Target 6: Connect all local and central government departments and establish websites and e-mail addresses[1]

Introduction

The use of information and communication technology (ICT) in government — e-government — can be key to achieving specific social and economic development goals. In recent years, governments have increasingly begun to recognize the role ICTs can play in promoting effective and speedy solutions for development through the delivery of public services. There is no doubt that e-government can contribute effectively to creating an enabling environment for development, by enhancing transparency and accountability and promoting good governance in the public sector. As such, e-government is a key tool for public-sector reform towards better governance (see Box 6.1), which is one of the objectives of the United Nations Millennium Declaration. Accordingly, many countries are reforming and modernizing their public-sector systems. This involves putting in place ICT infrastructure (e-government readiness) and promoting the use of ICTs (e-governance) in order to maximize impact and increase public-sector efficiency. Indeed, while investment in infrastructure is necessary for the diffusion of ICTs, the impact will ultimately depend on the use that is being made of them.

The need to employ ICTs for development, including in the public sector, has also been emphasized in international forums. The United Nations has been an integral part of multistakeholder efforts to advance international cooperation and development for the promotion of e-government, including through innovative ICT-enabled e-government solutions and the development of global information repositories and databases. These endeavours have served to create and exploit synergies among different stakeholders, and to identify good practices that will advance the vision and concrete agenda set by WSIS.

The United Nations Department of Economic and Social Affairs (UNDESA) has taken the lead in promoting e-government development in the context of WSIS Action Lines C1 (The role of public governance authorities and all stakeholders in the promotion of ICTs for development), C7 (ICT applications, including e-government) and C11 (International and regional cooperation). In following the progress of Member States towards the WSIS objectives, UNDESA

focuses on how governments use electronic or mobile tools and applications to improve the provision of information and services to their citizens and enhance the functioning of the public sector.

The WSIS vision of e-government urges Member States to implement e-government solutions aimed at using ICTs in government and in public-service delivery. More specifically, the WSