennium Development Goal**
NATO	**North Atlantic Treaty Organization**
NGO	**Non-governmental organization**
NRI	**Network Readiness Index**
Pe-PP	**Partnerships for e-Prosperity for the Poor**
PIU	**Project Implementation Unit (Albania)**
PMU	**Project Management Unit (Bulgaria)**
PPP	**Purchasing power parity**
SMS	**Short Message Service**
UISC	**Union Information and Service Centres (Bangladesh)**
UNDESA	**United Nations Department for Economic and Social Affairs**
UNDP	**United Nations Development Programme**
UNESCO	**United Nations Educational, Scientific and Cultural Organization**
UNICEF	**United Nations Children's Fund**
WHO	**World Health Organization**

ACKNOWLEDGEMENTS

This publication was developed by the e-governance and Access to Information team in the Democratic Governance Group in UNDP's Bureau for Development Policy in New York. It was written by Raúl Zambrano, Senior Policy Adviser, and Dr. Ruhiya Kristine Seward, Research Analyst. The report is based on five assessments of UNDP e-governance programmes in Albania, Bangladesh, Bulgaria, Cape Verde and Indonesia from 2008 to 2010. Assessments were carried out by Ravi Raina, an independent ICT consultant, and Nele Leosk, of the e-governance Academy Foundation in Estonia.

The report was designed by Jacqueline Broner.

The team would like to acknowledge the support and inputs from all UNDP country offices and colleagues in the governments of Albania, Bangladesh, Bulgaria, Cape Verde and Indonesia, who contributed greatly to the completion of the study. We would also like to acknowledge the assistance offered by the staff of the programmes and implementing agencies for providing information, arranging meetings and helping to conduct interviews and surveys, as well as those who offered time for personal interviews and completed questionnaires. In particular, we are grateful to the following people:

- Klarina Abazaj, e-Schools National Project Officer, UNDP Albania
- Rubaiya Ahmed, A2I Programme, Chief Adviser's Office, Bangladesh
- Carlos Brito, Programme Officer, Democratic Governance, UNDP Cape Verde
- Anir Chowdhury, Policy Adviser, e-governance and Development, UNDP Bangladesh
- Pavel Gospodinov, IT Portfolio Manager, Telecentres, UNDP Bulgaria
- A.A. Munir Hasan, National Project Coordinator, Access to Information
- Sokol Haxhiu, ICT for Development Cluster Manager, UNDP Albania
- Spass Kostov, Technology Manager, iCenters
- Dr. Vadim David Levitin, e-Schools International Programme Manager, UNDP Albania
- Maink Mahmud, e-governance and Development, UNDP Bangladesh
- Elisabete Mendes, Director, Democratic Governance, UNDP Cape Verde
- K.A.M. Morshed, Assistant Country Director, UNDP Bangladesh
- Angel Panov, Technical Coordinator, National Research and Education Network
- Vanya Petrova, Administrator, National Research and Education Network
- Taru J. Wisnu, Pe-PP Project Officer, UNDP Jakarta

CHAPTER 1: OVERVIEW

Developing economies have witnessed unprecedented growth in the use of information and communication technologies (ICTs) in the last decade. With the broadening and democratizing of ICT access - in particular to mobile phones - new technologies are spreading rapidly in places that once struggled with basic communications systems. There are now upwards of 3.9 billion mobile phone subscriptions in the world today, in a global population reaching over seven billion people.[1] Low-income countries have mobile phone penetration rates of almost 45 percent, and lower-middle-income countries, 76 percent.[2] In Sub-Saharan Africa, a region with historically low ICT access, it is estimated over 40 percent of the population has access to a mobile device, dwarfing the 15 percent who use the Internet.

While the global economic crisis of 2008 has had a significant impact on most economies around the world, it has not been as devastating as initially expected in developing countries. One reason why is that many lower-income countries have diversified their economies and do not depend exclusively on northern markets for trade and employment. Economic diversification and the broadening of access to ICTs have fostered greater social innovation, and have offered citizens and governments new ways of confronting traditional development and governance challenges. For governments, ICTs offer tools for achieving the Millennium Development Goals (MDGs) by promoting services for the most marginalized populations while also enhancing transparency and accountability. For citizens, these new communication tools, channels and networks offer new avenues for participation, allowing stakeholders a more prominent voice in decision- and public policy-making processes.

Broader ICT access opens innovative territory for citizen participation, electoral support, educational development and service delivery, all of which are critical to governance development. As citizens are able to engage more easily and effectively with governing processes through new mobile and online tools, governments are recognizing the need to integrate ICT development into national development agendas.

The countries in this study are implementing or working towards ambitious e-governance programmes and projects that help to expand access to information and freedom of expression, and reinforce civil liberties and pluralistic governance structures. Although many challenges remain, stakeholders are developing local solutions that can be shared with other developing countries around the globe.

This report provides insight into the role ICTs can play in achieving critical development goals, and distils lessons and good practices for e-governance development. These case studies help us consider what is feasible and necessary for e-governance development in poor and middle-income countries, particularly when there is political will to promote better and more efficient governance.

For instance, governance issues and 'ICT preparedness' in countries has an impact on programming. The communications market related to access and connectivity issues – such as infrastructure development and costs for connecting to a network - are important considerations for e-governance initiatives and programmes, particularly in relation to reaching the poor. High costs of communications and other technologies can reduce the impact and sustainability of projects and programmes. Citizens who cannot afford ICT access need to be taken into consideration as part of UNDP's pro-poor mandate and programmes and projects need to prioritize the provision of basic public services and information to underserved areas and introduce strategies for making access affordable for the poor. Intermediaries and intermediate technologies that facilitate access to information and services can be deployed in marginalized areas for instance, with the idea being that stakeholders do not need to use a computer or own a mobile device to get access to public services.

E-governance initiatives also need to consider how governments can capitalize on connectivity to better serve citizen needs through innovations in e-administration, e-service delivery and e-participation, and should look for ways of enhancing people's participation in policy decision-making and other governance processes. Many new platforms have been developed which can broaden stakeholder engagement, and these ICT innovations can be harnessed to foster citizen participation. Cooperative partnerships with local municipalities, the private sector, financial institutions and other non-technical partners can help target issues of sustainability and efficiency. Affordable Internet access, for example, is easier to sustain when partnerships and/or alternative sources of funding are established during the early planning stages.

The case studies here show how programming can enhance access to information and improve the delivery of basic services through public investments in ICTs – and link into existing national development priorities and targets. They also show how programmes can support the achievement of the MDGs, such as Goal 8, Target 18 which aims to make the benefits of new information and communications technologies available to all, to support countries in reaching international agreed development goals.

CHAPTER 2: INTRODUCTION

Information and communication technologies supporting human development have evolved rapidly since the 1990s. While ICT deployments were initially centred on infrastructure and connectivity, since the beginning of the new millennium they have helped to tackle issues related to cost, efficiency, effectiveness, transparency, universal service delivery and greater participation by stakeholders, offering innovative solutions for public institutions and private actors. The emergence of social networks, accompanied by the even more impressive and explosive growth of mobile technologies across the world, has reinforced ICT's strategic importance in human development, while at the same time bringing to billions of people access to a digital communications device for the first time in history.

That said, important challenges remain. The lack of resources and skills, weak delivery of public services and deficiencies in basic infrastructure – not only ICT-related – are daily challenges in the public sector of most developing countries. The urban-rural divide is still a reality in most low-income countries, and is one that poses serious obstacles to reaching the poor and most vulnerable. Less developed regions that could benefit most from the adoption of ICTs are usually the last to receive services. Yet, ICT access alone does not guarantee human development. There is an important policy link that must be developed, and e-governance programmes that target the most vulnerable and marginalized are critical for enhancing human development. This is the area in which UNDP can provide the most leverage for supporting pro-poor policies through its ICT for development programme.

In exploring ways that UNDP country offices and other development practitioners can address these challenges, this report has reviewed the following UNDP-supported e-governance projects and programmes:

- Albania: Introducing Information and Communication Technologies to Public Schools (e-Schools)
- Bangladesh: Harnessing Digital Opportunities for Development (A2I programme)
- Bulgaria: Raising Digital Literacy through a Country-wide Network of Telecentres (T-centres)
- Cape Verde: Bringing Government Closer to the People (National Identification System)
- Indonesia: Piloting e-Prosperity for the Poor (Pe-PP)

Please see Annex II for links to the individual assessments conducted on these programmes.

Photo courtesy of UNDP Bangladesh/A2I

In reviewing the case studies in this report, consideration was given to the type of state in which the project or programme is operating, whether the project makes sense given the governance regime, whether the work undertaken is consistent with UNDP e-governance and access to information policy, and whether it furthers the MDGs. More importantly, the report attempts to ascertain whether UNDP e-governance policies are consistent, in order to help strengthen future e-governance initiatives.

Framework for e-governance

Access to information and e-governance are key pillars of UNDP's Democratic Governance Practice on Inclusive Participation, as reflected in the current UNDP Strategic Plan (2008-2013). The core objective of this area is to support government institutions and civil society organizations to provide information, deliver better public services and foster people's participation, especially among the most vulnerable, in governance and policy-making processes.

Building on its long-standing experience in this area, UNDP's e-governance programme approaches ICTs as means to an end – not as ends in themselves. Information and communication technologies, when properly deployed, are *catalytic enablers* that can help address traditional development gaps, and in this way can promote overall human development. Rapid innovation is one of the essential features of new ICTs, a factor that makes them even more adaptable and flexible for use in a variety of environments and socio-economic conditions. UNDP's approach to e-governance thus focuses on how ICTs can help public administrations and civil society engage more closely and establish open dialogue, promote better interaction and strengthen networks and networking to promote the achievement of internationally agreed development goals and the enhancement of democratic governance. In a nutshell, UNDP's e-governance approach has three main objectives:

- Increase the efficiency, transparency and accountability of public institutions
- Enhance information access and provision of basic services to the overall population, in particular the poor and most vulnerable, thus forging a link to the MDGs
- Promote citizen and stakeholder participation in decision- and policy-making processes, particularly among the poor and marginalized, women and youth.

Accordingly, the components of e-governance are not defined in traditional terms – that is, the impact of ICTs on public administration (information, transaction, interaction, etc.). Rather, they are considered in relation to the area of public administration or governance where they are being deployed, and usually financed, by public resources. Based on its work in developing countries, UNDP has identified six e-governance core and cross-cutting components (see Figure 1).

Core components of e-governance

- e-administration: Public investment in ICTs to foster transparency and accountability within both national and local public institutions, to improve their functioning and effectiveness
- e-service delivery: Public investment in ICTs to foster the delivery of public services to all
- e-participation: Public investment in ICTs to foster interaction between public institutions and citizens to promote better policies, services and public operations. This has three levels: information provision to citizens, consultation with citizens, and dialogue between government and citizens. This component is usually linked to voice and accountability, civil society strengthening, and parliamentary development.

Needless to say, these components are linked. For example, if a public institution prioritizes ICT investment in service delivery, the required backend systems and internal organization and administration need to also be addressed if the final goals are to be achieved. Thus, sequencing and other overlapping issues need to be taken into account.

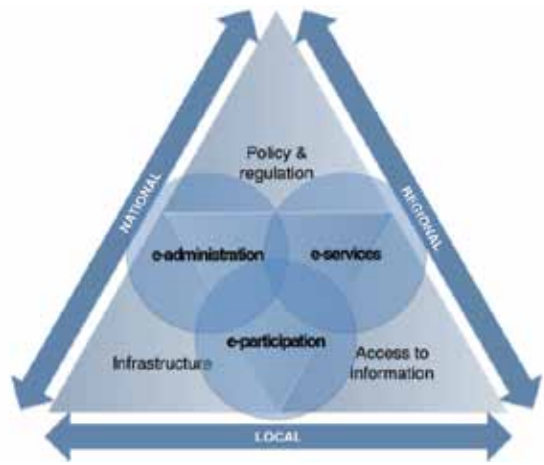

Figure 1. The six components of e-governance

Cross-cutting components of e-governance

This set of components is relevant to any e-governance initiative or programme, but is not unique to e-governance:

- *Policy environment and regulation:* Public investment to support the creation and implementation of ICT for development (ICTD) and e-governance policies, legislation and regulation as well as to build the internal institutional capacities of the public entities involved in policy design, implementation and oversight. In principle, such policies should be closely related to broader national development goals.
- *Access to ICT and connectivity:* This includes investments in public and private information infrastructure, connectivity and equipment to foster wider use by people. Examples include telecentres and public Internet access points.
- *Access to information (A2I):* Public investment in ICTs to promote the digitalization and dissemination of public information among the general population. This is closely linked to the broader field of access to information, which in UNDP parlance includes promoting the creation of national legislation, such as freedom of information acts.

Objectives of this report

The aim of this report is to distil lessons and good practices for e-governance development. It builds an understanding of the link between e-governance and the broader development agendas of the countries in this report, including how the projects and programmes relate to the MDGs and UNDP's inclusive, pro-poor policies. Reviewing these case studies is critical for understanding what UNDP can do to support future e-governance innovation, and what policy support is needed for new initiatives to develop.

Conceptual framework & methodology

The framework for assessing the programmes and projects include a review of each country's political and economic background, an assessment of the e-governance programme/project in the country, and an overall assessment of its consistency with UNDP's e-governance policies.

It should also be noted that data and country information in this report were compiled between 2009 and 2011 and represent data available at the time. Political and economic situations, *Human Development Report* (HDR) statistics and ICT data may have subsequently changed.

Country background

Extensive background research was conducted for each country on the social, economic and political environment in which projects and programmes are operating. This political economy analysis helps contextualize issues related to implementation, and elements of the governance regime that supported or facilitated success..

Programme/project assessments

The projects/programmes were evaluated for relevance, their fulfilment of objectives, efficiency, effectiveness, impact, sustainability, replicability and scalability, along the following lines:

- *Relevance and fulfilment of project goals:* Relevance, functionality and design of projects; appropriateness of projects to operational environments; and the degree to which goals and outcomes were achieved
- *Efficiency and effectiveness:* Resources spent in achieving project results; how well inputs are converted into activities in terms of quality, quantity and time; and the quality of the results achieved
- *Impact:* Impact in terms of the wider environment and the variety of outcomes experienced by each stakeholder and beneficiary
- *Sustainability:* Survival of projects after their official end and follow-up activities
- *Replicability:* Feasibility of repeating projects in other locations
- *Scalability:* Feasibility of scaling projects up to national or organizational levels.

Overall assessment

This report considers whether the projects or programmes:

- Are consistent with UNDP's e-governance and access to information policy
- Support MDG targets
- Are realistic given the governance regime and socio-economic background of the country.

These elements are critical for understanding whether UNDP's e-governance policies are consistent and make sense for future e-governance initiatives.

Case study selection

Projects/programmes were chosen from UNDP's e-governance project database, developed as part of a mapping exercise of all UNDP e-governance activities globally, and in consultation with UNDP Regional Service Centres and country offices.

Photo courtesy of UNDP Cape Verde

Photo courtesy of UNDP Bangladesh

Selection was based on the following criteria:

- Financed and run by UNDP
- Focused on e-governance, in particular on the use of ICTs for administration, service delivery and public participation
- Ended no more than one year before the end of 2008 or is due to end
- Is stable, with at least one phase of implementation complete, and has been in existence long enough to capture sufficient user experience
- Outcomes concerned with more than gains in technology
- Operates beyond capital cities
- Documentation on the project or programme is available, data can be collected and stakeholders are ready to co-operate
- Promotes principles of democratic governance and/or is part of a larger democratic governance programme.

Methodology for review

The programmes and projects were assessed using the following approach:

- Review and analysis of major project documentation, including initial project documents, terms of reference, annual work plans and progress reports, mid-term reviews and final evaluations
- Semi-structured interviews with UNDP country offices, government focal points and the individuals responsible for project implementation
- Semi-structured interviews with key beneficiaries and project stakeholders
- Questionnaires filled out by relevant people involved with the projects
- Personal observations of reviewers.

Please see Annex III for the complete e-governance assessment methodology.

The assessments are intended to capture the impact and effectiveness of UNDP programmes on the ground, contributing to a better understanding of e-governance practices overall and UNDP'S capacity to better plan and implement e-governance projects in the future.

CHAPTER 3: ALBANIA - INTRODUCING INFORMATION & COMMUNICATION TECHNOLOGIES TO PUBLIC SCHOOLS

TABLE 1: ALBANIA COUNTRY PROFILE

- Population: 3,216,000[3]
- Gross domestic product (GDP) per capita in terms of purchasing power parity (PPP) (constant 2005 international dollars): 7,449[4]
- Gross national income (GNI) per capita (constant 2005 international dollars): 7,803[5]
- Household final consumption expenditure per capita (constant 2000 international dollars): 1,288[6]
- Population living below $1.25 PPP per day (percent): 0.6[7]
- Life expectancy at birth (years): 76.9[8]
- Under-five mortality (per 1,000 live births): 15[9]
- Expenditure on public health as a percentage of GDP: 2.9[10]
- Adult literacy rate, both sexes (percent aged 15 and above): 95.9
- Mean years of schooling (of adults over age 25): 10.4 years[11]
- Combined gross enrolment ratio in education (both sexes, percent): 68.0[12]
- Expenditure on education as a percentage of GDP: 4.9[13]
- Gender Inequality Index: 0.271[14]
- Population with at least secondary education (female/male ratio): 0.932[15]
- Labour force participation rate (female/male ratio): 0.7[16]
- Shares in parliament (female-male ratio): 0.197[17]

Country background

Social indicators

With a population of over 3.2 million and the second highest GDP per capita among the countries studied for this report ($7,449), Albania is ranked 70th (out of 187 countries) on the Human Development Index (HDI). Albania is a 'high human development' country, according to the HDR, with less than two percent of its population living on less than $1.25 a day (according to World Bank estimates, however, around 12.4 percent of the population lives in poverty).[18] Almost 96 percent of Albania's population is literate, outranked only by Bulgaria (98.3 percent) among the other countries in this report. It is also above the median internationally on the Gender Inequality Index (GII) of the HDR, ranking 41 out of 146 countries. Albania also has the highest life expectancy of the countries in this report, at 76.9 years, with the highest probability, at birth, of surviving to age 60. With approximately a quarter to a third of the population below the age of 15, and a median age of 29.9 for both men and women, Albania is well placed to take advantage of new communication and networking technologies with a population that will age in the digital era (see Table 1 and Annex 1 for a comparison of social and economic indicators by country).[19]

Political structure and history

In 1991, Albania transitioned from a communist system of governance to an electoral democracy, a change that ushered in several years of social unrest and economic upheaval.[20] Yet now, 20 years later, Albania is a parliamentary democracy, with a constitution that was renewed in 1998.[21] The country holds elections every four years for a unicameral 140-seat chamber, the People's Assembly.[22] According to the Economist Intelligence Unit's (EIU) Democracy Index of 2010, Albania is considered a 'hybrid regime',[23] which means that, like other countries that have transitioned from authoritarianism to democracy in the last 30 years, it lags behind in some political indicators, such as 'participation' and 'political culture'. The index places Albania's political participation and political culture at 4.44 and 5.00, respectively (with 10 being the best and 0 the worst) – exactly the same as Bangladesh, which ranks 83, just ahead of Albania. On civil liberties, Albania ranks 7.35, ahead of Indonesia and Bangladesh (both at 7.06). In terms of electoral processes and pluralism, it ranks 7.42, equal to Bangladesh and just ahead of Indonesia (6.92). In the functioning of government, Albania ranks 5.07, lagging behind all the other countries included in this

report. Albania ranks 84 overall, out of 167 – behind all the other countries in this report (though just behind Bangladesh, which ranks 83) – with an overall 'democracy' score of 5.86 out of 10.

A succession of governments in Albania has attempted to deal with high unemployment, physical infrastructure challenges, issues of transparency and lack of accountability as well as claims of electoral fraud in every election since the early 1990s. In Transparency International's 2010 Corruption Perceptions Index, Albania ranks 87 out of 178, with a score of 3.3 (where 10 represents highly transparent and 0 represents highly corrupt). This indicates marked improvement from earlier years, when, at its lowest, in 2005, the country ranked 2.4[24]. Albania is considered a potential candidate for accession to the European Union (EU) if financial, economic, social and political reforms are accelerated. However, according to Transparency International, Albania must do more to ensure the implementation of anti-corruption laws if it is to be accepted by the EU. In 2009, Albania joined the North Atlantic Treaty Organization (NATO), indicating a step in the direction of international acceptance.[25]

The 2005 general elections, which brought the centre-right Democratic Party of Albania and its allies to power, was thought to be a potential turning point for the country. Yet, according to the EIU's forecast for 2010-2011, the government, re-elected in 2009, has only a small majority and may not be as stable as its predecessors. The prime minister, Sali Berisha, and the Democratic Party of Albania have united with the Socialist Movement for Integration, a long-standing political adversary. In a report released in June 2011, Transparency International noted that a stalemate between these political parties has stalled important reforms, for instance of the judicial system, which is needed to ensure the accountability and professionalism of the state's judges and the overall independence of the judiciary.

The economy

Although Albania's economy continues to grow, the country remains one of the poorest in Europe. With the 2009 election, the government began to adopt reforms recommended by the International Monetary Fund (IMF), including the privatization of national industries and the implementation of a new budget that ostensibly cuts the deficit in half.[26] The government recently sold the state-owned oil refinery, and the state's minority shareholding in a mobile telephone operator; it is in the process of selling off the distribution arm of the state's power sector and the state's majority stake in the leading insurer (although the sale was stalled). The IMF and other multilateral lenders continue to push for more structural and institutional reforms, and for improvements in the business environment. Yet, according to the government, the economy is 'mature enough' to manage without an IMF loan (having accepted a three-year loan agreement that expired in 2009). The country plans to rely on commercial loans to finance its large external and fiscal deficits unless its currency continues to depreciate or if the demand for Albanian merchandise exports and migrant workers is slower than forecast.[27] On the other hand, according to the EIU, "the investment climate in Albania is likely to remain one of the toughest in the region, owing to shortcomings in the public administration and the legal system, widespread corruption, and inadequate (albeit improving) electricity supplies and infrastructure." [28]

Information & communication technology in Albania

The Albanian government has identified ICTs as significant enablers for both social and economic development and to undergird its accession to the EU. In 2003, the government adopted an ICT strategy to stimulate the development of an ICT infrastructure and to develop the legal and fiscal framework needed to make the implementation of e-government, e-education and e-commerce initiatives possible. The strategy was revised in 2006 within the context of the overall National Strategy for Social and Economic Development, the European Stabilization and Association Agreement, and subregional activities under the EU Stability Pact. In June 2007, the National Agency for an Information Society was formed as a body under the Council of Ministers, with the mission of promoting the development of an information society in Albania. The main tasks of the agency include: implementation of the national ICT strategy as well as the development, coordination and administration of the state's information systems. Then, in 2008, a new national ICT strategy – Information Society for Albania – was developed and adopted, with the objective of serving society and improving communication between the public sector and citizens of Albania.

TABLE 2: ICT IN ALBANIA

- Internet users (per 100 people): 41.2
- Cell phones (per 100 people, 2009): 131.9
- Personal computers (per 100 people, 2010): 12.0
- ICT Price Basket [29] (2009): 4.30
- Mobile phone sub-basket as a percentage a country's monthly GNI per capita (2009): 4.18
- Rank in e-government (2010): 85 out of 184 [30]
- Rank in e-participation (2010): 86 out of 179 [31]
- Networked Readiness Index[32] (2010-2011): 87 (out of 138)
- International Telecommunication Union (ITU) Ranking: [33] 92 out of 161.

In terms of its 'networked readiness' – a composite of policy environment, readiness and usage – Albania ranks 87 out of 138, putting it behind Indonesia (53), Bulgaria (68) and Cape Verde (84), but ahead of Bangladesh (115)[34]. In ICT access, Albania has 41.2 Internet users per 100 people, and 12 personal computers per 100 people. Cell phones, however, are more widely used, with 132 cell phones per 100 people (Bulgaria has 140 cell phones per 100 people, whereas Bangladesh, the lowest of the five case studies, has 32.3 per 100). Widespread access is helped by the fact that Albania has a relatively low ICT Price Basket for fixed telephony, mobile cellular and broadband Internet services (expressed as a percentage of average monthly GNI per capita) at 4.30 – behind Bulgaria (3.37), but ahead of the other three case studies (although its mobile phone price basket remains the second highest of the cases, at 4.18 percent of average monthly GNI). Based on the relative prices in the basket, its ITU Ranking is 92 out of 161, ahead of Bangladesh (132), Cape Verde (105) and Indonesia (98) (see Table 2 and Annex 1 for a comparison of ICT indicators by country).

e-Schools programme

Project brief

Title: Support to the Ministry of Education and Science for the e-Schools Programme (e-Schools)

Description: The primary objective of the programme was to improve the quality and efficiency of the education system in Albania by introducing ICT tools in public schools. The programme has provided primary and secondary schools in Albania with modern computer labs, equipped with high-speed, reliable Internet connectivity. It also offered training courses in the use of ICTs to develop the capacity of primary and high school teachers. Specifically, UNDP supported the Ministry of Education and Science with technical assistance to:

- Equip schools with computer labs
- Connect schools to the Internet
- Build the capacity of teachers to use computer labs for education purposes
- Impart a well-developed ICT curriculum to students
- Develop a conceptual framework and pilot telecentres on the basis of e-schools to serve the needs of communes.

Total expenditure:	$910,638
2006:	$174,994
2007:	$301,940
2008:	$279,705
2009:	$151,966
2010:	$2,031
Start date:	8 March 2006

End date:	31 December 2010
Outputs & outcomes: The programme installed a total of 2,128 computer labs in public primary and secondary schools:	
Primary schools:	1,749
Students trained:	450,000
Teachers trained:	25,000
Secondary schools:	379
Students trained:	139,000
Teachers trained:	7,700

Note that expenditures decreased in 2010 as the programme was closing down.

Partnerships: UNDP, the Ministry of Education and Science (through the Education Excellence and Equity Programme, financed by the World Bank), local government, the International Development Association, the European Investment Bank, the Government of China (donated 1,360 computers), the Albanian Banking Association (donated $65,000), the Western Union Corporation (donated $25,000), the Raiffeisen Bank (donated $45,000), one private university (donated one computer lab), the ISSETI Corporation (donated one computer lab), and the Art Gold programme (donated one computer lab).

Assessment of the programme

Links to governance and the e-governance approach

The e-Schools programme equipped 2,128 public schools in Albania with modern computer labs, developing ICT-skills curricula and training 32,700 of its information technology teachers and 589,000 primary and secondary school students to use the new equipment and software. The programme mobilized resources from both UNDP and the World Bank and set up a Project Implementation Unit (PIU) in the Ministry of Education to coordinate activities in planning, designing and implementing the programme.

Deploying computers to public schools with Internet access supports UNDP's overall e-governance framework by enhancing access to information via ICTs, providing public services to people and connecting schools to the Internet. The programme will continue to enhance students' knowledge of and access to computers for many years, and the impact will be improved as all the e-schools are brought online. (Note that universal Internet access was one critical objective that was not achieved in the programme's time frame.[35]) With computer and Internet access, young Albanians will have more educational access

Photo courtesy of UNDP Albania

and be more competitive in the marketplace, and as they graduate and move into the workplace, the ICT skills gained from the computer labs will likely lead to more employment opportunities and entrepreneurship.

Moreover, transparency mechanisms built into the programme open new opportunities for accountability and service and demonstrate the possibilities for online engagement more generally. Such mechanisms include, for example, a comprehensive online database that tracks progress on e-Schools in terms of equipment, teacher-training data, computer usage and Internet connectivity. By opening a venue for public accountability and participation, a secondary effect would be to enhance citizen interaction with government.

e-Schools is currently the only ICT in education programme in Albania. It is a part of the Digital Albania initiative that includes other projects and programmes, such as e-taxation and e-procurement, which enhance people's access to services. Through its integration with these other e-initiatives, e-Schools is part of a larger shift in Albania's public administration that seeks to increase the efficiency and accountability of governing institutions, another cornerstone of UNDP's e-governance framework.[36]

Links to the Millennium Development Goals

The e-Schools programme meets the MDG challenge through its links to ICT access, education and gender equity. Specifically the programme links to MDG 8, Target 18, which is geared to making the benefits of new ICTs available. This was a core goal of the programme, and in fact it succeeded in increasing access to computers and the Internet. It also furthers MDG 2, Target 3, which seeks to improve the net enrolment ratio in primary education. The programme enhances primary education through computer labs and skills-training which encourages young children to enrol and engage in school and drop out less frequently. Finally it links to MDG 3, Target 4 which seeks to eliminate gender disparities in primary, secondary and tertiary education by making computer labs accessible to both male and female students equally. Allowing girls equal access to ICT-based skills facilitates female empowerment, which will likely have the effect of improving the girl-to-boy ratio in schools.

The programme in context

Given Albania's position as a high human development country and its advanced literacy rate, a programme providing ICT access and infrastructure to improve education is an important strategy for Albania's social and economic development. The immediate impact of e-Schools was to widen students' information access via the Internet and to provide extensive training for teachers in primary and secondary schools. On the other hand, the programme's uncertain future and its difficulties in providing universal connectivity remain challenges. In particular, the programme is threatened by the lack of ownership over the PIU – a cornerstone of the sustainability plan – which was intended to be managed by the Ministry of Education and Science. While the PIU was highly regarded when it was independently supported by the programme, when it came to integrating it into the ministry, there was a lack of support, and apparently also a lack of capacity by ministry personnel to take over the activities and to follow up on the programme. This apparent lack of overall buy-in and capacity by the ministry is a well-known factor, one that the programme should have taken into account in its overall strategy. Relying on the PIU's integration into the ministry as the only mechanism for sustainability was not the best strategy.

This points to larger issues within the Albanian government itself, the skills, capacity and willingness of which must be considered in building strategies for sustainability. Large-scale deployment of new ICTs require a relatively high skill set within the institutions implementing such programmes as well as full awareness of the vital importance of undertaking such technology investments in the public sector. One way to do this is to link deployment of ICTs to schools with parallel investments in systems that facilitate the overall administration of education at the national level, including computer labs. The programme was not integrated into a larger educational transformation that could have taken place had the capacity existed to foresee this.

Another not entirely successful strategy involved the telecentres component, which was meant to open 60 percent of schools to local communities, and may have helped enhance access by the poor. School directors were not willing to open their schools to the public without receiving support either to guard the computer rooms or to guide the people visiting the telecentres. In retrospect, this is a reasonable concern on the part of school directors, and should have been a consideration when the programme was designed so that other means were created to open access to communities. Adding the telecentres component to an educational initiative might have been too ambitious, and could have existed as an output on its own. As a component of a larger governmental e-governance strategy, a telecentres project would have its own objectives, activities, outcomes, and management.[37] While the

e-Schools programme could serve as a platform for transforming Albania's national education system, there is no definite plan to continue with the programme. In addition, further evaluations are needed to know if the quality and efficiency of education in Albania has actually improved as a consequence of the programme.

Conclusions

The e-Schools programme has enhanced young people's access to information via ICT in Albania by equipping 2,128 public schools with modern computer labs, developing ICT skills curricula and training information technology teachers to use the software and equipment. The programme supports UNDP's overall e-governance framework, and through links to education, gender equity and ICT infrastructure, furthers at least three MDGs (2, 3 and 8). At the same time, further evaluations are needed to understand if the overall goal of improving the quality and efficiency of education has been achieved. Computer labs alone do not improve the quality and efficiency of education. Instead, education improves as part of a package of dynamic educational policies, national goal-setting and innovative funding partnerships, in combination with improved teaching, up-to-date curricula and engaged students.

The programme was not able to provide universal connectivity, which is a significant enabling factor for access and service delivery, and would have given the programme greater social, economic and governance traction. A core issue was the lack of engaged participation by the Ministry of Education and Science in planning and implementation. As a result, the driver of the programme – the PIU – was not integrated into the ministry, as intended. This undermined the programme's sustainability, and the lack of buy-in by ministry personnel also points to larger issues of interest, capacity and/or skill sets in the government. These are known factors that could have been taken into account when the overall strategy was developed.

Large-scale deployment of new ICTs require a high skill set within the institutions implementing such programmes as well as full awareness of the vital importance of undertaking such technology investments in the public sector. Linking the deployment of computer labs with parallel ICT investments in systems that facilitate the overall administration of education at the national level would help usher in a larger educational transformation for Albanian society. Yet the programme was not integrated into broader educational policy goals that could have taken place had the capacity existed to foresee this. Thus, while e-Schools could serve as a platform for transforming Albania's national education system, there is no definite plan in place to continue with the programme. Furthermore, wider ICT access by the poor remains a challenge since issues such as capacity, sustainability and national policy relevance have not been addressed.

Photo courtesy of Nele Leosk

TABLE 3: BANGLADESH COUNTRY PROFILE

- Population: 150,493,700
- GDP per capita in PPP terms (constant 2005 international dollars): 1,286
- GNI per capita (constant 2005 international dollars): 1,529
- Household final consumption expenditure per capita (constant 2000 international dollars): 389*
- Population living below $1.25 PPP per day (percent): 49.6
- Life expectancy at birth (years): 68.9
- Under-five mortality (per 1,000 live births): 52
- Expenditure on public health as a percentage of GDP: 1.1
- Adult literacy rate, both sexes (percent aged 15 and above): 55.9
- Mean years of schooling (of adults over 25): 4.8
- Combined gross enrolment ratio in education (both sexes, percent): 48.7
- Expenditure on education as a percentage of GDP: 2.4
- Gender Inequality Index: 0.550
- Population with at least secondary education (female/male ratio): 0.784
- Labour force participation rate (female/male ratio): 0.711
- Shares in parliament (female-male ratio): 0.228

*Sources: * World Bank World Development Indicators, 2012. All other figures from UNDP's Human Development Report 2011. See Table 1 for further explanation of categories.*

Country background

Social indicators

Bangladesh has a population of 150.5 million, making it one of the most densely populated countries in the world. Its GDP per capita is $1,286, the lowest among the countries studied in this report, and is ranked 146 (out of 187) in the HDI, making Bangladesh a 'medium human development' country. Nearly 50 percent of the population lives on less than $1.25 a day. Adult literacy stands at almost 56 percent, the lowest of any country in this study. In other comparable life indicators, Bangladesh has the lowest life expectancy at 68.9 years – with almost 25 percent of the population not expected to survive to age 60. Government expenditure on health care as a percentage of GDP is low, at only 1.1 percent, compared, for instance, to Bulgaria's 4.2 percent (the highest of the five countries). On the GII of the HDR, Bangladesh ranks 112 (out of 146), placing it below the median internationally and the lowest among the countries studied for this report (see Table 3 and Annex 1 for a comparison of social and economic indicators by country).

Political structure and history

Bangladesh is a parliamentary democracy, governed by a constitution drafted in 1972 after its independence from Pakistan.[38] Citizens elect members to a 345-member unicameral parliament (called the Jatiya Sangsad) every five years.[39] The power of state is held by the prime minister, who acts as the head of government, selects the cabinet and runs the daily affairs of state. The prime minister is appointed by the president, who is elected by the legislature every five years as the chief of state. The presidential post is ceremonial except during the 'caretaker government' periods when presidential power is expanded, as it was for two years from 2007 to 2009 (see below).[40] In addition to the prime minister, the president also appoints the Supreme Court.

According to the EIU's Democracy Index of 2010, Bangladesh, like Albania, is considered a hybrid regime. This means that it is still in the process of transitioning from authoritarianism to democracy and lags behind so-called 'flawed democracies' in political participation and political culture (in this report, Bulgaria, Cape Verde and Indonesia are also considered flawed democracies).[41] The index places the political participation and political culture of Bangladesh at 4.44 and 5.00, respectively (with 10 being the

best and 0 the worst) – exactly the same as Albania. On civil liberties, Bangladesh ranks 7.06, equal to Indonesia and behind the other countries. In electoral processes and pluralism, it ranks 7.42, equal to Albania, and ahead of Indonesia (6.92). In the functioning of government, it ranks 5.43, ahead of Albania, but behind the other three countries. Bangladesh ranks 83 overall, out of 167; this is just ahead of Albania, but behind the other countries in this study, with an overall 'democracy' score of 5.87 out of 10.

Bangladesh's political history since independence in 1971 has been tumultuous, with several coups and political assassinations that have rocked both the economic and political stability of the country.[42] Even though the country instituted an electoral democratic process in 1991, Bangladesh has continued to experience political unrest as parliamentary victory has passed uneasily between the two major political parties.[43] Up to now, successive governments have struggled with the political turbulence. According to Transparency International, Bangladesh ranks 134 out of 178 in the 2010 Corruption Perceptions Index – the lowest score among the five countries in this report, coming in at only 2.4 (where 10 represents highly transparent and 0 represents highly corrupt). However, it is interesting to note that while 46 percent of people surveyed believe corruption has increased in the country, a full 61 percent of respondents believe the government's actions to fight corruption are effective.[44]

In January 2007, a caretaker government was appointed for two years, until the country was able to hold relatively free and fair elections in December 2008.[45] This election ushered Sheikh Hasina of the Awami League back into the seat of prime minister at the start of 2009. If it is able to retain support of the security forces, it is thought that the Awami League will be able to control parliament for the next few years, although concern is growing over escalating social unrest, sparked by shortages in food, power and water, as well as militant violence.[46]

The economy

According to the EIU's 2010 forecast for Bangladesh, real GDP growth will remain fairly stable, averaging 5.8 percent over the next few years.[47] Even with substantial growth, however, the government will be unable to balance the budget as it tries to address a range of domestic issues, including power, water and gas shortages and spending on social services. Bangladesh has one of the lowest tax revenue collection rates in the world, which strains public financing and makes state budgeting an ongoing challenge for the government. The EIU forecasted that consumer price inflation would average

Photo courtesy of UNDP Bangladesh/A2I

7.8 percent, compared with 5.4 percent in 2009, with food prices expected to exert the strongest (upward) pressure on inflation as global commodity prices increase. Energy remains one of the biggest economic challenges for Bangladesh, and increases in global oil prices will strain public finances.[48] For instance, as prices for gas increase globally, agricultural production costs (the largest sector in Bangladesh) also increase, since the manufacture of fertilizer uses large amounts of natural gas. This in turn puts pressure on farmers, who rely on chemical fertilizers to maximize yields. These increased costs in the production cycle are then passed onto consumers. To avoid sharp price increases, the Awami government will likely have to continue subsidizing electricity tariffs.

Information & communication technology in Bangladesh

TABLE 4: ICT IN BANGLADESH

- Internet users (per 100 people): 0.4
- Cell phones (per 100 people, 2009): 32.3
- Personal computers (per 100 people, 2010): 2.2
- ICT Price Basket (2009): 35.55
- Mobile phone sub-basket as a percentage a country's monthly GNI per capita (2009): 3.05
- Rank in e-government (2010): 134 out of 184
- Rank in e-participation (2010): 102 out of 179
- Networked Readiness Index (2010-2011): 115 out of 138
- ITU Ranking: 132 out of 161

In Bangladesh, ICTs are valued as important tools for enhancing economic development and social transformation. Mobile connectivity alone has expanded by 300 percent annually, and the mobile phone sub-basket is relatively low in comparison with the other cases in this report at 3.05 percent of monthly GNI per capita; only Indonesia is less expensive, at 1.67 percent. The rest of the telecommunications network has been rapidly expanding as well, with fixed-line telecommunications connectivity growing annually by nearly 30 percent.[49] In the last 15 years, the digital telephone network has also grown, with data networks and communication services now available throughout the country. Cooperation between the government-owned Bangladesh Telephone and Telegraph Board and private telecommunications operators has connected the country's 64 districts and allowed the National Data Network to operate as a single digital network. According to the *Horizon Scan Report 2007* (produced as part of the A2I programme), the use of mobile phones, computers and the Internet is increasing everywhere in Bangladesh – in urban and rural areas alike. Eighty-one percent of people surveyed use mobile phones, not only for personal communication but also for business and, increasingly, education; 20 percent use computers, even though nearly half of these users do not own the computer, 10 percent use the Internet, and 90 percent watch television.

Even with the relatively low mobile price basket, Bangladesh's ICT Price Basket is the highest of the case studies – at 35.55 – in part because the figure includes broadband Internet, which remains very expensive at 116.31 percent of GNI per capita. The price basket also includes fixed telephony, which is 3.61 percent – the highest of the case study countries. Based on the relative prices in the basket, Bangladesh's ITU Ranking is 132 out of 161; Cape Verde is the next highest at 105, behind Indonesia (98), Albania (92) and Bulgaria (77). Its networked readiness ranking – a composite of policy environment, readiness and usage – is 115 out of 138 – well behind Indonesia (53), Bulgaria (68), Cape Verde (84) and Albania (87). Bangladesh's ICT needs include infrastructure development, policy coordination and market mechanisms to lower overall ICT costs for its citizens (see Table 4 and Annex 1 for a comparison of ICT indicators by country).

To that end, government has adopted many ICT initiatives over the past five years, commencing numerous projects in different ministries for infrastructure, networking and applications. The government instituted a wide range of regulatory and legal instruments, including: the National ICT Policy, an Amendment of the Copyright Act 2000, the Information and Communication Technology Act, the 1998 Telecommunication Policy, and the 2001 Telecommunication Act. As soon became clear, there was a need to coordinate and expedite incompatible e-government initiatives (and was one of the baseline indicators). The government subsequently created an e-governance 'cell' in the prime minister's office to lead and coordinate the effort, with technical support from UNDP Bangladesh. The cell formed an ICT Task Force with stakeholders from the public and private sectors to seek out and implement publicly funded ICT pilot projects. The office also undertook a publicly funded project

Photo courtesy of UNDP Bangladesh/A2I

– Support to the ICT Task Force – to implement pilot ICT projects.[50] The Bangladesh Telecommunication Regulatory Commission now regulates telecommunications infrastructure development and encourages private sector participation. The government assigned the Ministry of Science, Information, and Communication Technology to manage all science- and ICT-related activities. In turn, the ministry has formed the Bangladesh Computer Council to oversee all ICT-related activities in the country.

The development of ICT skills within the government and in Bangladeshi society remains a challenge. A programme has been initiated to integrate ICT learning in primary, secondary and higher education, and several private sector ICT training institutes have been established.[51] Currently, Bangladesh has five specialized science and technology universities, 28 public universities, 54 private universities, six institutes of technology and some national university-affiliated post-graduate institutes and colleges that offer courses related to computer science and information technology. More than 200 colleges have introduced computer science as an optional subject. Thirty polytechnic institutes, mostly in Dhaka, are offering four-year diploma courses in information technology. Bangladesh Open University is now offering three-semester diploma courses in computer applications. Yet in spite of this growth in ICT education, a serious shortage of skilled labour exists.[52] Thus, Bangladesh has a need to expand the number of institutions offering ICT skills-development and to develop the infrastructure to meet its future ICT needs.

Access to Information (A2I) Programme

Project brief

Title: Harnessing Digital Opportunities for Development (A2I programme)

Description: The A2I programme aims to:

- Ensure the appropriateness of new initiatives in e-governance within the context of national priorities
- Support the development of new projects for ICT for development and provide technical assistance for monitoring and evaluating these projects
- Prioritize and mainstream ICTs into the national development policy and assist in the development of a national e-governance vision and strategy that would harness digital opportunities for development
- Identify emerging opportunities for ICT for development initiatives in support of priorities in the national e-governance vision.

Total expenditure:		$3,876,441 (as of end-2011)
Year	Budget	Expenditure
2007:	$404,000	$370,885
2008:	$428,201	$393,138
2009:	$1,442,700	$1,063,545
2010:	$2,071,655	$1,372,755
2011:	$1,311,890	$676,118
Start date:		December 2006
End date:		Ongoing

Outputs & outcomes

Projects:

- Sixty 'quick win' projects were initiated in 2010 to support service-delivery innovation; fairs were hosted nationally and locally and awards were given to recognize and encourage innovation in public and private sector service delivery.
- The Union Information and Service Centres (UISCs) were scaled-up from 32 to 4,501 in all Union Parishads (municipalities).
- In 2010, 200,000 sugarcane farmers benefitted from *e-Purjee* – a system that relies on SMS (text messaging) to alert farmers when to bring their cane to market; over two million utility bills were paid through mobile phones; an online general diary system was extended to all police stations; 30,000 taxpayers assessed their taxes using an online tax calculator; vulnerable groups in Sirajgonj and Cox's Bazaar were alerted to disasters via SMS; over 130,000 students applied for admission to Shahjalal and Jagannath universities using SMS, and 22 universities will adopt similar systems by mid-2011.
- A One-Stop Service Centre was established in one deputy commissioner's office and eight upazilas.

Training, workshops & information sessions:

- Four government ICT-orientation sessions were held for 17 secretaries, 35 joint secretaries, 15 deputy commissioners, and 60 Upazila Nirbahi officers from each of the seven divisions; sensitization and capacity development workshops were also conducted – from high-level ministers to Union Parishad representatives (including 64 deputy commissioners, 64 additional deputy commissioner generals, 483 Upazila Nirbahi officers, 481 upazila chairmen and 1,100 Union Parishad representatives).
- Seven interactive dialogues were organized for the media in collaboration with the Press Institute of Bangladesh. Institutional partnership with the official news agency of Bangladesh was developed to promote e-services. Three docu-dramas were produced to raise awareness of the benefits of e-initiatives.
- Two hundred-fifty government officers were trained on Bangla Unicode standards for document interoperability.

Policy development:

- Digital Bangladesh's strategic priorities were identified through 14 national consultations with public and private stakeholders chaired by relevant secretaries, in partnership with the General Economics Division of the Bangladesh Planning Commission and with online consultations with ICTD experts and practitioners around the world.
- A 'Strategic Priorities of Digital Bangladesh' document was mainstreamed into the national development plan.
- National e-governance architecture was developed.
- Security policy and guidelines were drafted.
- Comprehensive government web portals are under development.
- A detailed design, process and budget for the National Population Register is under development.

Photo courtesy of UNDP Bangladesh/A2I

Resources and partners:

- Over $53 million was mobilized through partners, including $3.3 million from the private sector, $43 million from the government and $6.7 million from development partners.
- Partners include: Cabinet Division, National Institute of Local Government, Bangladesh Computer Council, Ministry of Information, Ministry of Science and ICT, Ministry of Planning, Ministry of Establishment, the Election Commission, and the Bangladesh Association of Software and Information Services.

Assessment of the programme

Links to governance and the e-governance approach

Starting in 2006, the A2I programme began to create favourable ground for effective ICT programming, starting with a series of surveys and studies that included the e-Governance Horizon Scan Report in 2007 and policy-envisioning documents in education, health, agriculture and local government.[53] The programme also established a core group of ICT 'champions' in all the major agencies of government and designed and developed e-governance 'driver' projects[54] and 'enabling environment' projects.[55] Then, in 2009, when the Awami League came to power, the A2I programme began supporting the government's national e-governance initiative called Digital Bangladesh. The A2I programme and its support for Digital Bangladesh has since become a pillar of UNDP's work in the country.[56] Digital Bangladesh and the A2I programme are both run from the Office of the Prime Minister, giving them high public status and almost daily press coverage. Given that the priorities of Digital Bangladesh are aligned with UNDP's pro-poor policy goals for enhancing access to information and improving the delivery of basic services, the A2I programme is progressively meeting UNDP's overall pro-poor policy goals.

In particular, Digital Bangladesh and the A2I programme have launched numerous 'quick win' projects with key national ministries. One project supported the establishment of UISCs, half of which are run by women. The centres have since spread

to all the Union Parishads across the country and provide crucial access to services – such as university e-admission portals, online agriculture permits, e-tax services and digital classroom access.[57] In 2010, the new UISCs were inaugurated in a live broadcast with Helen Clark of UNDP and the prime minister. The programme is also holding capacity development sessions (another programme inaugurated by the prime minister herself) for district and sub-district (upazila) administrators. The A2I programme continues to contribute to policy and legal frameworks, including the National ICT Policy 2009, which accelerates the use of ICTs in the public sector. Policy support carried out through the A2I programme has laid the groundwork for e-governance development in Bangladesh. As it advances, it is expected to further enhance citizen participation, increase the efficiency and transparency of government, improve service delivery, open opportunities for public investment, and support the creation of e-governance/ICTD policies. In fact, the title of the programme – Access to Information, which implies a 'right' to information – is somewhat misleading, since this programme has a strong e-service delivery component and is now less focused on the legal institutional structures that undergird the right to information.

Links to the Millennium Development Goals

In terms of meeting MDG targets, the outcome of the A2I programme – providing strategic guidance for developing e-governance in Bangladesh – brings new ICTs to the country and expands ICT access for all Bangladeshis. In particular, A2I is helping Bangladesh meet MDG 8, Target 18 by expanding telephone, mobile and Internet access. The A2I programme also has a secondary impact on MDG 1, Target 1 – which aims for full and productive employment as a means to eradicating poverty and hunger – by expanding skills and access to information, particularly for women and young people.

The programme in context

Of all the countries studied in this report, Bangladesh is the poorest, with half of its population living below $1.25 per day. It also has the lowest literacy rate and the highest overall ICT costs – although its mobile phone price basket is one of the lowest, which opens many possibilities for mobile-based initiatives. Through its support for Digital Bangladesh, the A2I programme has broadened the impact of ICTs among poorer members of Bangladeshi society and has made lasting strides in the development of ICT tools for citizen empowerment.

On the other hand, recent infrastructure assessments have indicated a low level of ICT preparedness in Bangladesh, including poor ICT infrastructure, minimal penetration and low usage. This means that plans for wider connectivity and service delivery may be delayed while the infrastructure catches up with ambitious goals. Bangladesh's rank in e-government – drawn from the United Nations *Global e-Government Survey 2010*, and representing a composite scoring of online services, telecommunications infrastructure and human capital – is the lowest of the countries in the report, at 134 out of 184.[58] Its e-participation capacity, drawn from the same survey and based on e-info-sharing, e-consultation and e-decision-making, is also low at 102 out of 179.[59]

The effective implementation of new policy goals will be crucial to the success of the A2I programme and its work with Digital Bangladesh. For instance, the government must strengthen its regulatory framework to ensure adequate data privacy and security for citizens and reform its internal processes to allow for a fuller e-governance platform, such as web portals that provide multiple services to citizens. Due to the charged political tension between the two ruling parties, there is also concern about the sustainability of Digital Bangladesh overall, and the quick win projects in particular, beyond the tenure of the current administration. Given that Digital Bangladesh is associated with the Awami League, there is concern that the entire ICT agenda could be suspended or terminated should the Awami League lose power.[60] This could be a consideration for the A2I programme as the next elections approach. On the other hand, because of the overwhelming benefits of ICTs for Bangladesh, support for their development will continue to grow among the population and foster ownership in the society and governing institutions. There are also enduring issues with governance accountability and concerns with sustainability when formal UNDP support comes to an end. Yet new regulatory and institutional initiatives (passing the 2009 ICT Act and instituting high-level committees to support the proliferation of ICTD) show an institutional change in the government's relationship with technological development that is likely to foster growth in the ICT sector.

Conclusions

In Bangladesh, UNDP has achieved its immediate aim of providing strategic direction for the government to integrate e-government schemes. This has helped to further MDG targets by expanding telephone, mobile and Internet access (Goal 8, Target 18) and could also demonstrably impact MDG 1, Target 1, which relates to full and productive employment through the expansion of skills and access to information. The initiatives launched as part of Digital Bangladesh, such as the 4,501 UISCs established across the country, indicate the strong pro-poor priorities of the government. In fact, among the projects in this report, the A2I programme has demonstrated the strongest sustainable pro-poor linkages – a policy priority for UNDP. In addition, the government's commitment to capacity development for district administrators (through training sessions) shows an accelerating commitment to the use of ICTs in the public sector, in line with the stated aims of the A2I programme and UNDP's e-governance goals in general. The A2I programme's strategic work, such as the e-Government Interoperability Framework – will have a long-term impact on e-governance development in Bangladesh, as will support for the e-government cell in the Office of the Prime Minister, since it seeks to support the national e-governance vision. On the other hand, Bangladesh has a low level of ICT preparedness, including poor ICT infrastructure, minimal penetration and low usage. This means that the infrastructure must catch up with Digital Bangladesh's ambitious goals. The government must continue to strengthen its regulatory framework to ensure adequate data privacy and security for citizens and reform its internal processes to allow for a fuller e-governance platform, such as web portals that provide multiple services to citizens. It is hoped that the overwhelming benefits of ICTs for Bangladesh will foster ownership among the population and in the bureaucracy, ensuring the sustainability of Digital Bangladesh beyond the tenure of the current ruling party (the Awami League). Indeed, the formal structure of the e-government cell will need to be strengthened with permanent officials from the government who will work closely with the A2I programme and be able to carry on the work after UNDP support ends. Overall, the A2I programme is continuing to meet and fulfil its original aims, and supports UNDP's e-governance vision for ICT development.

CHAPTER 5: BULGARIA - RAISING DIGITAL LITERACY THROUGH A COUNTRY-WIDE NETWORK OF TELECENTRES

TABLE 5: BULGARIA COUNTRY PROFILE

- Population: 7,446,100
- GDP per capita in PPP terms (constant 2005 international dollars): 11,456
- GNI per capita (constant 2005 international dollars): 11,412
- Household final consumption expenditure per capita (constant 2000 international dollars): 1,796*
- Population living below $1.25 PPP per day (percent): 1.0
- Life expectancy at birth (years): 73.4
- Under-five mortality (per 1,000 live births): 10
- Expenditure on public health as a percentage of GDP: 4.2
- Adult literacy rate, both sexes (percent aged 15 and above): 98.3
- Mean years of schooling (of adults over 25): 10.6 years
- Combined gross enrolment ratio in education (both sexes, percent): 78.1
- Expenditure on education as a percentage of GDP: 4.1
- Gender Inequality Index: 0.245
- Population with at least secondary education (female/male ratio): 0.979
- Labour force participation rate (female/male ratio): 0.787
- Shares in parliament (female-male ratio): 0.263

*Sources: * World Bank World Development Indicators, 2012. All other figures from UNDP's Human Development Report 2011. See Table 1 for further explanation of categories.*

Country background

Social and economic indicators

Bulgaria is the wealthiest of the countries in this study, with a per capita GDP of $11,456 and a population of almost 7.5 million. It ranks 55th on the HDI and, like Albania, is also considered a 'high human development' country by the HDR. Perhaps owing to its relative wealth, less than two percent of the population lives on less than $1.25 a day, although 10.6 percent lives below the poverty line.[61] Like Albania, Bulgaria also has a high adult literacy rate, at 98.3 percent. In terms of gender equity, Bulgaria ranks 40 out of 146 countries in the GII of the HDR, just above Albania (41) and above the median internationally. Bulgaria falls slightly below Albania in other life indicators, having the second highest life expectancy of the countries in this report, at 73.4 years, and the second highest probability at birth of surviving to age 60 (see Table 5 and Annex 1 for a comparison of social and economic indicators by country).

Political structure and history

Like Albania, Bulgaria was part of the Eastern Bloc of communist states in Eastern and Central Europe until 1989. In 1990, it began its transition to a parliamentary democracy, passing a new constitution, instituting multi-party elections and opening the economy to market-driven reforms. The ruling communist party (which became the Bulgarian Socialist Party) won the first elections in 1990. In 1991, the first fully democratic parliamentary elections were held, bringing the Union of Democratic Forces to power, followed by the first direct presidential elections in 1992.[62] Bulgaria suffered political instability and strikes throughout the 1990s, culminating in a severe economic and financial crisis in late 1996 and early 1997. With international support, the prime minister (at the time, Ivan Kostov) initiated a series of reforms that stabilized the economy and began Bulgaria's integration into Europe. The country held elections in 2001, bringing in a new government, a new president and further market liberalization.[63] The economy began to grow, inflation was brought under control, and unemployment fell from nearly 20 percent to 9.5 percent in 2010.[64] Bulgaria became a member of NATO in 2004 and a member of the EU in 2007.

According to the EIU's Democracy Index of 2010, Bulgaria is considered a flawed democracy[65] – meaning that while the country has free and fair elections, governance, political culture and political participation challenges remain. (Note that in the 2010 report, France, Italy and Greece were all downgraded to flawed democracies because of issues concerning political culture and participation).[66] The index places Bulgaria's political participation and political culture at 6.11 and 4.38, respectively (with 10 being the best, 0 being the worst). In terms of political participation, Bulgaria ranks second highest among the five countries studied in this report (below Cape Verde) and the lowest in terms of political culture. On civil liberties, it ranks 8.82, second only to Cape Verde (at 9.12) – both very high. In electoral processes and pluralism, it is ranked 9.17, tied with Cape Verde for the highest position among the five countries. In the functioning of government, Bulgaria ranks 5.71, putting it ahead of Albania (5.07) and Bangladesh (5.43), but lagging behind Cape Verde (7.86) and Indonesia (7.50). Bulgaria ranks 51 overall, ahead of all the countries except Cape Verde (at 27). It has an overall democracy score of 6.84 out of 10.

Bulgaria continues to grapple with issues of public administration accountability and transparency, and weak judicial authority. In its 2010 report, Transparency International ranks Bulgaria 73rd, with a score of 3.6 (where 10 represents highly transparent and 0 represents highly corrupt). Comparatively however, Bulgaria ranks above Albania (87), Indonesia (110) and Bangladesh (134), but is far behind Cape Verde (45). Nevertheless, concerns over transparency and judicial accountability caused the EU to suspend its aid to Bulgaria, worth hundreds of millions of euros, in 2008. Elections in July 2009 brought victory to the centre-right Citizens for European Development of Bulgaria, although with only 116 seats, it rules without a parliamentary majority and relies on other centre-right and right-wing parties in parliament to pass legislation. The party has, however, demonstrated the political will to address organized crime and strengthen the judiciary.[67]

The economy

Since the 2009 elections, the ruling party's strategy has been to continue pursuing market liberalization and privatization. According to the EIU, the recent budget aims to reduce the fiscal deficit without raising taxes (although there was disagreement about raising the social security tax), assuming the economy will grow, driven by export demand, with lighter inflows of foreign direct investment.[68] The economy is currently in a state of contraction: after pulling in by five percent in 2009, real GDP is forecast to contract by only 0.1 percent in 2010.[69] As part of its agenda of privatization, the government is planning to sell off state assets, including its 80 percent stake in the state cigarette manufacturer (Bulgartabac), the central heating company (Toplofikatsia)[70] and the state steel plant (Kremikovtsi), which was privatized in the 1990s and went bankrupt in 2008. There has been little progress, partly because of the global economic crisis and partly due to political and trade union opposition.[71]

Information & communication technology in Bulgaria

TABLE 6: ICT IN BULGARIA

- Internet users (per 100 people): 45.0
- Cell phones (per 100 people, 2009): 140.2
- Personal computers (per 100 people, 2010): 31.7
- ICT Price Basket (2009): 3.37
- Mobile phone sub-basket as a percentage a country's monthly GNI per capita (2009): 3.85
- Rank in e-government (2010): 44 out of 184
- Rank in e-participation (2010): 39 out of 179
- Networked Readiness Index (2010-2011): 68 out of 138
- ITU Ranking: 77 out of 161

The Government of Bulgaria adopted its first e-governance strategy in 2002, with the aim of establishing an effective state administration to comply with EU principles, regulations and best practices. To prepare for EU accession, essential laws such as the Electronic Document and Electronic Signature Act as well as the Personal Data Protection Act were adopted in 2001. In 2007, a new legal framework for the electronic administration of services – including the Electronic Government Act and a package of six regulations and one instruction – was adopted. The law transposed the guidelines of the European Interoperability Framework 2.0 into national legislation.

Until 2005, no institution was responsible for either e-governance policy development or implementation in Bulgaria. Then, that year, several bodies were established: the Strategic Planning and Governance Department at the Council of Ministers for the formation of e-governance policies at the state level; the e-government department at the Ministry of State Administration and Administrative Reform, for the implementation of state policies and national projects; and the State Agency for Information Technology and Communication, for establishing the national electronic and communications network. The Coordination Council for the Information Society of the Council of Ministers was established to provide methodological and expert support and to act as a key coordinating body for all strategies related to the development of an electronic Bulgaria.

From 2005 onwards, e-governance development has accelerated, with the government launching numerous e-services both for citizens and private companies, including an all-governmental service portal (www.egov.bg) that contains information, forms and applications for more than 1,300 services offered by the central administration. Bulgaria has demonstrated an increasing commitment to ICT. In terms of networked readiness, Bulgaria now ranks 68 out of 138 on the Networked Readiness Index – a composite of policy environment, readiness and usage – ahead of Albania (87), Bangladesh (115) and Cape Verde (84), but behind Indonesia (53).[72] It also is fortunate to have relatively low costs for fixed telephony, mobile cellular and broadband Internet services: the ICT Price Basket is 3.37, the least expensive of the countries in this report. Its ITU Ranking is 77 (out of 161), based on the relative prices of the ICT Price Basket, which includes telephone, mobiles and broadband Internet (expressed as a percentage of average monthly GNI per capita)[73] (see Table 6 and Annex 1 for a comparison of ICT indicators by country).

Telecentres project

Project brief

Title: Raising Digital Literacy through a Country-wide Network of Telecentres ('T-centres')

Description: The long-term objectives of the project were to raise Bulgaria's digital literacy, to deliver standardized, inexpensive and reliable access to information services, and to create a supportive business environment by providing ICT-enabled support networks to small- and medium-sized enterprises in Bulgaria. The Telecentres project facilitated engagement with ICTs and demonstrated their relevance for everyday activities, such as online contact with central and local public administration, online service delivery and affordable communications.

Total expenditure:	$4,239,923 (out of a budget of $4,010,000)
2004:	$1,538,010
2005:	$885,230
2006:	$1,371,510
2007:	$392,247
2008:	$52,926
Start date:	January 2004
End date:	January 2007

Outputs & outcomes: One hundred-five telecentres across the country were established and made fully operational, and six regional telecentres were established to improve the management and operation of the telecentres network. In line with the UNDP exit strategy, a non-governmental organization (NGO) called iCentres was established as a successor to the project. An iCentres Association (iCA) took over the management of the telecentres network and its regional telecentres.

Assessment of the project

Links to governance and the e-governance approach

As noted above, the T-centres project developed a network of 105 fully equipped and connected telecentres and six regional centres in 118 out of an intended 265 municipalities. It also hired local and regional managers, established a Project Management Unit (PMU) and trained 67,000 people. In addition, the project established the iCA in 2008 – an NGO designed to take over the responsibilities of the PMU. The project meets the terms of UNDP's e-governance framework by providing Internet access (the second pillar of UNDP's e-governance strategy), enhancing access to information, particularly in underserved rural areas, and making e-services more accessible through Internet access. It also meets the cross-cutting component of connectivity, with public investment in computer equipment and public Internet access points. To this end, the project has had a positive impact on access, with the centres overall receiving upwards of 1.5 million visitors. Through the expansion of access, the project will potentially enhance citizen participation in policy-making and facilitate more transparent and democratic governance.

On the other hand, no strategy was envisioned for familiarizing citizens with online services available from the government. This is unfortunate, given that the government has launched many e-services for citizens, including an all-governmental service portal with forms and applications for more than 1,300 services. While the telecentres *could* have introduced citizens to these e-services and other government information available online, either via training or by updating telecentre personnel to services, it did not. And, according to a mid-term review conducted in 2007, "information provided by the centres, beyond searches through the Internet, was found to be minimal. In the centres visited, there was little information available related to local socio-economic opportunities nor was there a well-researched and organized local website through which services and development information could be promptly made available to users."

This was a missed opportunity to use the expansion of the telecentres network to deliver better services, particularly for the poor. More work could have been done to ensure that while telecentre access expands, knowledge of new government services available via those centres expands also. This would improve the delivery of services and make the expansion of ICT access meaningful for a broader range of people. It would also bolster citizen confidence in the state, by making the government more accessible and thus accountable.

While the non-governmental iCA was meant to guarantee the operation of telecentres during and after the project timeframe, not enough support was provided from the central or local government to ensure the sustainability of all the centres. The model of 'self-management' for the telecentres is more difficult in sparsely populated areas – areas that could benefit the most from connectivity and access – and require support via subsidies or partnerships with local government. Without support, the telecentres are not viable, an issue that could have been considered in the initial proposal, given how frequently this issue arises in telecentre expansion projects. A system could be developed for sharing resources among centres, and for partnering with local municipalities to help build in sustainability.

To make the project more relevant for inclusive development and UNDP's e-governance framework, more effort could also have been made to guarantee free or low-cost Internet access (only 15 minutes of free access is provided). Free or low-cost Internet would help open access for poorer citizens, at least one in ten of whom live below the poverty line and may be unable to afford the market-rate fees associated with using the telecentres. This is an ongoing issue with the telecentres model in general, as noted in other case studies presented in this report.

Telecentre projects do have the potential to expand Internet and information access for many people. However, these projects often lack a clear vision beyond the establishment of the centres themselves. Telecentre expansion in the context of development should always have a clear component of access for the poor, the extension of service-delivery (via the Internet) and a solid model for sustainability in low-population areas.

Links to the Millennium Development Goals

By opening Internet access across the country, the T-centres project makes an important contribution to MDG 8, Target 18, which is geared to making the benefits of new information and communications technologies available. The project successfully introduced new ICTs to Bulgaria through the provision of computers in the telecentres, increasing the number of Internet users and augmenting information technology skills, including access in less well-served rural areas. As a secondary impact, the telecentres also further MDG 1, Target 1, aimed at eradicating poverty and hunger through full and productive employment, since access to computers and the Internet expands skills and access to information, which in turn opens more possibilities for employment and entrepreneurship.

The project in context

Bulgaria is the wealthiest of the countries in the study (its per capita GDP, at $11,547, is almost $4,000 higher than Albania's) and it has the lowest percentage of the population living below the poverty line. The costs associated with ICTs – fixed-line telephony, mobile cellular and broadband Internet services (expressed as a percentage of average monthly GNI per capita) – are much lower than the other case study countries, at only 3.37 (by comparison, Bangladesh's ICT Price Basket, for instance, stands at 35.55). Therefore Bulgaria's ICT and development gaps are quite different than those of other countries studied in this report, where multiple channels of support may be required, such as policy development and harmonization, and with basic infrastructure support. Nearly half the population (45 out of 100 people) in Bulgaria use the Internet, with 31.7 personal computers per 100 people (by comparison, Bangladesh has 0.4 Internet users out of 100, and only 2.2 personal computers per 100 people). According to the United Nations *Global e-Government Survey 2010*, which ranks countries using a composite scoring of online services, telecommunications infrastructure and human capital, Bulgaria ranks much higher than the other countries in e-government, at 44 out of 184 (the next highest is Albania at 85 and Bangladesh at 134). In e-participation – a composite of e-info sharing, e-consultation and e-decision-making, Bulgaria ranks 39 out of 179 (the next highest is Cape Verde at 68; Bangladesh is the lowest of the cases, at 102).[74] The higher development indicators and general e-readiness of Bulgaria point to a society prepared for wider ICT access and e-governance expansion. Opening new channels of information access is important for fostering inclusive development, and telecentres can expand ICT access for greater numbers of people. Therefore, providing support for telecentre development could do much to further UNDP's particular e-governance objectives, and broader development objectives related to inclusive development and the MDGs.

The resources used to expand the telecentre network helped to advance the ICT infrastructure of the country overall. In comparison with other telecentre projects, such as Partnerships for e-Prosperity for the Poor (Pe-PP) in Indonesia, where only eight telecentres were established for approximately $1 million, Bulgaria set up 105 centres around the country for about $4 million. On the other hand, the Pe-PP project had a significant community development component that the T-Centres in Bulgaria did not. Nevertheless, the Bulgarian project appears to have been more efficient, in terms of expenditure and outcomes. It could also mean that the relative development of Bulgaria, and the strength of its infrastructure, made the development of telecentres easier than in Indonesia (although the Networked Readiness Index places Indonesia (53) higher than Bulgaria (68), so readiness alone is not the reason for the differential in outputs).

Where the Bulgaria project was lacking was in expanding information availability while expanding the infrastructure. More effort could have been made to offer service delivery information in simple ways through the telecentre network. The government of Bulgaria has had issues with transparency and accountability, particularly in public administration, so much so that the EU suspended its aid in 2008. Certainly new e-services offered by the government could provide an important mechanism for augmenting transparency and citizen confidence. However, citizens must be made aware of the new e-service delivery options, which is something that could have been built into the telecentres project for relatively little overhead. Extending the purpose of the telecentres beyond mere Internet surfing could also help make them more relevant for rural and other poorly served areas, and more sustainable.

As it is, the project suffered from the political instability of the country: A change in government in 2007 brought project financing to an end for a period of time and forced the closure of some telecentres. The centres were all re-established a few months later, but the break in service undermined the telecentre image and demonstrated that broad information and communication access for the society is not a high priority of the government. This points to one of the ongoing challenges of the telecentres: sustainability, particularly in poor and underserved areas. The project's plan for sustainability included the

establishment of the iCA – an NGO offshoot of the PMU – which was meant to guarantee the smooth operation of telecentres during the project and after it ended.[75] However, support from both the central and local government was insufficient to ensure that all the telecentres were sustainable. Moreover, local municipalities were not involved in implementation, maintenance and partner-financing of the centres, even though they would have been the natural partners for the project. As it was, only a few innovative local municipalities supported the telecentres, providing the buildings and funds for maintenance. In relatively developed urban areas such in Sofia and Varna, telecentres are managing without support because of the volume of visitors. However, predictably, it is much more difficult for telecentres in remote and sparsely populated areas to function without support. Viability and sustainability are dependent on government or local municipal support.

Conclusions

The project developed and equipped a network of 105 telecentres and six regional centres, reaching an estimated 1.5 million people across the country. Providing Internet access meets the second pillar of UNDP's e-governance strategy – to enhance access to information, particularly in underserved rural areas, and to make e-services more accessible. It also meets the cross-cutting component of connectivity, with public investment in computer equipment and public Internet access points. The project makes an important contribution to MDG 8, Target 18 (to make the benefits of new ICTs available) as well as to MDG 1, Target 1 (to halve the proportion of people whose income is less than $1 a day through productive employment) by increasing the number of Internet users, augmenting information technology skills, and by opening access points in less well-served rural areas, which in turn widens possibilities for employment and entrepreneurship.

On the other hand, the project was unable to achieve universal connectivity in all the centres. Moreover, the minimal involvement of the municipalities and chitalishes (traditional cultural institutions that function as public libraries, managed and financed by local municipalities) contributed to uncertainty in the centres' future and financing. The project missed critical opportunities to introduce citizens to new e-services and to make access more meaningful for a broader range of people, in line with the government's own e-governance development priorities. While the iCA was established to take over the responsibilities of the PMU, lagging financial support has meant that the iCA and many of the telecentres face uncertain futures. In terms of sustainability, the self-management model for the centres has proved difficult in sparsely populated areas, which require support via subsidies or partnerships with local government. Some innovative local municipalities have supported the telecentres by providing buildings and funds for maintenance, but support is not extensive enough.

Cooperation with local municipalities in sharing premises and maintenance costs would have helped the project become more efficient, cost-effective and sustainable. Without support the centres are not viable, a factor that should have been considered in the initial proposal, given how frequently the issue arises in telecentre expansion projects. To ensure more inclusive development in line with UNDP's e-governance framework, more effort should have been made to guarantee free or low-cost Internet access, which would have helped open access for poorer citizens who cannot afford market-rate fees. While telecentre projects do have the potential to expand Internet and information access for many people, projects often lack a clear vision beyond the establishment of the centres themselves. Telecentre expansion in the context of development needs to have a clear component for access by the poor, for the extension of service-delivery (via the Internet), and for the provision of a solid model for sustainability in low population areas.

CHAPTER 6: CAPE VERDE - BRINGING GOVERNMENT CLOSER TO THE PEOPLE

TABLE 7: CAPE VERDE COUNTRY PROFILE

- Population: 500,600
- GDP per capita in PPP terms (constant 2005 international dollars): 3,309
- GNI per capita (constant 2005 international dollars): 3,402
- Household final consumption expenditure per capita (constant 2000 international dollars): 1,439*
- Population living below $1.25 PPP per day (percent): Not available
- Life expectancy at birth (years): 74.2
- Under-five mortality (per 1,000 live births): 28
- Expenditure on public health as a percentage of GDP: 3.4
- Adult literacy rate, both sexes (percent aged 15 and above): 84.8
- Mean years of schooling (of adults over 25): 3.5 years
- Combined gross enrolment ratio in education (both sexes, percent): 50.6
- Expenditure on education as a percentage of GDP: 5.9
- Gender Inequality Index: Not available
- Population with at least secondary education (female/male ratio): Not available
- Labour force participation rate (female/male ratio): 0.658
- Shares in parliament (female-male ratio): 0.263

*Sources: * World Bank World Development Indicators, 2012. All other figures from UNDP's Human Development Report 2011. See Table 1 for further explanation of categories.*

Country background

Social and economic indicators

The ten islands (and five islets) of Cape Verde have a population of approximately 500,600 and a GDP per capita of $3,309, the second lowest after Bangladesh. It is considered a 'medium human development' country by the HDR, ranking 133rd on the HDI. It has a literacy rate of 84.8 percent, and the third highest life expectancy of the countries in this report, at 74.2 years. Almost 27 percent (26.6 percent) of the country lives in poverty (no up-to-date figures were available for people living below $1.25/day).[76] More people of Cape Verdean ancestry live outside the country than within it, and these emigrants provide a steady stream of much-needed foreign currency.[77] In the last estimate in the HDR, inflows from Cape Verdean workers abroad were estimated at $139 million (see Table 7 and Annex 1 for a comparison of social and economic indicators by country).

Political structure and history

In 1975, Cape Verdeans elected a National Assembly and achieved independence from Portugal, after a protracted conflict in which Portuguese Guinea (now Guinea-Bissau) and Cape Verde united against Portuguese colonial forces.[78] The country was ruled by one party – the African Party for the Independence of Cape Verde[79] – until 1990, when opposition groups pressured the government to allow multiparty elections. Like Albania, Bangladesh and Bulgaria, the country held its first multiparty elections in 1991 when the Movement for Democracy[80] won a majority of seats in the National Assembly. However, unlike the other countries in this report, the transition to democracy did not produce the same degree of unrest and deep structural problems, even though the government simultaneously pursued IMF-approved market-oriented economic policies driven by far-reaching privatization and private foreign investment.[81] In fact, Cape Verde is considered one of the most stable and successful democracies in sub-Saharan Africa.[82] Of the countries in this report, Cape Verde appears to be one that struggles the least with accountability issues: According to Transparency International's 2010 Corruption Perceptions Index, Cape Verde ranks 45 out of 178, with a score of 5.1 (where 10 represents highly transparent and 0 represents highly corrupt).

Cape Verde has managed several successful rounds of elections since, with parliamentary and presidential elections occurring every five years since the first multiparty elections in 1991.[83] The National Electoral Commission declared the elections

Photo courtesy of UNDP Cape Verde

'free and fair' despite some opposition and concerns of fraud. According to the EIU's Democracy Index of 2010, Cape Verde is considered a flawed democracy[84] – meaning that it is able to hold free and fair elections but may still face issues with governance, political culture and political participation. However, it also ranks above the other countries in this report in all categories of the Democracy Index. Its political participation and political culture ranking is 6.67 and 6.88, respectively (with 10 being the best, 0 being the worst). On civil liberties, it ranks 9.12, again the highest among the five countries, and in electoral processes and pluralism, it ranks 9.17, equal to Bulgaria. In the functioning of government, Cape Verde ranks 7.86. Overall it ranks 27 out of 167 – with an overall 'democracy' score of 7.94 out of 10, over a point ahead of the other countries in this report.

The economy

Cape Verde has limited supplies of fresh water, suffers from poor rainfall and has few natural resources.[85] Over 90 percent of its food is imported, since only four of the 10 islands support agricultural production.[86] As a result, Cape Verde has built its economy around service, with commerce, transport and public services accounting for more than 74 percent of GDP. Remittances from expatriate Cape Verdeans account for approximately 20 percent of GDP, while agriculture and fishing contribute between seven percent and nine percent of GDP. [87]

Since 1991, Cape Verde's top development priorities have been market-driven, with a strong emphasis on the private sector: improving the 'business operating environment'; rationalizing business and income taxes; promoting tourism, light manufacturing industries and fisheries; and developing transport, communications and energy infrastructure. The focus on privatization accelerated in 2010 with plans to sell the state's stake in the port authority – Empresa Nacional de Administração dos Portos (Enapor) – which manages the country's nine commercial ports. Progress was slow, however, in restructuring other industries, such as the national airline, because of low investor interest and uneven progress in privatizing the national power and water utility.

According to a 2010 report by the EIU on Cape Verde, the IMF reported "sound macroeconomic management" in its eighth and final review of the country's policy support instrument.[88] The prime minister, José Maria Neves, from the ruling African Party for the Independence of Cape Verde, has been praised for attracting substantial donor aid and foreign direct investment, both of which have driven a period of unprecedented growth, despite the effects of the global economic downturn on the service-based economy.[89] The country's strategic location in the mid-Atlantic has been enhanced by improvements in the harbours at Mindelo and Praia, and in the international airports in Sal and Praia, with new international airports opening in Boa Vista and Sao Vicente in 2007 and 2009, respectively. Still, unemployment stands at around 13.1 percent of the workforce, according to the national statistics institute. Unemployment affects urban areas more than rural areas (15.1 percent versus 9.2 percent, respectively), with high rates of unemployment in Praia (17 percent), Maio (17.8 percent) and São Vicente (19.2 percent).[90] GDP is forecast to grow by 4.5 percent in 2010 and five percent in 2011.[91]

Information & communication technology in Cape Verde

TABLE 8: ICT IN CAPE VERDE

- Internet users (per 100 people): 29.7
- Cell phones (per 100 people, 2009): 57.5
- Personal computers (per 100 people, 2010): 29.7
- ICT Price Basket (2009): 7.09
- Mobile phone sub-basket as a percentage a country's monthly GNI per capita (2009): 5.98
- Rank in e-government (2010): 108 out of 184
- Rank in e-participation (2010): 68 out of 179
- Networked Readiness Index (2010-2011): 84 out of 138
- ITU Ranking: 105 out of 161

Cape Verde's progressive development has been attributed in part to innovations in its technological infrastructure. The country has launched many ICT initiatives that have helped to place it among the top performers in ICTs and governance in Africa.[92] It ranks 108 (out of 183) on the e-Government Development Index (based on online service, telecommunications infrastructure and human capital), just above Indonesia (109) and Bangladesh (134), but below Albania (85) and Bulgaria (44). Cape Verde ranks 68 out of 179 on the e-Participation Index, outranked only by Bulgaria at 39; by comparison, Albania and Indonesia both rank 86, while Bangladesh ranks 102.

In the last decade, the government has launched several e-governance-related programmes. These include the Action Plan for Electronic Governance and the Strategic Programme for the Information Society to advance digital accessibility in schools, in the health sector and in public administration, and to develop new competencies in its population. In June 2003, the government set up an Interministerial Commission for Innovation and the Information Society (Comité Interministerial para Inovação e Sociedade da Informação, known as CIISI)[93] to harness the potential of ICTs in public administration. Since then, Cape Verde has developed one of the strongest ICT infrastructures in Africa, connecting 90 public administration units with 4,500 users and 3,900 computers. It has 29.7 Internet users per 100 people, remarkably high for a developing country and rivalling Bulgaria (45) and Albania (41). Its Networked Readiness Index – a composite of policy environment, readiness and usage – is 84 (out of 138), again rivalling Albania (87) and Bulgaria (68). By comparison, Indonesia's is higher at 53, while Bangladesh's is low at 115.

On the downside, Cape Verde still faces relatively high telecommunications costs. Its ICT Price Basket – comprised of fixed telephony, mobile cellular and broadband Internet services (expressed as a percentage of average monthly GNI per capita) – is 7.09. This is one of the higher figures among the case studies, in part due to the costs of broadband and mobility. The mobile phone price basket (expressed as a percentage of per capita GNI) is the most expensive of the five cases – at 5.98, almost two percentage points higher than the next highest, Albania, at 4.18 (the lowest is Indonesia at 1.67). Cape Verde's ITU Ranking is 105 (out of 161), based on the relative prices of the ICT Price Basket. In the long term, however, these prices may continue to drop as Cape Verde continues to grow and ICT access spreads (see Table 8 and Annex 1 for a comparison of ICT indicators by country).

National Identification System in Cape Verde

Project brief

Title: Bringing Government Closer to the People

Description: This project sought to make government more effective, efficient and closer to citizens through the use of ICTs. More specifically, it aimed to restructure the National System of Identification and Civil Authenticity (SNIACE). Objectives included:

- Strengthening the government's e-governance capacity and the capacity of national institutions to develop a new National Identification System.
- Developing and implementing an information, education and communication campaign for citizen mobilization to raise awareness about the importance of the National Identification System, with a view to creating a new database and restructuring the system.
- Supporting the design, manufacture and distribution of new national identity cards and passport system.

Total expenditure:		$1,399,637
Year	Budget	Expenditure
2007:	$660,000	$660,002
2008:	$323,714	$327,717
2009:	$413,280	$411,918
Start date:		August 2007
End date:		December 2009

Outputs & outcomes:

- Communications, marketing, and technical assistance were provided for trainers and software engineers.
- One hundred trainers received training on biometric kits; they, in turn, trained 600 operators.
- Computer equipment was acquired for biometric kits and kiosks.
- National support centres, based in Praia, were equipped and made operational.
- Information, education and communication campaigns were successfully conducted.
- Some 252,000 people registered (12,000 more than expected) with the National Identification System.

Activities not yet achieved (due to a lack of financial resources):

- Issuance of the new national identification cards
- Updating of electoral rolls for the diaspora.

Assessment of the project

Links to governance and the e-governance approach

The project created a National Identification System that computerized Cape Verde's electoral lists. Two 'Citizens' Houses' were established in Praia and Sal to offer e-services, such as online birth certificate registration and online business registration certificates. A national campaign was launched to mobilize and sensitize citizens to civic identification and participation, which appeared to augment citizens' confidence in the electoral system: 80 percent of eligible voters turned out for municipal elections of May 2008. However, the project was unable to follow through with issuing the new national identification cards, a significant outcome that was unfortunately not achieved. Other remaining challenges include reviewing and overhauling

Photo courtesy of UNDP Cape Verde

legislative and regulatory laws, such as the electoral code, and establishing eight more Citizens' Houses to expand access for more Cape Verdeans.

In terms of meeting UNDP's e-governance policies, the project increased the efficiency of elections in Cape Verde while enhancing citizen participation in the process of voting – both of which are part of UNDP's strategy in e-governance. The computerization of the electoral lists and the electronic identification of voters increased citizens' confidence in the electoral system; it is thought that this may be why levels of participation in the municipal elections of May 2008 were so high. The project also fulfilled the cross-cutting component of 'access to ICT and connectivity' by investing in public information infrastructure, and has helped Cape Verde to remain one of the top performers in ICTs and governance in Africa. In terms of reaching the poor and marginalized, the Citizen's Houses allow vulnerable groups in the urban areas of Praia and Sal to access information and government services, such as those related to passports, election registration, birth certificates and other identification documents.

On the other hand, underserved populations in the other 13 islands/islets of Cape Verde still have little or no access to services and face high prices for communication – the highest of the case studies in this report. Only those who live in one of the populated urban areas in Praia and Sal, or who can *afford* to make a phone call[94] to one of the Citizen's Houses, have access to the services. Even in Praia, only around 25 to 30 people visit the Citizen's House in a day. This means that the project must continue to do more to reach the poor and encourage greater participation of marginalized populations in the electoral process and in policy-making.

Links to the Millennium Development Goals

As is the case with other projects studied, the National Identification System furthers MDG 8, Target 18 – geared to making the benefits of new information and communications technologies available – by digitizing electoral roles and by expanding Internet access and e-services. The electronic National Identification System enhances access to ICTs, particularly through the Citizen's Houses in Praia and Sal, and significantly augments electoral transparency. The project also furthers MDG 8, Target 14, which addresses the special needs of landlocked developing countries and small island developing states. As a small island state, Cape Verde has limited fresh water supplies, few natural resources, and is consequently dependent on imported food (over 90 percent is imported). As a result, its economy is structured around service industries, with commerce, transport and public services accounting for upwards of 74 percent of GDP – industries that can be further enabled and supported by ICT expansion. Rationalizing and extending Cape Verde's ICT infrastructure and capacity is vital for both supporting the MDG targets and for the country's service-driven economy.

The project in context

Cape Verde is one of the most stable democracies in Africa. It has a higher GDP ($3,431) than most other countries in sub-Saharan Africa, with the exception of Gabon and Equatorial Guinea, and other African island states such as the Seychelles. While over one fifth (20.6 percent) of its population lives below $1.25 a day, Cape Verde has a relatively high literacy rate of 84 percent. For every hundred people in Cape Verde, nearly 30 use the Internet; about the same number have personal computers (by comparison, Indonesia has only 8.7 Internet users per 100 people, and only 8.3 people per 100 have personal computers; Bangladesh has 0.4 Internet users per 100 people, and only 2.2 have their own personal computers). Cape Verde has almost 58 mobile phone users for every 100 people, which is high given the costs of telecommunications on the islands (its mobile price basket is the highest of the case studies at 5.98, expressed as a percentage of GNI per capita).

As mentioned previously, Cape Verde is now politically stable and is favoured by economists and the IMF for its 'sound mac-

Photo courtesy of UNDP Cape Verde

roeconomic management'. Given these factors, development projects that streamline the electoral process and create the communications infrastructure needed to serve greater numbers of people are very important in undergirding the country's growth and development. Transparent elections, aided by digitized electoral roles, can significantly bolster citizens' confidence in the state and also encourage foreign investment. In fact, Cape Verde has already been successful in attracting substantial donor aid and foreign direct investment due to its strategic location and its investment-friendly environment. This capacity to attract investment opens greater possibilities for public-private partnerships. In the last few years the government has been able to initiate several complementary projects that reinforce the electoral system and further decentralize and modernize local governance with funds from Europe.[95] The impact and visibility of the Citizen's Houses has also prompted interest and collaboration with other donor agencies involved in electoral issues, citizens' participation in public life and the civic registry.

At the same time, communication remains expensive for most Cape Verdeans. At this point, the high costs of communication reduce the impact of ICT projects, since only those who can afford it have access to the services developed under this initiative. Thus, when considering future projects, it is important to consider how much access is available for the 41 percent of the population living on less than $2 a day. Information and communications technology projects that target only the upper and middle-income classes are not in line with UNDP's mandate. It is also important that future projects take into consideration the legislative and regulatory framework in Cape Verde, to ensure that the electoral code and laws are in place to protect citizen privacy.

Conclusions

In Cape Verde, the National Identification System project was effective in bringing the state closer to its citizens. The project established two Citizens' Houses in the urban areas of Praia and Sal to offer e-services such as online birth certificate registration and online business registration certificates, and computerized Cape Verde's electoral lists. In doing so, the project increased the efficiency of elections and enhanced citizen participation in voting – both vital components of UNDP's strategy in e-governance. The National Identification System also furthers at least two targets in MDG 8 - Targets – 14 and 18 – geared, respectively, to the special needs of small island developing states and to making the benefits of new ICTs available.

Cape Verde is one of the most stable democracies in Africa and one of the continent's top performers in ICTs and governance, and this project has made important strides in both areas. It has promoted greater ICT access and supported transparent elections, which in turn increase citizens' confidence in the state and encourages more foreign investment. Cape Verde has already been successful in attracting substantial donor aid and foreign direct investment because of its strategic location and its investment-friendly environment. It secured complementary projects to ensure the financial viability of the National Identification System, and received a total of about $700,000 from Luxembourg and Portugal to reinforce its electoral system and initiate local governance programmes. The remaining challenges include: 1) issuing new national identification cards, an outcome which was planned but not achieved during the project; 2) reviewing and overhauling legislative and regulatory laws, such as the electoral code; and 3) establishing eight more Citizen's Houses and expanding access to reach greater numbers of Cape Verdeans, particularly those most in need of services. With 41 percent of the population living on less than $2 dollars a day, and high communication costs, future projects must strive to reach the poor and encourage greater participation of marginalized populations in electoral and governance processes.

TABLE 9: INDONESIA COUNTRY PROFILE

- Population: 242,325,600
- GDP per capita in PPP terms (constant 2005 international dollars): 3,813
- GNI per capita (constant 2005 international dollars): 3,716
- Household final consumption expenditure per capita (constant 2000 international dollars): 647*
- Population living below $1.25 PPP per day (percent): 18.7
- Life expectancy at birth (years): 69.4
- Under-five mortality (per 1,000 live births): 39
- Expenditure on public health as a percentage of GDP: 1.2
- Adult literacy rate, both sexes (percent aged 15 and above): 92.2
- Mean years of schooling (of adults over 25): 5.8
- Combined gross enrolment ratio in education (both sexes, percent): 77.6
- Expenditure on education as a percentage of GDP: 2.8
- Gender Inequality Index: 0.505
- Population with at least a secondary education (female/male ratio): 0.778
- Labour force participation rate (female/male ratio): 0.605
- Shares in parliament (female-male ratio): 0.220

*Sources: * World Bank World Development Indicators, 2012. All other figures from UNDP's Human Development Report 2011. See Table 1 for further explanation of categories.*

Country background

Social and economic indicators

Indonesia has a population of more than 242 million, the largest of the countries studied. Its GDP per capita is $3,813 and it ranks 124th on the HDI, making it a 'medium human development' country according to the HDR. Indonesia has a literacy rate of 92 percent – above Cape Verde (84 percent) and Bangladesh (55 percent). It ranks 100 on the GII of the HDR, placing it below the median internationally in terms of gender equity. It also has the second lowest life expectancy at 69.4 years (Bangladesh has the lowest at 68.9). World Bank figures indicate that 13.3 percent of Indonesia's population lives below the poverty line, with 18.7 percent living on less than $1.25 a day. Tens of thousands of Indonesians emigrate to Malaysia every year, driven by the income differentials between these countries[96] (see Table 9 and Annex 1 for a comparison of social and economic indicators by country).

Political structure and history

In 1998, B.J. Habibie became Indonesia's president when General Suharto, who had ruled the country since 1968, resigned.[97] President Habibie was the third president since Indonesia's formal independence from the Netherlands in 1950. He established an economic stabilization programme with the IMF and took measures to lift control of the press, labour unions and political parties. The handover of power from General Suharto to President Habibie represented Indonesia's transition to electoral democracy and, in 1999, the country held free parliamentary elections, with at least 48 political parties participating. The People's Consultative Assembly, the highest national representative body, selected Abdurrahman Wahid as Indonesia's fourth president in November 1999. In 2004, Indonesia held its first presidential election in which the Indonesian people directly elected the president and vice president, after the constitution was amended to overhaul the executive, legislative and judicial branches of government.[98] Former Army General Susilo Bambang Yudhoyono won the elections and was then re-elected in July 2009.

Indonesia is now considered one of the largest democracies in the world and has managed to maintain political and economic stability despite internal independence resistance movements, natural disasters and financial crises.[99] Being an archipelago of culturally and ethnically diverse islands, it has had to contend with independence and autonomy movements since the Dutch consolidated the islands under one state during its colonial rule. Escalating violence in East Timor (now known as Timor-Leste) eventually led to a negotiated independence in 2005, when Indonesia reached a peace agreement with armed

separatists in Aceh; the first democratic elections in Timor-Leste were held in December 2006.[100]

According to the EIU's Democracy Index of 2010, Indonesia ranks 60th overall – ahead of Albania (84) and Bangladesh (83), but behind Cape Verde (27) and Bulgaria (51). It is considered a 'flawed democracy' [101] – meaning that the country has free and fair elections, but challenges regarding governance, political culture and political participation remain.[102] The index places Indonesia's political participation and political culture at 5.56 and 5.63, respectively (with 10 being the best, 0 being the worst). On civil liberties, Indonesia ranks 7.06, tied with Bangladesh for the lowest ranking, below the other cases. In electoral processes and pluralism, it ranks 6.92, again below all the other cases in this study. On the other hand, in terms of the functioning of government, Indonesia ranks 7.50, just below the highest, Cape Verde (7.86).[103]

In public administration accountability and transparency, Indonesia ranks 110 out of 178, with a score of 2.8 (where 10 represents highly transparent and 0 represents highly corrupt), according to Transparency International's 2010 Corruption Perceptions Index. Comparatively, Indonesia ranks well below Cape Verde (45), Bulgaria (73) and Albania (87) in terms of transparency, yet remains ahead of Bangladesh (134). Although Indonesia is developing its governance capacity, it may still have to deal with issues of government accountability.

Development challenges are made more difficult by Indonesia's vulnerability to earthquakes and other natural disasters. Several natural disasters, in fact, have struck the country every year since 2002. In 2004, Indonesia was hit by the Indian Ocean tsunami that killed over 130,000 people in Aceh alone. Then, in 2005, another earthquake struck between Aceh and northern Sumatra, killing almost 1,000 people and displacing tens of thousands more. In 2006, an earthquake struck in the Yogyakarta region, killing more than 5,000 people and leaving 200,000 homeless. In 2009, two earthquakes – on Tasikmalaya, West Java and western Sumatra – killed about 100 people and 1,100 people, respectively. In 2010, three earthquakes struck in Sumatra, in April, May and October. And in 2011, one, so far, has shaken Java.

The economy

While the country continues to face nature's challenges to its ecosystem and livelihoods, Indonesia weathered the 2008-2009 global financial crisis relatively smoothly, relying on domestic consumption to drive economic growth. The country outperformed its regional neighbours, joining China and India as the only Group of 20 members to grow during the crisis. Of all the countries in this study, Indonesia appears to show the strongest economic growth, which even during 2009 was above four percent (with over six percent growth in 2007 and part of 2008).[104] Growth was expected to rebound in 2010 and 2011 to six percent. Unemployment also declined despite the global financial crisis, falling to 7.4 percent (as of February 2010). Moreover, President Yudhoyono has taken measures to attract long-term investment in the country and to deal with issues of government accountability.[105] However, according to the EIU, he faces resistance from some vested interests within the country. The president has also sought to reform labour laws and the civil service, but these may have to be postponed.[106]

Information & communication technology in Indonesia

TABLE 10: ICT IN INDONESIA

- Internet users (per 100 people): 8.7
- Cell phones (per 100 people, 2009): 69.2
- Personal computers (per 100 people, 2010): 8.3
- ICT Price Basket (2009): 5.81
- Mobile phone sub-basket as a percentage of a country's monthly GNI per capita (2009): 1.67
- Rank in e-government (2010): 109 out of 184
- Rank in e-participation (2010): 86 out of 179
- Networked Readiness Index (2010-2011): 53 out of 138
- ITU Ranking: 98 out of 161

Indonesia has witnessed a rapid diffusion of new information and communication technologies. Over the past decade, the country has spent nearly a trillion dollars on information technology hardware, software and other services, and the government has created innovative programmes for ICTs in agriculture, education and health as well as women's access to information and microenterprise development. Indonesia's Networked Readiness Index ranking – a composite of policy environment, readiness and usage – is the highest in this report at 53, well ahead of the next closest, Bulgaria (68). New government policies include a high-level strategic plan for ICTs from the Ministry of Communication and Information, a national ICT vision and a high-level ICT coordinating team.

Indonesia's telecommunications infrastructure has expanded rapidly, although users remain relatively low in comparison with the other country case studies. Indonesia has 8.7 Internet users and 8.3 personal computer users per 100 people (by comparison, Bulgaria has 45 Internet users per 100 people and 31.7 per 100 have personal computers). On the other hand, 70 out of 100 people in Indonesia have cell phones, meaning that mobile phone use is expanding much more rapidly than other communication technologies.[107] In fact, the price basket for mobile phones is the lowest of the cases here – at only 1.67 percent of the country's monthly GNI per capita; the next lowest is Bangladesh at 3.05, and the most expensive is Cape Verde at 5.98 percent. Overall, however, Indonesia's ICT Price Basket, at 5.81, is higher than Albania's (4.30) and Bulgaria's (3.37). The reason for this, as in Bangladesh and Cape Verde, is that the cost for broadband Internet is high, at 12.44 percent of monthly GNI per capita. Indonesia scores 98 out of 161 on the ITU Ranking (based on the ICT Price Basket), which puts it just below Albania (92), but above Cape Verde (105) and Bangladesh (132). In terms of e-governance-related issues, Indonesia now ranks 109 out of 184 on the e-Government Development index – a composite of online services, telecommunications infrastructure and human capital – placing it just below Cape Verde (108) and above Bangladesh (134). In e-participation – a composite of e-info sharing, e-consultation and e-decision-making – Indonesia ranks 86 out of 179, tied with Albania and behind both Bulgaria (39) and Cape Verde (68) (see Table 10 and Annex 1 for a comparison of ICT indicators by country).

Despite the progress already made, Indonesia still has a way to go before the real benefits of ICTs can reach into the daily lives of the poor. While businesses have rapidly computerized their operations, the current ICT infrastructure serves less than five percent of the country's population, meaning that more must be done to achieve a situation in which ICTs are serving pro-poor development. Moreover, the overall adoption of ICTs within governmental operations still shows signs of being limited to strategic plans, despite some strong applications in selected government agencies.

Partnerships for e-Prosperity for the Poor

Project brief

Title: Piloting e-Prosperity for the Poor (Pe-PP)

Description: Assisted government and civil society in becoming more responsive and more able to network effectively for knowledge-sharing. The objectives of the project included:

- Establishing multipurpose community development telecentres to provide poor communities with increased access to ICTs
- Helping poor communities access basic services
- Forging local and national partnerships to contribute to the implementation of ICTs for poverty reduction
- Disseminating knowledge on implementing ICTs for poverty reduction initiatives for advocacy, replication and policy formulation.

Total expenditure:	$1,212,869
2004:	$14,447
2005:	$360,010
2006:	$495,968
2007:	$313,180

2008:	$34,987
2009:	+$5,723 (income)
Start date:	October 2004
End date:	December 2008

Outputs & outcomes:

- The Pe-PP model for sustainable telecentres was developed and eight telecentres were established.
- *Guidelines for Telecentre Development & Management and Info-mobilization* were developed and disseminated.
- National and local governments initiated a plan to replicate the telecentres.
- The Indonesia Telecentre Network was established to support the replication initiative.
- A new project was formulated to support the telecentre initiatives.

Assessment of the project

Links to governance and the e-governance approach

The Pe-PP project established eight pilot telecentres in Sulawesi (three), Papua (two), East Java (two) and Central Java (one), and trained community groups at the local and village level to manage them. The project deployed 'info-mobilizers' at the community level to help establish viable village-level microenterprises and established partnerships with other NGOs and private sector companies to help facilitate the telecentre operations. In Sulawesi and East Java, local governments were involved in establishing and managing the telecentres, by providing buildings for housing the centres and grants for their initial operation. Sun Micro Systems also worked with the project, supplying hardware and software for the telecentres.

Like other telecentre projects in this review, Pe-PP provided Internet access, which enhances access to information, particularly in underserved rural areas. This has the inherent potential to make e-services more accessible, eventually enhancing poor people's participation in political and policy-making processes, which in turn increases the transparency of national institutions. In doing so, the project met the second pillar of UNDP's e-governance strategy – enhancing access to information and improving the delivery of basic services. Its secondary effects may also meet the first and third objectives of UNDP's strategy – increasing the efficiency, transparency and accountability of national institutions and enhancing citizen participation, particularly of the poor, women and youth, in democratic processes and policy-making. Some of the telecentres became important mechanisms for service delivery, ranging from offering e-business services to government information dissemination and public service delivery.[108] In rural Lumajang, East Java, for instance, the Ministry of Education is using the telecentre to deliver basic community-level education. It is expected that telecentres will be increasingly used for public service delivery as the government itself offers more services online and computerizes its operations. Therefore, the project is aligned with UNDP's core e-governance components of e-service delivery and the cross-cutting component of access to ICTs and connectivity.

The project included a community development component, with rural communities engaged from the start through participatory rural appraisals,[109] which were conducted ostensibly to gauge the needs of the communities where centres were going to be established.[110] Following the appraisals, which relied on info-mobilizers, the project helped establish community groups, such as farmers groups and women's groups and conducted community training in the use and management of the centres.

At the same time, while the info-mobilizers were successful in the early stages of the project, most of them came from outside the community in which they worked. As the pilot phase ended, the info-mobilizers left, leaving the community groups to operate the centres on their own, sometimes before they were actually able to manage them without support. Community involvement also lagged when previously free services offered by the centre began to cost more than many in the community could afford; this happened at the Lumajang telecentre and revenue remains 15 to 20 percent below the point where it could cover costs.

So while the Pe-PP project *did* target underserved areas, giving the project an important pro-poor component, some of the rural centres are now struggling to survive. This highlights one of the most important issues with telecentres themselves as a vehicle for expanding access to ICTs and information: whether privately driven or community-managed, they are difficult to maintain in sparsely populated areas – the areas that stand to benefit the most from connectivity and access. While community telecentres do have the potential to expand Internet and information access for many, they can only do so if they can be made viable.[111] Given how frequently this issue arises in telecentre development, it must be considered in the initial proposal and planning. Where communities cannot take full ownership of a centre because of revenue shortfalls, other options need to be considered, such as revenue-sharing with more populous centres, or local government support. Moreover, with the rapid expansion of mobile phones in many developing countries, there are many other options – in many cases, more efficient options – for information access that should be considered.

Links to the Millennium Development Goals

The project furthers MDG 8, Target 18, which is intended to make the benefits of new information and communications technologies available. The project was successful in introducing ICTs, increasing the number of Internet users and, in some cases, augmenting information technology skills, including access in underserved rural areas. As a secondary impact, the telecentres are also furthering MDG 1, Target 1 – geared to eradicating poverty and hunger through full and productive employment – since access to computers, the Internet and information expands skills and opens possibilities for employment, service delivery and entrepreneurship.

The project in context

Indonesia is relatively stable politically and economically. It has a mid-level per capita GDP of $3,813, higher than both Cape Verde and Bangladesh, with 92 percent literacy and 16.7 percent of its population living below the poverty line. The prospects for continued growth in the economy are strong, and Indonesia has largely avoided the downturn affecting other countries around the world. Governance issues related to accountability in the police and judiciary, however, persist. Indonesia, like Bangladesh, ranks low in the 2010 Corruption Perceptions Index, receiving a score of 2.8 (see above). However, the government itself is considered moderately transparent. In terms of government functioning, Indonesia has one of the highest scores (7.50) among the countries in this report according to the EIU's Democracy Index. In terms of its networked readiness, Indonesia is the highest of the case study countries, coming in at 53; this is 15 points higher than the next closest country, Bulgaria (68). Networked readiness is important for the expansion of ICTs as an enabler of development, and makes a project that bridges the digital divide between urban and rural areas an important instrument for that growth.

At the same time, issues concerning infrastructure, communication costs and sustainability remain challenging. In comparison with other telecentre projects, such as the T-Centres project in Bulgaria where 105 centres were established around the country (for approximately $4 million), only eight telecentres were established in Indonesia (for approximately $1 million). Of the eight centres, two have already ceased operations. The Pe-PP project had an important community development component that the T-Centres in Bulgaria did not. Nevertheless, the Bulgarian telecentre network appears to have been a more efficient project in terms of both cost and outcomes. Part of the reason why may be the relative development of Bulgaria, and the strength of its infrastructure, which made expansion of the telecentre network easier than in Indonesia. A major issue in Indonesia is the cost of the Internet, which is high – as much as $800 per megabyte (MB). This makes operating the centres expensive, and the service prices high as well, beyond the reach of many people in rural communities. Centres located in urban, densely populated areas, such in East and Central Java, and those offering multiple cost-based services have been able to break even, or even make a profit. In fact, according to the assessment, telecentres have proliferated in urban Java, where 32 privately run telecentres can now be found, while centres in less densely populated areas have struggled to sustain themselves. In most cases, community use of the centres decreased sharply when the services were no longer free, and support from local government (in the form of buildings and initial operating funds) was not sufficient to ensure sustainability and profitability. Thus it appears that a purely commercial telecentre model is not possible in sparsely populated areas, where the volume of business is insufficient to sustain the centres as commercial entities. In such areas, the viability and sustainability of the telecentres can only be assured if the centres receive support from the government as essential social service delivery mechanisms. Unfortunately, the government departments that could benefit from delivering services via the centres are themselves unready to deliver e-services to poorer communities.

Considering the rapid spread of mobile technologies, and their relatively lower costs, projects that seek to expand access to information via other kinds of ICTs, such as mobile phones, may be more equitable and efficient for a country such as Indonesia. For instance, compared to the cost of broadband access, which represents 12.44 percent of GNI per capita, the cost of mobile connectivity is much less expensive – only 1.67 percent of monthly GNI per capita – and is, in fact, the least expensive among the cases in this report. This means that projects that open more possibilities for information access and service delivery via mobile phones may be more useful for the long-term development of Indonesia's rural poor than costly telecentres.

Conclusions

In conclusion, the Pe-PP project successfully established six viable pilot telecentres (the project initially included eight centres, but two have already stopped operating). On a small scale, the centres have been effective in reaching citizens and supporting community income-generating initiatives with e-business services, such as manufacturing and online marketing for community-based enterprises. Info-mobilizers, while they were engaged in the project, worked with villages to establish community groups and train local people to use the centres, and the project successfully established partnerships with other NGOs and private sector companies, including Sun Microsystems, to help facilitate the telecentre operations. It is expected that while Indonesia improves its e-government capacity, telecentres could be increasingly used for public service delivery and information dissemination as the government develops and offers more services online and computerizes its operations.

By enabling access to ICTs and information, the project fulfils the second pillar of UNDP's e-governance strategy – enhancing access to information and improving the delivery of basic services. Through secondary effects it may also meet the first and third objectives of UNDP's strategy: making e-services more accessible and enhancing poor people's participation in political and policy-making processes. The project furthers MDG 8, Target 18 – intended to make the benefits of new information and communications technologies more widely available. It also advances MDG 1, Target 1 – geared to eradicating poverty and hunger through full and productive employment (specifically to halve the proportion of people whose income is less than $1 a day) – by introducing ICTs, increasing the number of Internet users and, in some cases, augmenting information technology skills, which expands skills and possibilities for employment, service delivery and entrepreneurship.

At the same time, the success of the telecentres across the country remains uneven, and in some places they do not appear to be viable. Infrastructure and communication costs are high in Indonesia, particularly for the Internet, which can cost as much as $800 per MB and has made operating the centres, and the cost for services, expensive. While the info-mobilizers were useful in the early stages of the project, and helped to develop a community-managed model for the centres, community engagement lagged when the mobilizers left the project and previously free services offered by the centre began to cost more than the community could afford. Even when they are community-managed, telecentres are difficult to maintain in sparsely populated areas. It may be that telecentres are only viable and sustainable if they receive support from the government and can be used as social service delivery tools. The government, in turn, needs to improve its own capacity to deliver services via Internet platforms.

It is significant that the Pe-PP project targeted underserved areas, but that strategy will only work if the telecentres in those areas are viable. Considering the rapid spread of mobile technologies and their relatively lower costs – 1.67 percent of monthly GNI per capita compared to 12.44 percent for broadband access – projects that seek to expand access to information via mobiles may prove to be more equitable and efficient. Projects that open more possibilities for information access and service delivery via mobile phones may be more useful for the long-term development of Indonesia's rural poor than costly telecentres.

The conclusions drawn from the five case study assessments with respect to policy alignment and support for international development goals are presented below, along with the implications for e-governance policy development and programming.

Conclusions

The five projects and programmes reviewed in this report support both the broad development goals of the MDGs and specific governance outcomes as articulated in UNDP's e-governance framework.

Advancing the Millennium Development Goals

The projects and programmes under consideration promote a variety of MDG goals and targets. All of them foster access to ICTs, thereby supporting the achievement of MDG 8, Target 18, geared towards making the benefits of new information and communications technologies available.

On education and gender equity, Albania's e-Schools programme supports MDG 2, Target 3 – to improve the net enrolment ratio in primary education – and has a secondary impact on MDG 3, Target 4 – to eliminate gender disparities in primary, secondary and tertiary education. Enhancing primary education with computer labs and skills-training can, for one, entice young children to engage with and stay in school. It can also draw greater numbers of girls seeking ICT-based skills, which fosters female empowerment and is likely to improve the girl-to-boy ratio in schools.

The A2I programme in Bangladesh, the T-Centres project in Bulgaria and the Pe-PP project in Indonesia all expand ICT access under MDG 8, Target 18, and have a secondary impact on MDG 1, Target 1 aimed at eradicating poverty and hunger through full and productive employment (specifically to halve the proportion of people whose income is less than $1 a day through productive employment). By expanding skills and access to information, computers and the Internet, particularly for women and young people, there are more possibilities open for employment and entrepreneurship. There are also more options for delivering basic public services to communities and sub-regions that may otherwise have little or no access to government services.

The National Identification System in Cape Verde additionally furthers MDG 8, Target 14, to address the special needs of landlocked developing countries and small island developing states.

Advancing governance and development

The five projects and programmes also fall within UNDP's e-governance framework, particularly in the areas of enhancing access to information and improving the delivery of basic services through public investments in ICTs. The telecentres projects in Bulgaria and Indonesia and the e-Schools programme in Albania fit within both e-administration and service delivery as they invest in info-structures. Even though the Indonesian Pe-PP project did not have as broad an impact on ICT infrastructure as the Bulgarian T-Centres or Albanian e-Schools projects, in its pilot phase, it managed to establish six sustainable and functioning community-managed telecentres (out of eight initially planned). By comparison, 105 T-Centres and 118 e-Schools were established in Bulgaria and Albania, respectively, although in both cases, the project outcomes aimed for broader ICT penetration supported by local government, over the community-management style piloted in Indonesia.

The A2I programme in Bangladesh and the National Identification System in Cape Verde bridge the three core e-gov components of e-administration, e-service delivery and e-participation. The A2I programme developed a strong policy environment for the spread of ICTs and supported the launching of 4,501 service centres across the country. This opened broad ICT access across all of the Union Parishads and continues to foster better service delivery to many previously underserved areas, undergirding a strong pro-poor focus.

The National Identification System in Cape Verde increased the efficiency of national elections by improving the national ID system and enhanced democratic governance by bringing greater numbers of people into the voting process and broadening political participation. The programme also established two Citizen's Houses in Praia and Sal serving as citizens' informa-

Photo courtesy of UNDP Bangladesh/A2I

tion and service centres; if they are able to reach beyond these urban centres more effectively, the programme will have a stronger link to e-participation and e-service delivery.

Implications and suggestions for programming

The following section outlines programming implications and suggestions for future UNDP e-governance initiatives.

Governance and development

For their effective implementation, e-governance and ICT for development programmes should be closely linked to existing national development priorities and targets. Some of the programmes assessed here were not able to establish such links in a systematic fashion and subsequently faced issues of financial and institutional sustainability. Governance and ICT challenges, such as access to basic services and quality information, government accountability and transparency, and institutional capacity to support long-term development programmes all impact development programming, which needs to be moulded around local social, economic and political realities.

In this context, most countries face interlocking governance challenges which need to be addressed to bring in core governance issues to the pressing challenges of endemic poverty and poor governance. If projects intend to rely on government institutions as vehicles for sustainability, then governance issues and capacity building must be taken into account during planning. For example, the implementing structures of the PMU in Bulgaria and the PIU in Albania were vital for initiating projects. But the lessons from both were that they needed to be better integrated – either within government or a civil society organization to ensure long-term sustainability.

In Bulgaria, the PMU was contracted under UNDP to manage the initial implementation of the telecentres project and then transfer its responsibilities to the iCA – a local NGO – to manage the telecentre networks. The iCA was established during the

project to ensure the operation of the telecentres through the transition from project to institutionalization. The members of the PMU were transferred from UNDP to the iCA to ensure that experience and capacity remained and that no extra capacity-building and knowledge-transfer activities were necessary to guarantee the effective management of the telecentres. Yet as it turned out, governmental participation was too minimal and was deemed insufficient to ensure the sustainability of the telecentres, particularly in underserved rural and sparsely populated locales. Similarly, in Bangladesh, it was suggested that the e-government A2I unit needs to be strengthened with permanent people in government who will continue the work of A2I after formal UNDP support ends.

These examples illustrate the importance of understanding government capacity, willingness and reliability in the planning, implementation and sustainability of projects and programmes.

Inclusive participation

Enhancing people's participation in governance processes and decision-making is also very relevant to e-governance programming. Efforts to use ICTs to bring in more transparent and democratic governance through greater stakeholder engagement were not strong components in these e-governance projects. They did however have dedicated outputs that could have been more effectively delivered if the participation of the direct beneficiaries in both the design and implementation of the projects had been supported. The issue appears to be linked more to the approach of the projects themselves, rather than to the absence of local conditions (political or social) to foster participation.

In general, more innovative thinking and design is needed to support better e-participation projects, particularly tools, mechanisms, processes that can enhance governance development. E-participation is a critical component of governance and development programming, but did not show up strongly in these cases, nor in enough e-governance programming. Reasons for this may be due to larger political or socio-economic issues, or because governments are not yet prepared to offer services online/via mobile. It may also be due to the sometimes narrow view and approach assumed by projects regarding the potential use of ICTs in governance processes. Hopefully e-participation innovations will start to figure more prominently in UNDP's e-governance programming.

Finally, programmes should also bring issues related to privacy, security and confidentially into planning as these undergird participation. It should be part of the governance context when considering e-governance programmes and developing ICT-related policy. It is often overlooked, and was not explicitly addressed in any of the programmes or projects reviewed here.

Pro-poor programming

How much can "access" to ICTs and overall information impact the population living on less than $2 a day? UNDP's mandate to reach the poor means that programmes must prioritize the provision of basic public services and information to rural, underserved areas. If affordable access remains an issue, there is no need to assume that every single stakeholder must be a user or consumer of ICTs to benefit from them. Several pro-poor e-governance programmes, such as the UNDP-supported e-governance programme in India,[113] for example, focus on deploying intermediaries and intermediate technologies to facilitate access to information and services. Stakeholders do not need to use a computer or own a mobile device to get access to public services. UNDP e-governance programmes should keep this in mind when working in underserved areas.

Mobile technology is dramatically reducing ICT access costs in most developing countries, and is opening new ways of doing development work. In all the cases evaluated here, the mobile sub-basket prices were much lower than the costs for broadband, and while mobile phones were slightly more expensive than landlines (except in Indonesia, where mobiles are cheaper than landlines), the costs of mobile connectivity continues to drop every year, showing an overall trend towards inexpensive mobile communication. Mobile innovations and other types of social innovation will hopefully be taken into consideration in future ICT development initiatives.

Finally, it is also possible to combine old and new technologies (radio and Internet, for example) to close this gap while bringing in key development innovations. In the end, not every stakeholder needs to be a consumer of ICTs to benefit from their development potential.

Photo courtesy of UNDP Bangladesh/A2I

Investment, outputs and beneficiaries

The relationship between achieved outputs and the actual amount of resources disbursed should be fully considered and properly evaluated, and e-governance should be mindful of the costs of producing any given output vis-à-vis the number of beneficiaries that can be reached through such investments. The issue of scalability is key, and very complex at the same time. The Pe-PP project in Indonesia spent over $1.2 million for eight telecentres, two of which failed relatively quickly. By comparison Bulgaria spent $4 million for 100 telecentres. While operation costs vary across countries, this difference cannot alone explain such variation in programme impact. So indicators need to be developed for this purpose to understand what in the process caused the variation in costs and if the expenditure was beneficial.

Partnerships

Cooperative and public-private partnerships, with local municipalities, or with the private sector, other non-technical partners and/or financial institutions, are key for overall programme development and long-term sustainability. Affordable Internet access, for example, is easier to sustain when partnerships and alternative sources of funding are established during the early planning stages. The interlocking opportunities of connectivity, sustainability and partnership can be seen in the Albanian e-Schools programme as it was carried out in Lac municipality – where an innovative partnership between the schools and local government helped address issues of Internet access. A proactive mayor coupled with positive relations between e-Schools and the local school management translated into a partnership with the local municipality – whereby the municipality agreed to guarantee Internet connection and technical maintenance in all its schools. This shows how negotiating sensible partnerships in the planning phase – with local municipalities and otherwise – can augment programmes and ensure they are more successful and sustainable. In the case of e-Schools in Lac, it helped ensure that all schools received Internet connectivity and technical support. A revised strategy going forward in e-schools would be to ensure that negotiations with local municipalities start during project implementation, guaranteeing that schools receive Internet connectivity.

In Indonesia, the pilot Pe-PP project established partnerships with local government, NGOs and private companies to facilitate the operation of the telecentres. In East Java and Sulawesi, local government was involved in establishing and managing the telecentres, providing the buildings to house the computers and grants for their initial operation. Sun Microsystems supplied a portion of the hardware and software for the telecentres. These partnerships helped to ensure the growth of the centres, particularly those established in urban centres, although the challenge remains for extending that access to lesser-served areas outside the main cities.

ICT preparedness

'ICT preparedness' is a critical component in programme planning - including the state of infrastructure development as well as government/civil society willingness to assume and mainstream new ICT-related initiatives. Bulgaria, for example, with its high-functioning infrastructure, is fertile ground for the T-centres because it can use the infrastructure to enhance ICT access. On the other hand, infrastructure assessments in both Cape Verde and Bangladesh indicate a low level of ICT preparedness, which can be expected to delay programmes unless alternative innovative solutions are considered from the start.

ICT-based programmes can require higher skill sets that may be lacking in government personnel, or may lack an appropriate context within a ministry. The A2I programme in Bangladesh took into account the changes to internal processes needed for the deployment of e-governance platforms, and developed a more effective programme for facilitating broad access. Albania on the other hand, relied on the PIU's integration into the ministry as the only mechanism for institutional sustainability which proved to be ineffective, since the ministry was not prepared to take over the programme after UNDP support ended.

Costs of telecommunication

The telecommunications market has an impact on ICT programme development. High costs of Internet communication, for instance, reduce the impact and sustainability of projects, particularly because it means many citizens will not be able to afford Internet access. In Cape Verde and Indonesia, where communication technologies remain prohibitively expensive – particularly broadband – the high Internet costs affected project sustainability.

On the other hand, in Bangladesh – where broadband costs are highest – the government was able to help provide broader access for citizens by subsidizing the Union Information and Service Centres, which points to the need for innovative programming that addresses communication costs at the start.

Access and connectivity

The projects and programmes in this review had their greatest impact in the area of access and connectivity, an important part of UNDP's e-governance strategy. It is estimated, for instance, that the Albanian e-Schools programme reached approximately 650,000 students and teachers by equipping all public schools with computers; even without full connectivity this is significant. In Bulgaria, it is estimated that over 1.5 million people now have access to the Internet and 67,000 people were trained in ICTs.

However, as a means to an end, access and connectivity still pose serious challenges; even where "access points" exists, the relatively high cost of connecting to a network remains a formidable barrier that could prevent ICTD from achieving its true potential. Governments and development partners uniformly appear to recognize the importance of ICTs for development and have sponsored or supported a wide variety of policy initiatives. However, practical implementation has proved more difficult, particularly where programme implementation has not been matched by strategic approaches to investments in infrastructure – for example, by developing partnerships with those who have the mandate to furnish access and connectivity at the national level.

In Indonesia, for instance, the high cost of Internet access makes operating telecentres expensive and the price of services high, often well beyond the incomes of rural communities. At the rural Lumajang telecentre, community involvement lagged when previously free services offered by the centre began to cost more than the community could afford; revenue at the centre remains 15 to 20 percent below the break-even point, which is why new models for providing connectivity have to be sought. The government could engage more actively with telecentres to deliver social services, with prices for the services offered by the centres within the reach of the average community member, thus engaging with broader UNDP policy on e-administration development and e-service delivery. At the moment, government departments that should be able to use the telecentres for their services are not themselves prepared to deliver e-services to poorer communities.

Providing Internet connectivity through telecentres must be integrated with public administration reform, so that service provision by the government is linked with, for instance, telecentre development and access. In fact, telecenters should reinvent themselves as e-service provision centers, as in Bangladesh, to effectively tackle critical development gaps in local communities and bring basic services closer to them.

ANNEX I. COUNTRY COMPARISONS

Below are snapshots of data comparing the five countries featured in this report in terms of poverty, literacy, health, governance, ICT preparedness and ICT usage.

TABLE 11: COUNTRY PROFILES

Country	Population 2011	GDP per capita (US $) 2011	HDI ranking 2011 (out of 187 countries)	People living below the poverty line (%) 2011*	Population living below $1.25 a day (%) 2011	Adult literacy rate (% aged 15 and over) 2011	Combined gross educational enrolment (%) 2011	Gender inequality rank 2011, out of 146 countries
Albania	3,216,000	7,449	70	12.4	0.6	95.9	68.0	41
Bangladesh	150,493,700	1,286	146	n/a	49.6	55.9	48.7	112
Bulgaria	7,446,100	11,456	55	10.6	1.0	98.3	78.1	40
Cape Verde	500,600	3,309	133	26.6	n/a	84.8	50.6	n/a
Indonesia	242,325,600	3,813	124	13.3	18.7	92.2	77.6	100

*Sources: * World Bank 2012 World Development Indicators. All other figures from UNDP's Human Development Report 2011.*

TABLE 12: HEALTH-RELATED INDICES

Index	Albania	Bangladesh	Bulgaria	Cape Verde	Indonesia
Life expectancy at birth (years) 2010	76.9	68.9	73.4	74.2	69.4
Probability at birth of not surviving to age 40 (% of cohort)	3.6	11.6	3.8	6.4	6.7
Probability at birth of not surviving to age 60 (% of cohort)	9.7	24.9	14.4	16.3	17.4
Government expenditure on health per capita (PPP US$)	127	26	443	227	44
Government expenditure on public health as a percentage of GDP, 2011	2.9	1.1	4.2	3.4	1.2
Healthy life expectancy at birth (years)[113]	64	55	69	64	61

Sources: UNDP's Human Development Reports 2009 and 2011 and the World Health Organization's 2009 Global Health Observatory Data Repository.

TABLE 13: GOVERNANCE AND THE DEMOCRACY INDEX 2010

Country	Rank	Overall score	Electoral process and pluralism	Functioning of government	Political participation	Political culture	Civil liberties
Albania	84	5.86	7.42	5.07	4.44	5.00	7.35
Bangladesh	83	5.87	7.42	5.43	4.44	5.00	7.06
Bulgaria	51	6.84	9.17	5.71	6.11	4.38	8.82
Cape Verde	27	7.94	9.17	7.86	6.67	6.88	9.12
Indonesia	60	6.53	6.92	7.50	5.56	5.63	7.06

Source: EIU's Democracy Index 2010.

TABLE 14: ICT USAGE

Country	Rank in e-government 2010	Rank in e-participation 2010	Mobile phone subscriptions (per 100 people) 2010	Personal computers (per 100 people) 2010	Internet users (per 100 people) 2010	Internet bandwidth (MB/second per 10,000)	Networked Readiness Index 2010–2011 (rank out of 138 countries)
Albania	85	86	131.9	12.0	41.2	0.0	87
Bangladesh	134	102	32.3	2.2	0.4	0.0	115
Bulgaria	44	39	140.2	31.7	45.0	271.2	68
Cape Verde	108	68	57.5	13.6	29.7	4.4	84
Indonesia	109	86	69.2	8.3	8.7	1.1	53

Sources: The Global Information Technology Report 2010-2011. Transformations 2.0, published by INSEAD and the World Economic Forum; ITU's 2011 World Telecommunication/ICT Indicators Database; and the United Nations e-Government Survey 2012.

Table four shows overall ICT usage according to the Networked Readiness Index, which indicates the level of ICT usage, limitations of the ICT infrastructure and overall network readiness by the government and citizens in the countries covered by this study.[114] The index is a composite of three equally weighted components: policy environment, readiness and usage. Table five shows the costs associated with ICTs for the average citizen, as a percentage of the gross national income, according to the ITU's report on *Measuring the Information Society*, produced in 2011.[115]

TABLE 15: ICT PRICE BASKET AND SUB-BASKETS

Country	ITU Ranking	ICT Price Basket 2009	ICT Price Basket 2008	Fixed telephone sub-basket as % of GNI per capita 2009	Fixed telephone sub-basket as % of GNI per capita 2008	Mobile cellular sub-basket as a % of GNI per capita 2009	Mobile cellular sub-basket as a % of GNI per capita 2008	Fixed broadband sub-basket as % of GNI per capita 2009	Fixed broadband sub-basket as % of GNI per capita 2008	GNI per capita (US$)
Albania	92	4.30	7.11	1.86	1.58	4.18	8.28	6.86	11.47	3,840
Bangladesh	132	35.55	35.60	3.61	3.42	3.05	3.38	116.31	137.73	520
Bulgaria	77	3.37	3.78	3.01	2.40	3.85	4.85	3.24	4.08	5,490
Cape Verde	105	7.09	11.26	1.93	4.22	5.98	9.90	13.37	19.65	3,130
Indonesia	98	5.81	7.65	3.33	3.30	1.67	3.87	12.44	15.77	2,010

Source: The ITU's 2009 and 2011 reports on Measuring the Information Society.

ANNEX II. ASSESSMENTS

Below are links to the original evaluation reports researched and written by consultants in the field.

Albania: https://www.undpegov.org/sites/undpegov.org/files/Case%20study_%20Albania_e-Schools.pdf

Bangladesh: https://www.undpegov.org/sites/undpegov.org/files/Case%20study%20Bangladesh.pdf

Bulgaria: https://www.undpegov.org/sites/undpegov.org/files/case%20study_TCentres.pdf

Cape Verde: https://www.undpegov.org/sites/undpegov.org/files/CAPE%20VERDE%20Brief.pdf

Indonesia: https://www.undpegov.org/sites/undpegov.org/files/Case%20study_%20Indonesia.pdf

ANNEX III. ASSESSMENT METHODOLOGY

The assessment methodology is intended to measure the value delivered by e-governance projects to different stakeholders and beneficiaries, and UNDP's effectiveness in the way it implements and manages such projects. In general, a positive correlation is expected to exist between larger impact and good implementation and management but, on the other hand, no actual correlation needs to exist between resources spent and the impact on the ground.

Note: All interviews for these assessments were conducted in English with translation support from country office staff, with the exception of Cape Verde. The interviews for Cape Verde were conducted in French.

Evaluation criteria

The assessment methodology is developed based on the six evaluation criteria:

- *Relevance and fulfillment of the project goals* - The relevance and functionality of the projects, how they were designed and the degree to which the specified goals and outcomes were achieved; appropriateness of the project to the environment within which it operated.
- *Efficiency and effectiveness* – Resources spent in order to achieve project results, i.e. how well inputs/means have been converted into activities in terms of quality, quantity and time, and the quality of the results achieved.
- *Impact of the project* - The impact in terms of the variety of outcomes experienced by each stakeholder and beneficiary, and the project's impact on the wider environment.
- *Sustainability* - The survival of the project after UNDP's official support ends, follow-up activities, and any other activities related to knowledge management.
- *Replicability* - The feasibility of repeating the project in other locations.
- *Scalability* - The feasibility of scaling up the project locally, nationally or organizationally.

Target group

Each evaluation criteria cover three types of target groups:

1. *UNDP staff* – The UNDP Country Office staff involved in the design and management of the project.
2. *Organizations and persons directly responsible for project implementation* - The people who were involved in the implementation of the project.
3. *Stakeholders* - The organization and people targeted by the project.

Project selection

Projects are selected from UNDP's e-governance project database in consultation with UNDP Regional Service Centres and Country Offices, based on the following criteria:

1. Financed and run by UNDP;
2. Focuses on e-governance, in particular on the use of ICTs for administration, service delivery and public participation;
3. Ends no more than one year before the end of 2008 or is due to end;
4. Is stable, with at least one phase of implementation complete, and has been in existence long enough to capture sufficient user experience;
5. Aims and outcomes are concerned with more than gains in technology;
6. Operates beyond capital cities and/or high-income areas;
7. Documentation on the project or programme is available, data can be collected and stakeholders are ready to cooperate;
8. Promotes principles of democratic governance and/or is part of a larger democratic governance programme.

Assessment methods

1. *Review and analyses* of available project documentation, including terms of reference, proposal, project work plan, progress reports, mid-term and final reports, evaluation results, and other relevant documentation related policies, strategies, and action plans produced during the project.
2. *Semi-structured interviews* with UNDP country offices and persons responsible for the implementation of the project.
3. *Semi-structured interviews* with key beneficiaries and stakeholders in the project.

MATRIX FOR SEMI-STRUCTURED INTERVIEWS

Evaluation criteria	Target group	
	Organization/person responsible for the project	Stakeholders
Relevance and fulfillment of the project goals	• How was the project initiated and who was involved in the planning, designing, and implementing phase? • Was the project consistent with and supportive of that time/current wider policy priorities, and/or part of a larger programme? • What were the main goals, activity lines, and outcomes of the project? • If not all the goals/activities have been implemented, what have been the problems/challenges/obstacles? • What elements of the project were of the utmost importance to the UNDP, beneficiaries and stakeholders? • In which areas did the project fail to support the development activities? • What elements were missing in the project? Please mention activities and/or processes that you consider relevant/important but were not planned in the project.	• Why and by whom was the project initiated? • Were all the project goals, activities, and outcomes clearly defined and understood by to all project stakeholders and beneficiaries? Were they relevant? • How were stakeholders and beneficiaries involved in the project planning, designing, and implementation phase? • What elements of the project were of the utmost importance to the beneficiaries and stakeholders? • What elements were missing in the project? Please mention activities and/or processes that you consider relevant/important but were not planned in the project. • In which areas did the project fail to support the development activities? • What were the most significant outcomes of the project?
Efficiency and effectiveness	• How was the project managed and governed? • What changes, if any, were made to the initial plan and costs of the project? Why? • What obstacles/challenges/problems were faced during the planning, designing, and implementing phase of the project? How were they solved? • Have there been any activities/costs that did not contribute to the achievement of project's goals in the best way? If yes, which ones? • What other activities and methods could have been implemented in order to achieve the project goals and outcomes more effectively? • What contributed the best to the effectiveness of the project? • How was the project monitored and who was involved in the project implementation monitoring?	• What changes were made to the initial project plan, and why ? • What obstacles/challenges/problems were faced during the planning, designing, and implementing phase of the project? • Are the project's outcomes in line with stakeholders' expectations? Which ones especially? • Have there been any activities/costs that did not contribute the achievement of project's goals in the best way? If yes, which ones? • What other activities and methods could have been implemented in order to achieve the project goals and outcomes more effectively? • How were stakeholders and beneficiaries involved in the project implementation monitoring?

Impact	• What were the immediate impacts of the project? Give examples please! • What are longer-term impacts of the project? • Which areas felt minimal impact? • What were the unintended impacts, either positive or negative? • What kind of evidence is there that the project has had an impact on stakeholders of the project and that they have benefited from it? • How have the project impacts been measured? During what period of time and by whom?	• Did the project deliver the expected impact/s? • What were the immediate impacts of the project? Please give examples? • Where there any unintended/unexpected impacts, either positive or negative? • Have there been any changes compared to the situation prior to the project? Please list developments that have occurred since the project started. • What are the longer-term impacts supported by the adoption of the project? • In which areas was the project impact minimal?
Sustainability	• How have the key stakeholders been involved in the project? • How has relevant information on project achievements and results been collected, used and made accessible to the stakeholders? • What kind of institutional strengthening and capacity building activities have been carried out (e.g. policy and system development, training of trainers, learning plans of the stakeholders etc)? • Was the knowledge management component integrated in the project? What kinds of knowledge management tools have been used? • Have there been any measures planned to ensure the sustainability of the project? What kind of strategy has been worked out? Have UNDP staff been involved in this exercise? • What kinds of follow-up activities have taken place after the project end?	• Has relevant information on the project achievements and results been collected, used and made accessible to the stakeholders? • What kind of institutional strengthening and capacity building activities have been carried out with the project beneficiaries and stakeholders during the project? • Are the stakeholders and beneficiaries willing and ready to sustain the project beyond UNDP support? What are the skills needed? • What kind of measures were planned to ensure the sustainability of the project? What kind of strategy has been worked out? • What else could have been done in order to sustain the project beyond UNDP support? What are the capacity needs that have not been fulfilled by the project? • What kinds of activities have been carried out by stakeholders and beneficiaries after the end of the project?
Replicability and scalability	• Has UNDP considered replicating the project in other areas (either geographically or in other sectors)? Where and when? • What are the lessons learned that could be useful when replicating/scaling up the project in other places and sectors? • What are the lessons learned that should not be repeated when replicating/scaling up the project? What should be avoided and/or done differently? • What has to be kept in mind when planning, designing, and implementing any project in the future?	• Does the project have any potential to be replicated and/or scaled up? If yes, how, where, and when? • Have stakeholders and/or beneficiaries considered replicating the project in other areas (either geographically or in other sectors)? Where and how? • What are the lessons learned that could be useful when replicating/scaling up the project in other places and sectors? • What are the lessons learnt that should not be repeated when replicating/scaling up the project? What should be avoided and/or done differently

Assessment process

The following activities should be conducted to ensure successful assessments:

1. Select projects based on the evaluation criteria described above.
2. Collect and analyze existing project documentation.

3. Prepare for semi-structured interviews – formulate questions, set up the agenda for interviews, inform interviewees about the content and goals of the interview.
4. Conduct semi-structured interviews and document results of the interviews.
5. Systematize and analyze the collected information.
6. Finalize the assessment results.

Project context

No.	Item	Remarks
1	Country	
2	Programme	
3	Project duration	
4	Project budget	
5	Number of consultants/experts involved in project	
6	Key project stakeholders (Government departments, partnering institutions etc.)	
7	Targeted beneficiaries	
8	Stakeholders impacted by the project	
9	Major goals of the project	
10	Major outputs of the project	

Proposed table of contents for case studies

We will be producing two documents for each case study. One will be the complete case study with data and interview results (as annexes). This should not be longer than 30 pages at most. The second one will be a 3-4 page executive summary for each case study that will go into the final publication. The following is an outline and table of contents for each case study:

- Background and introduction
  - E-governance and development
  - Overall objective of case study
  - Country selection and country background
- Project description and key objectives
  - Context
  - Key objectives
  - Results framework
- Assessment methodology
  - Overall framework
  - Approach in this case study
  - Analytical tools
- On the ground impact: Data analysis and indicators
- Good practices and lessons learned
- Conclusions and recommendations
- Annexes
- References

The case study executive summaries use the same structure without Annexes and the References.

ENDNOTES

[1]Sources: United Nations Development Programme (2012) and Informa Telecoms and Media (2011). The total number of mobile phone subscriptions globally is actually 5.4 billion. However, the figure – 3.9 billion - is based on the notion that individual subscribers may have multiple and/or inactive SIM (Subscriber Identity Module) cards.

[2]International Telecommunication Union. 2011a. "World Telecommunication/ICT Indicators Database." See: www.itu.int/ITU-D/ict/publications/world/world.html

[3]Source: United Nations Department for Economic and Social Affairs (2011). In: United Nations Development Programme. 2011a. 'International Human Development Indicators Database'. See: http://hdrstats.undp.org/en/indicators/306.html

[4]Gross domestic product in PPP terms refers to the "sum of value added by all resident producers in the economy plus any product taxes (less subsidies) not included in the valuation of output, calculated without making deductions for depreciation of fabricated capital assets or for depletion and degradation of natural resources. Value added is the net output of an industry after adding up all outputs and subtracting intermediate inputs. When expressed in US$ terms, it is converted using the average official exchange rate reported by the International Monetary Fund. An alternative conversion factor is applied if the official exchange rate is judged to diverge by an exceptionally large margin from the rate effectively applied to transactions in foreign currencies and traded products. When expressed in purchasing power parity (PPP) US$ terms, it is converted to international dollars using PPP rates. An international dollar has the same purchasing power over GDP that the US dollar has in the United States." Source: World Bank. 2011. 'World Development Indicators 2011'. Washington, DC: World Bank. In: UNDP. 2011a. See: http://hdrstats.undp.org/en/indicators/20206.html

[5]Gross national income per capita refers to the "aggregate income of an economy generated by its production and its ownership of factors of production, less the incomes paid for the use of factors of production owned by the rest of the world, converted to international dollars using purchasing power parity (PPP) rates, divided by midyear population." Source: Human Development Report Office calculations based on data from World Bank (2011), IMF (2011) and UN Statistics Division (2011). In: UNDP. 2011a. See: http://hdrstats.undp.org/en/indicators/100106.html

[6]The household final consumption expenditure per capita, or private consumption per capita, is "calculated using private consumption in constant 2000 prices and World Bank population estimates. Household final consumption expenditure is the market value of all goods and services, including durable products (such as cars, washing machines, and home computers), purchased by households. It excludes purchases of dwellings but includes imputed rent for owner-occupied dwellings. It also includes payments and fees to governments to obtain permits and licenses. Here, household consumption expenditure includes the expenditures of nonprofit institutions serving households, even when reported separately by the country. Data are in constant 2000 US dollars. World Bank national accounts data, and OECD National Accounts data files." Source: World Bank website: http://data.worldbank.org/indicator/NE.CON.PRVT.PC.KD

[7]Percentage of the population living below the international poverty line of $1.25 a day, in PPP terms. Source: World Bank (2011a). In: UNDP. 2011a. See: http://hdrstats.undp.org/en/indicators/38906.html

[8]This refers to the number of years a newborn infant can expect to live if prevailing patterns of age-specific mortality rates at the time of birth stay the same throughout the infant's life. Source: UNDESA (2011). In UNDP. 2011a. See: http://hdrstats.undp.org/en/indicators/69206.html

[9]This is the probability of dying between birth and the age of five, expressed per 1,000 live births. Source: UNICEF (2011). In: UNDP. 2011a. See: http://hdrstats.undp.org/en/indicators/57506.html

[10]This figure on public health expenditure consists of current and capital spending from (central and local) government budgets, external borrowings and grants, including donations from international agencies and NGOs, and social and/or compulsory health insurance funds. Source: World Bank (2011): http://data.worldbank.org. In: UNDP. 2011a. See: http://hdrstats.undp.org/en/indicators/53906.html

[11]This refers to the average number of years of education received by people ages 25 and older, converted from education attainment levels using official durations of each level. Source: Human Development Report Office updates of Barro and Lee (2010) estimates, based on UN Educational, Scientific and Cultural Organization (UNESCO) Institute for Statistics data on education attainment (2011) and Barro and Lee (2010) methodology. In: UNDP. 2011a. See: http://hdrstats.undp.org/en/indicators/103006.html

[12]This refers to the number of students enrolled in primary, secondary and tertiary levels of education, regardless of age, as a percentage of the population of theoretical school age for the three levels. Source: UNESCO Institute for Statistics (2010a). In: UNDP. 2011a. See: http://hdrstats.undp.org/en/indicators/105906.html http://data.worldbank.org http://hdrstats.undp.org/en/indicators/38006.html

[13]This refers to the total public expenditure (current and capital) on education expressed as a percentage of GDP. Source: World Bank (2011): http://data.worldbank.org. In: UNDP. 2011a. See: http://hdrstats.undp.org/en/indicators/38006.html

[14]This is a composite index measuring loss in achievements in three dimensions of human development – reproductive health, empowerment, and the labour market – due to inequality between genders. There are five indicators used to calculate the index: Labour force participation, educational attainment, parliamentary representation, adolescent fertility and maternal mortality. Source: Human Development Report website. See: http://hdr.undp.org/en/statistics/gii/

[15]This refers to the percentage of the population aged 25 and older that has attained a secondary or higher level of education. Source: Barro, R.J and J.-W. Lee. 2010. 'A New Data Set of Educational Attainment in the World, 1950-2010.' *NBER Working Paper No. 15902*. http://www.nber.org/papers/w15902 In: UNDP. 2011a. See: http://hdrstats.undp.org/en/indicators/24806.html

[16]This indicates the ratio of females to males in the working-age population (ages 15–64) that actively engages in the labour market – either working or actively looking for work. Source: International Labour Organization. 2011. 'Key Indicators on the Labour Market: 6th edition'. Geneva: ILO. In: UNDP. 2011a. See: http://hdrstats.undp.org/en/indicators/48906.html

[17]This indicates the ratio of seats held by men and women in a lower or single house or an upper house or senate. Source: Inter-Parliamentary Union (2011). Database on women in parliament. http://www.ipu.org/wmn-e/classif.htm. In: UNDP. 2011a. See: http://hdrstats.undp.org/en/indicators/83506.html

[18]This figure refers to the poverty headcount ratio as a percentage of the population. The national poverty rate is the percentage of the population living below the national poverty line; estimates are based on population-weighted subgroup estimates from household surveys. See: World Bank website: http://data.worldbank.org/country/albania. Additionally, large numbers of Albanians are migrating to Greece, Italy, Germany, other parts of Europe and elsewhere in the world, implying a certain 'drain' on intellectual resources. The situation is shifting slightly, however, as Albania's economy develops and more opportunities emerge.

[19]According to Plan Bleu statistics: "The age structure still reflects what was Europe's highest fertility. Under-15s still make up nearly 30 percent of the 2000 population for just six percent of over-65s. Fertility decline will reduce the share of young people to 21.6 percent by 2025, as that of older people rises rapidly, doubling in both numbers and share." However, according to the CIA Factbook, the percentage of under-15s is more on the order of 25 percent.

[20]In 1997, during the presidency of Sali Berisha, the leader of the Democratic Party, the country broke out in armed riots when several widely used financial pyramid schemes buckled, defrauding investors all over Albania and causing state institutions to collapse. The United Nations/EU sent in a military mission to stabilize the country.

[21]The 1998 constitution replaced the interim constitution, which was in place when the 'Marxist-inspired' constitution was abandoned in April 1991. Source: EIU. 2010a. *Economist Intelligence Unit Country Report for Albania*.

[22]The head of state in Albania is the president of the republic, who is elected for a five-year term by secret ballot in the Assembly. The president is endowed with the power to guarantee the constitution and the law, and acts as the commander in chief of the armed forces. The president also appoints the prime minister, who is called the chairman of the Council of Ministers. The Council of Ministers acts as the cabinet, and holds executive power; ministers are nominated by the president on the basis of the prime minister's recommendation and approved by the People's Assembly. The Council carries out both foreign and domestic policies and controls the activities of the ministries and other state bodies. The Assembly of the Republic of Albania makes the laws. The 140 deputies of the Assembly are elected through a party-list proportional representation.

[23]According to the EIU, 'hybrid regimes'"have substantial irregularities that often prevent them from being both free and fair. Government pressure on opposition parties and candidates may be common. Serious weaknesses are more prevalent than in flawed democracies – in political culture, functioning of government and political participation. Corruption tends to be widespread and the rule of law is weak. Civil society is weak. Typically there is harassment of and pressure on journalists, and the judiciary is not independent." Source: EIU. 2010. 'Democracy Index 2010: Democracy in retreat. A report from the Economist Intelligence Unit'. See: http://graphics.eiu.com/PDF/Democracy_Index_2010_web.pdf

[24]See: Transparency International's Corruption Perceptions Index 2010: www.transparency.org/policy_research/surveys_indices/cpi/2010/results, as well as http://www.tia.al/eng/ and

[25]Source: Central Intelligence Agency (US). CIA Factbook. 2011. See: https://www.cia.gov/library/publications/the-world-factbook/geos/al.html

[26]However, so-called 'expansionary budgets' in 2008-2009 financed much-needed infrastructure investment and helped limit the impact of the global downturn on Albania.

[27]The EIU forecasts real GDP growth of 2.8 percent in 2010 and of four percent in 2011, with inflation expected to average 3.5 percent. Source: EIU 2010a. *Economist Intelligence Unit Country Report for Albania*. pp. 11-12.

[28]Source: EIU. 2010a. *Economist Intelligence Unit Country Report for Albania*. p. 12.

[29]The ICT Price Basket is calculated by averaging the price of each sub-basket – fixed telephone, mobile cellular and fixed broadband Internet prices (in US$) – expressed as a percentage of a country's monthly GNI per capita, capped at 100 percent. The three ICT services receive equal weight. The ICT Price Basket ranges between a theoretical 'zero' (tariffs equal 'zero' percent of average monthly GNI per capita – that is, all three services are for free), and 100 (the price of all three sub-baskets is equal to, or exceeds, the monthly GNI per capita). Countries are ranked by the value of the ICT Price Basket. Please see Annex I for more details. Source: International Telecommunication Union (ITU). 2011b. *Measuring the Information Society 2011*. Geneva: ITU.

[30]A total of 193 countries were rated, but some countries were tied. According to UNDESA: "The United Nations e-Government Development Index (EGDI) is a comprehensive scoring of the willingness and capacity of national administrations to use online and mobile technology in the execution of government functions. It is based on a comprehensive survey of the online presence of all 193 member states. The results are tabulated and combined with a set of indicators embodying a country's capacity to participate in the information society, without which e-government development efforts are of limited immediate utility. The e-Government Development Index is not designed to capture e-government development in an absolute sense. Rather, the index rates the performance of national governments relative to one another. The maximum possible value is one and the minimum is zero. Though the basic model has remained constant, the precise meaning of these values varies from one survey to the next as understanding of the potential of e-government changes and the underlying technology evolves. Mathematically, the EDGI is a weighted average of three normalized scores on the most important dimensions of e-government, namely: scope and quality of online services, telecommunication connectivity, and human capacity. Each of these sets of indexes is itself a composite measure that can be extracted and analysed independently: EGDI = (0.34 × online service index) + (0.33 × telecommunication index) + (0.33 × human capital index)." Source: United Nations Department for Economic and Social Affairs. 2010. *Global e-Government Survey 2010: Leveraging e-government at a time of financial and economic crisis. New York: UNDESA*. See: http://unpan1.un.org/intradoc/groups/public/documents/un-dpadm/unpan038858.pdf

[31]A total of 193 countries were listed, but no data were available for 33 countries. Countries with an identical index value received the same rank, which resulted in a total of 32 rankings. According to UNDESA: "The e-participation questions expand the survey by emphasizing quality in the connected presence stage of e-government. These questions focus on the use of the Internet to facilitate provision of information by governments to citizens ('e-information sharing'), interaction with stakeholders ('e-consultation') and engagement in decision-making processes ('e-decision making'). A country's e-participation index value reflects how useful these features are and the extent to which they have been deployed by the government compared to all other countries. The purpose of this measure is not to prescribe any particular practice, but rather to offer insight into how different countries are using online tools to promote interaction between citizen and government, as well as among citizens, for the benefit of all." See the previous endnote for more information.

[32]The Networked Readiness Index, or NRI, is a composite index of three sub-indexes "that measure the environment for ICT, together with the main stakeholders' readiness and usage, with a total of nine pillars and 71 variables." The three sub-indexes include: 1) environment sub-index (market environment, political and regulatory environment, infrastructure environment), 2) readiness sub-index (individual readiness, business readiness, government readiness), 3) usage sub-index (individual usage, business usage, government usage). Source: Dutta, Soumitra and Irene Mia (eds.). 2011. *The Global Information Technology Report 2010-2011. Transformations 2.0*. Fontainebleau and Geneva: INSEAD and World Economic Forum.

[33]The ITU Ranking ranks countries based on the relative prices in the ICT Price Basket – which combines the relative prices for fixed telephony, mobile cellular and broadband Internet services. The value of the ICT Price Basket should be interpreted as an indication of relative cost as it is calculated as the simple average of the three sub-components, expressed as a percentage of average monthly GNI per capita. Source: ITU. 2011b.

[34]The Networked Readiness Index, or NRI, was developed jointly by INSEAD, the World Bank and the World Economic Forum. The NRI is defined as the readiness of a nation or community to participate in ICT initiatives, based on its policy environment, infrastructure capacity and national investments in ICT infrastructure as well as ICT usage.

[35]According to the assessment, UNDP continues to assist the government in developing national wireless broadband to serve the needs of the country's educational system.

[36]The e-Schools programme, however, was part of the large-scale Digital Albania initiative that included other projects and programmes, such as e-taxation and e-procurement, which would eventually enhance people's access to services. e-Schools is the only ICT in education-targeted project in Albania.

[37]In the end, the stated outcome was removed from the e-Schools action plan.

[38]Bangladesh drafted a constitution in 1972, which has since undergone 14 amendments. In 1971, war broke out between Pakistan [then called 'West Pakistan'] and Bangladesh [then called 'East Pakistan'], resulting in the latter's secession. The area subsequently became known as Bangladesh.

[39]Forty-five of the seats are reserved for women, distributed evenly among the parties.

[40]According to the 13th Amendment, passed in March 1996, the 'caretaker government' assumes temporary power to oversee general elections once parliament is dissolved. During this period, the presidential mandate expands, giving the president authority over the Ministry of Defense and various other authorities.

[41]See: EIU. 2010. Democracy Index 2010: http://graphics.eiu.com/PDF/Democracy_Index_2010_web.pdf

[42]After gaining the leadership of post-independence Bangladesh in 1971, the one-time independence leader and Prime Minister Sheikh Mujibur Rahman and many members of his family were assassinated in 1975, leading to a series of coups. General Ziaur Rahman took power in 1977, and formed the Bangladesh Nationalist Party (BNP); Rahman was assassinated in 1981. General Hossain Mohammad Ershad staged a bloodless coup in 1982 and ruled until 1990, when he was forced from office by civil society and international donor pressure, after which Bangladesh became a parliamentary democracy.

[43]In 1991, Khaleda Zia, the widow of one of Bangladesh's assassinated independence leaders, won a parliamentary majority for the centre-right Bangladesh Nationalist Party, becoming the first female prime minister of Bangladesh. Then, in 1996, Sheikh Hasina Wajed, the surviving daughter of another assassinated independence leader, led the centre-left Awami League to parliamentary victory. In 2001, the Awami league lost to the Bangladesh Nationalist Party.

[44]See: Transparency International's Global Corruption Barometer: http://www.transparency.org/policy_research/surveys_indices/gcb/2010/results

[45]In its role as a facilitator, the caretaker government has attempted to eradicate corruption and has overseen the arrest of many politicians and government officials. According to the US State Department, in 2007, both the Awami League President Sheikh Hasina (the current prime minister) and the Bangladesh National Party Chairperson Khaleda Zia (the former prime minister) were arrested on charges of corruption. Both were released in 2008 to lead their parliamentary election campaigns in the fall of 2008.

[46]Two organizations, the Jagrata Muslim Janata Bangladesh and Jama'atul Mujahideen Bangladesh, have been blamed for growing militant violence; both were banned in February 2005. Then, in February 2009, members of another group, Border Guard Bangladesh, staged a mutiny. Although the uprising was defused by the government, it highlighted issues within the military itself. Source: EIU. 2010a. *Economist Intelligence Unit Country Report for Bangladesh*.

[47]GDP grew by six percent in 2009-2010.

[48]According to the EIU, the shortage of gas coupled with old, inefficient power plants means that one of the main challenges is to improve energy supply. In the short term, the government plans to buy power from diesel-powered independent sources. Yet the lack of infrastructure limits the options for alternate sources, such as imported liquefied natural gas. In the long term, the government has plans to construct nuclear power plants with the assistance of the Russian Federation's atomic energy corporation, Rosatom, at a cost of some $1.5 billion each.

[49]From 1998 to 2003, mobile connectivity in Bangladesh was estimated to have grown by nearly 1,600 percent – the highest of any country in Asia during this period. The telecommunications sector was liberalized for private investment in Bangladesh in the early 1990s and resulted in the growth of mobile telephone use.

[50]The A2I programme, the subject of this study, was designed as a follow up to the e-Governance Plan of Action.

[51]There are about 84,000 primary-level institutions, 5,700 and 15,750 junior- and secondary-level institutions, respectively, 2,300 higher secondary and degree colleges, and more than 1,000 ICT training centres.

[52]It has been estimated that Bangladesh will need 400,000 ICT professionals to meet the information technology workforce needs of the industry and nearly 1,600,000 ICT professionals in the user sectors of the economy by the year 2010. Source: Raina, Ravi. 2007. *ICT Human Resource Development in Asia and the Pacific, Current Status, Emerging Trends*. UN Economic and Social Commission for Asia and the Pacific (ESCAP).

[53]The aim of these documents was to help "make government more functional" and to build a citizen-centric, inclusive and development-oriented "information society" able to provide services to citizens in a cost-effective, transparent and easily accessible manner, using ICTs. The hope is that this will improve service delivery and enhance democratic participation by facilitating greater access to information for citizens.

[54]These quick win projects are designed to motivate and facilitate the launch of more e-governance interventions.

[55]These 'ICT foundation' projects are designed to help ensure the sustainability and lasting acceptance of ICT solutions in public administration.

[56]Launched in 2009, Digital Bangladesh aims to increase social and economic development by the year 2021, with four main components: 1) developing human resources for the 21st century, 2) connecting citizens in ways that are most meaningful, 3) taking services to citizens' doorsteps, and 4) making the private sector and market more productive and competitive through the use of ICTs. In particular, connecting and taking services to citizens (components two and three) are targeted to reaching the poor, who otherwise may not have access to services. Digital Bangladesh in turn supports Vision 2021, the 10-year development agenda of the new government.

[57]The project started with 32 Union Information and Service Centres and has since been scaled-up to 4,501, in all the municipalities.

[58]See: United Nations Department for Economic and Social Affairs. 2010. *Global e-Government Survey 2010*: http://unpan1.un.org/intradoc/groups/public/documents/un-dpadm/unpan038858.pdf

[59]See: United Nations Department for Economic and Social Affairs. 2010. *Global e-Government Survey 2010*: http://unpan1.un.org/intradoc/groups/public/documents/un-dpadm/unpan038858.pdf

[60]Past experience in Bangladesh has shown that the initiatives of one government are often shelved when a politically opposing party comes to power, but this is no guarantee this would happen with ICT policies and initiatives.

[61]See: World Bank website. 2011: http://data.worldbank.org/country/bulgaria

[62]Bulgaria's government structure is similar to Albania's – with an elected president as head of state and a prime minister who is head of the Council of Ministers, representing the executive branch. The Council is composed of the prime minister, the deputy prime ministers, and all the ministers who head the agencies within the government, who usually hail from the ruling party or ruling coalition in parliament. The Council carries out state policy, manages the state budget and maintains law and order, while the unicameral 240-seat National Assembly, which is elected every four years by popular vote, passes laws, approves the budget, schedules presidential elections, has the responsibility for declarations of war, and for ratifying international treaties and agreements. See also: US Department of State website: www.state.gov/r/pa/ei/bgn/3236.htm

[63]With the July 2001 election, Bulgaria's former king – Simeon Saxe-Coburg-Gotha (Simeon II) – became the first ex-monarch in post-communist Eastern Europe to become prime minister. See US Department of State website: www.state.gov/r/pa/ei/bgn/3236.htm. Under Simeon, prime minister from 2001 to 2005, Bulgaria liberalized the economy in order to meet EU economic targets.

[64]Unemployment was at 6.3 percent in 2008 and 7.6 percent in 2009.

[65]According to the EIU, 'flawed democracies' are countries that "have free and fair elections and even if there are problems (such as infringements on media freedom), basic civil liberties will be respected. However, there are significant weaknesses in other aspects of democracy, including problems in governance, an underdeveloped political culture and low levels of political participation."

[66]See: EIU. 2010. Democracy Index 2010: http://graphics.eiu.com/PDF/Democracy_Index_2010_web.pdf

[67]Efforts against high-level issues of accountability have led to indictments against two members of parliament, three former ministers, three former deputy min-

isters, an acting minister, and several other high-level officials as well as mayors. Source: EIU. 2010a. *Economist Intelligence Unit Country Report for Bulgaria*, p. 10.

[68]Foreign direct investment is expected to be lower this year and next, at around $3.4 billion to $3.5 billion.

[69]In 2011, growth is expected to resume to 2.6 percent, with a gradual recovery in the labour and credit markets that will assist private consumption and investment. Source: EIU. 2010a. Economist Intelligence Unit Country Report for Bulgaria.

[70]Several state heating companies were sold to foreign investors in previous years.

[71]Source: EIU. 2010a. *Economist Intelligence Unit Country Report for Bulgaria*. pp. 12-13.

[72]The Networked Readiness Index was developed jointly by INSEAD, the World Bank and the World Economic Forum. The index is defined as the readiness of a nation or community to participate in ICT initiatives, based on its policy environment, infrastructure capacity and national investments in ICT infrastructure as well as ICT usage.

[73]Gross national income (GNI) is similar to GNP, except that it includes other indicators such as: 1) personal consumption expenditures, 2) gross private investment, 3) government consumption expenditures, 4) net income from assets abroad (net income receipts), and 5) gross exports of goods and services, after deducting gross imports of goods and services, and indirect business taxes.

[74]See: United Nations Department for Economic and Social Affairs. 2010. UN Global e-Government Survey 2010. http://unpan1.un.org/intradoc/groups/public/documents/un-dpadm/unpan038858.pdf

[75]Project Management Unit employees were transferred from UNDP to the iCA to ensure the needed experience and capacity remained within the project (something which was *not* done in Albania).

[76]See World Bank website: http://data.worldbank.org/country/cape-verde. Latest poverty figures are from 2007.

[77]According to the US State Department, of the more than one million people of Cape Verdean ancestry, only half still live in the country; around 500,000 people of Cape Verdean ancestry live in the United States, Portugal, Netherlands, Italy, France, Senegal and Sao Tome and Principe. Source: US Department of State website: www.state.gov/r/pa/ei/bgn/2835.htm

[78]A coup in Guinea-Bissau in 1980 strained once good relations between Cape Verde and Guinea-Bissau.

[79]In Portuguese: 'Partido Africano da Independincia de Cabo Verde' (PAICV).

[80]In Portuguese: 'Movimento para a Democracia' (MPD).

[81]From 1994 to 2000, about $407 million in foreign investments were made and/or planned, in tourism (58 percent), industry (17 percent), infrastructure (4 percent), and fisheries and services (21 percent). Source: US Department of State.

[82]Legislative elections in 1995 increased the MPD's majority in the National Assembly, winning 50 of the 72 seats. The 1996 presidential election returned President Mascarenhas Monteiro of the MPD to office. Legislative elections in 2001 brought the PAICV back to power, winning 40 of the National Assembly seats [with MPD winning 30, the Party for Democratic Convergence (PCD) and the Party for Labour and Solidarity (PTS) winning only one seat each]. In the 2001 presidential elections, the PAICV presidential candidate – Pedro Pires – defeated MPD leader Carlos Veiga. The PAICV won the legislative elections again in 2006, with 41 seats [29 for the MPD, and two for the Cape Verdean Independent and Democratic Union (UCID)]. Pedro Pires won the presidential election again in 2006. Source: US Department of State website: www.state.gov/r/pa/ei/bgn/2835.htm

[83]Multiparty elections took place in 1991, 1996 (presidential elections took place in 1996, while legislative elections were in 1995), 2001, 2006 and 2011. The country's constitution was first adopted in 1980, and has since had five revisions – in 1992, 1995, 1999, 2009 and 2010. The president, elected by popular vote for five years, serves as the head of state. Like the president, the legislative body – the National Assembly – is elected by popular vote with members serving five-year terms. The prime minister – nominated by the National Assembly, appointed by the president – heads the government and forms the cabinet of ministers and secretaries of state. Members of the Supreme Court of Justice are appointed by the president, the National Assembly, the Board of the Judiciary as well as the regional courts.

[84]According to the EIU, 'flawed democracies' "have free and fair elections and even if there are problems (such as infringements on media freedom), basic civil liberties will be respected. However, there are significant weaknesses in other aspects of democracy, including problems in governance, an underdeveloped political culture and low levels of political participation." See: EIU. 2010. Index of Democracy 2010: http://graphics.eiu.com/PDF/Democracy_Index_2010_web.pdf

[85]Mineral resources include salt, limestone and volcanic rock used in the production of cement.

[86]The four islands with significant agricultural production include Santiago, Santo Antão, Fogo and Brava.

[87]These figures come from the US Department of State. The EIU, however, provides a slightly different breakdown of GDP, with figures from 2006, as follows: Agriculture and fishing (6.6 percent), industry (19 percent) and services (74.4 percent). The EIU provides no figures for expatriate remittances.

[88]The government's budgeting has also been approved by the GAO (Grupo de Apoio à Ajuda Orçamental / Support Group to Help the Budget), for its sound budget implementation in 2009. The joint mission of the GAO was composed of the European Union, the World Bank, Spain, Holland and Austria. See: http://noticias.sapo.cv/inforpress/artigo/7382.html

[89]Between 2005 and 2008, GDP grew by an average of 7.5 percent a year. However, 2009 saw this number drop to 1.8 percent as a result of the contraction in tourism, with delays on several large private construction projects that were meant to support tourism and homes for foreigner investors. Cape Verde's currency, the escudo, is currently pegged to the euro, a measure underwritten by the Portuguese Treasury. Source: EIU. 2010a. *Economist Intelligence Unit Country Report for Cape Verde*.

[90]Higher levels of unemployment in urban areas appear to indicate that the 2009 economic downturn had the greatest impact on urban service and construction sectors.

[91]Source: EIU. 2010a. Economist Intelligence Unit Country Report for Cape Verde. p. 5.

[92]With the latest programme, the subject of this review, the government is seeking to further improve public services both to citizens and businesses through the Citizens' Portal and Citizen's House. These two citizens' houses in Praia and Sal offer a range of services, including: online birth certificate registration, rapid online business registration certificates, electronic payments and electoral lists. Recent legislative and presidential elections highlighted the need for the government to assess the country's electoral lists, review the citizen's identification system, and foster increased participation in elections.

[93]The three main roles of this committee are to: 1) propose an integrated strategy for innovation, the information society and e-government, 2) approve the e-government strategy and programme, and 3) approve the government remits of ministries and public bodies. The operational arm is called the Information Society Operational Nucleus (or NOSI – Nucleo Operational da Sociedade da Informação) with duties to 1) prepare and present procedures for the information society strategic plan, 2) prepare an evaluation report on ICTs in Cape Verde, and 3) organize a national forum on partnerships in the information society.

[94]The Houses receive around 100 inquiry-related calls a day, according to the field assessment.

[95]The Government of Cape Verde initiated several complementary projects, including: Reinforcing the electoral system of Cape Verde, March 2009-June 2011, and Reinforcing local governance decentralization and modernization, March 2009- December 2010, funded by Luxembourg ($500,000) and Portugal ($200,000). The impact and visibility of the Citizen's House has also prompted interest and collaboration with other donor agencies involved in electoral issues, citizens' participation in public life and the civic registry.

[96]According to the HDR, factors that facilitate the flow of immigrants include an agricultural labour shortage in Malaysia (as Malays moved into urban areas in the 1970s and 1980s and Indonesia faced a surplus of agricultural labour) and the cultural similarities between Malays and Indonesians in terms of language, religion and ethnicity. Source: United Nations Development Programme. 2009. *Human Development Report 2009. Overcoming Barriers: Human mobility and development*. New York: UNDP, p. 24.

[97]Habibie was hand-picked as vice president by General Suharto himself when Suharto was serving his final term.

[98]The constitution has been amended four times since it was drafted in 1945.

[99]Under the new constitution, the president acts as head of state, overseeing national governance and policy making and foreign affairs, and heads the armed forces. The legislative proportionally representative body is the People's Consultative Assembly, the MPR, which has the power to amend the constitution, inaugurate the president, and outline state policy. The MPR has two legislative bodies: the People's Representative Council, the DPR (560 seats) and the Regional Representative Council, the DPD (132 members).

[100]Indonesia continues to deal with armed, low-intensity resistance from the Free Papua Movement.

[101]According to the EIU, 'flawed democracies' are countries which "have free and fair elections and even if there are problems (such as infringements on media freedom), basic civil liberties will be respected. However, there are significant weaknesses in other aspects of democracy, including problems in governance, an underdeveloped political culture and low levels of political participation." See: EIU. 2010. Index of Democracy 2010: http://graphics.eiu.com/PDF/Democracy_Index_2010_web.pdf

[102]As already noted, in the 2010 Democracy Index, France, Italy and Greece were all downgraded to so-called flawed democracies because of issues with political culture and participation.

[103]Indonesia, like many other countries, has developed its own national governance indicators. According to the Indonesia Democracy Index (IDI) – a homegrown index developed by the National Development Planning Agency (Bappenas) and supported by UNDP – Indonesia is a medium performing democracy. The IDI aims to quantify the development of democracy in the country, and measures civil liberties, political rights, and institutions of democracy across the provinces of Indonesia (it also breaks these down into 11 variables and 28 indicators). For 2009, the national democracy index was 67.30 (out of 100), with a score of 86.97 for civil liberties, 54.60 for political rights, and 62.72 for institutions of democracy. One explanation provided by the IDI is that despite Indonesia's success with civil liberties and establishing institutions of democracy, which has caused an explosion of public participation and citizen freedom, the country continues to lag behind other countries in institutionalizing political rights. Source: Rauf, Maswadi, Syarif Hidayat, Abdul Malik Gismar, Siti Musdah Mulia and August Parengkuan. 2011. *Measuring Democracy in Indonesia: 2009 Indonesia Democracy Index*. Jakarta: UNDP, Indonesia, pp. 79-81.

[104]According to the US State Department, Indonesia's GDP has grown steadily over the past decade, growing by 6.3 percent in 2007 and 6.1 percent in 2008. Growth slowed to 4.5 percent in 2009 given the reduction in global demand, but Indonesia was still the third-fastest growing Group of 20 member, behind China and India.

[105]Recent scandals in Indonesia exposed extensive corruption in the police force. So far, vested interests have resisted calls for greater accountability, highlighting the need for greater transparency and journalistic freedom. Source: EIU. 2010a. *Economist Intelligence Unit Country Report for Indonesia*. p. 10.

[106]Information for this entire section was taken from the Economist Intelligence Unit Country Report on Indonesia for 2010, as well as the US Department of State: www.state.gov/r/pa/ei/bgn/2748.htm and the CIA Factbook: www.cia.gov/library/publications/the-world-factbook/geos/id.html.

[107]Unfortunately, very little data can be found on Indonesia's ICT infrastructure and use. According to 2007 data, there were approximately 17.8 million telephone lines in use at the time, and 81.83 million mobile telephones. Data from 2001 indicate that, at the time, there were around 753,200 Internet hosts and 13 million Internet users.

[108]In Lumajang, for instance, the Ministry of Education is using the telecentre for delivery of basic education at the community level. It is expected that telecentres will be increasingly used for the delivery of public services as the government itself offers more services online and computerizes their operations.

[109]It is not clear how communities were identified for telecentre development, and whether communities requested the telecentres – a core piece of participatory development – or if villages were selected in advance by the project to receive the centres. This speaks to larger issues of who leads development – the beneficiaries or central planners.

[110]This speaks to larger issues of who leads development – the beneficiaries or central planners.

[111]Although still a pilot project, the impact of the eight telecentres is minimal in terms of increasing access, particularly in terms of costs and benefits, when compared, for instance, to the 105 centres in Bulgaria.

[112]Zambrano, Raul. 2008. 'e-Governance and Development: Service delivery to empower the poor'. *International Journal of Electronic Government Research* 4(2): 1-13.

[113]Source: WHO. 2009. *Global Health Observatory Data Repository*. Geneva: WHO. Accessed April 2011. http://apps.who.int/ghodata/. Refers to average number of years that a person can expect to live in 'full health' by taking into account years lived in less than full health due to disease and/or injury.

[114]The NRI was developed jointly by INSEAD, the World Bank and the World Economic Forum. The NRI links infrastructure investments to ICT usage and is defined as the readiness of a nation or community to participate in ICT initiatives.

[115]Gross national income consists of 1) personal consumption expenditures, 2) gross private investment, 3) government consumption expenditures, 4) net income from assets abroad (net income receipts), and 5) gross exports of goods and services, after deducting gross imports of goods and services, and indirect business taxes. GNI is similar to GNP (gross national product), except that with GNP indirect business taxes are not deducted.

REFERENCES

Central Intelligence Agency (United States). 2011. *CIA Factbook*. Accessed August 2012: www.cia.gov/library/publications/the-world-factbook/geos/al.html

Dutta, Soumitra and Beñat Bilbao-Osorio (eds.). 2012. *The Global Information Technology Report 2012: Living in a hyperconnected world*. Geneva: World Economic Forum.

Dutta, Soumitra and Irene Mia (eds.). 2011. *The Global Information Technology Report 2010-2011. Transformations 2.0*. Fontainebleau and Geneva: INSEAD and World Economic Forum. Accessed August 2012: www3.weforum.org/docs/WEF_GITR_Report_2011.pdf

Economist Intelligence Unit. 2011. *Democracy Index 2011: Democracy under stress. A report from the Economist Intelligence Unit*. Accessed August 2012: www.eiu.com/public/topical_report.aspx?campaignid=DemocracyIndex2011

Economist Intelligence Unit. 2010a. *Economist Intelligence Unit Country Reports.* Accessed August 2012: www.eiu.com

Economist Intelligence Unit. 2010b. *Democracy Index 2010: Democracy in retreat. A report from the Economist Intelligence Unit.*Accessed August 2012: http://graphics.eiu.com/PDF/Democracy_Index_2010_web.pdf

Human Development Report website. Accessed August 2012: http://hdr.undp.org/

Hydén, Göran and John Samuel (eds.). 2011. *Making the State Responsive: Experience with democratic governance assessments.* New York: UNDP.

International Telecommunication Union. 2011a. *World Telecommunication/ICT Indicators Database*. Accessed August 2012: www.itu.int/ITU-D/ict/publications/world/world.html

International Telecommunication Union. 2011b. *Measuring the Information Society 2011*. Geneva: ITU.

International Telecommunication Union. 2009. *Measuring the Information Society 2009*. Geneva: ITU.

Raina, Ravi. 2007. *ICT Human Resource Development in Asia and the Pacific, Current Status, Emerging Trends*. (UN) Economic and Social Commission for Asia and the Pacific.

Rauf, Maswadi, Syarif Hidayat, Abdul Malik Gismar, Siti Musdah Mulia and August Parengkuan. 2011. *Measuring Democracy in Indonesia: 2009 Indonesia Democracy Index*. Jakarta: UNDP Indonesia.

Transparency International. 2010. *Corruption Perceptions Index*. Accessed August 2012: www.transparency.org/policy_research/surveys_indices/cpi/2010/results

Transparency International. *Global Corruption Barometer*. Accessed August 2012: www.transparency.org/research/gcb/overview

Transparency International website. Accessed August 2012: www.transparency.org

United Nations Department for Economic and Social Affairs. 2012. *United Nations e-Government Survey 2012: e-Government for the people*. New York: UNDESA. Accessed August 2012: http://unpan1.un.org/intradoc/groups/public/documents/un/unpan048065.pdf

United Nations Department for Economic and Social Affairs. 2010. *Global e-Government Survey 2010: Leveraging e-government at a time of financial and economic crisis*. New York: UNDESA. Accessed August 2012: http://unpan1.un.org/intradoc/groups/public/documents/un-dpadm/unpan038858.pdf

United Nations Development Programme. 2011a. *International Human Development Indicators Database.* New York: UNDP. Accessed August 2012: http://hdr.undp.org/en/statistics/

United Nations Development Programme. 2011b. *Human Development Report 2011. Sustainability and Equity: A better future for all*. New York: UNDP.

United Nations Development Programme. 2009. *Human Development Report 2009. Overcoming Barriers: Human mobility and development*. New York: UNDP.

United States Department of State website. Accessed August 2012: www.state.gov/

World Bank. 2012. *World Development Indicators*. Washington, DC: World Bank. Accessed August 2012: http://data.worldbank.org/

World Bank. 2011. *World Development Indicators*. Washington, DC: World Bank. Accessed August 2012: http://data.worldbank.org/

World Bank website. Accessed August 2012: www.worldbank.org/

World Health Organization. 2009. *Global Health Observatory Data Repository*. Geneva: WHO. Accessed August 2012: http://apps.who.int/ghodata/

Zambrano, Raul. 2008. 'e-Governance and Development: Service delivery to empower the poor'. *International Journal of Electronic Government Research.* 4(2): 1-13.

While developing countries continue to make important gains in accessing new ICTs, the impact of such gains on development agendas and the achievement of the Millennium Development Goals (MGDs) remain to be addressed. The predominant view is that access to ICTs remains the core challenge for developing countries, a view that is also shared in the MDGs themselves as reflected in the content of Target 18 (Goal 8).

Fostering access to new technologies is indeed a laudable goal in itself, yet developing economies need at the same time to focus on the traditional and long-standing development gaps that still persist today. Moreover, new ICTs have the potential of providing innovative solutions to existing economic, social and political challenges, which can transform the way development assistance is delivered.

The programme countries assessed in this report are implementing critical e-governance initiatives that help to expand access to basic public services and information, and foster political participation. While many challenges still remain, these programmes have made important inroads in making catalytic use of ICTs to tackle key development national priorities.

This report provides insight into the role ICTs can play in achieving development goals, distilling lessons and good practices for e-governance implementation, while also identifying core challenges. These case studies show how successful programming must be linked to existing national development priorities and targets. They also help us consider what is feasible and necessary for e-governance development in poor and middle-income countries, particularly when there is political will to promote democratic governance.

Empowered lives.
Resilient nations.

United Nations Development Programme
One United Nations Plaza,
New York, NY 10017, USA
www.undp.org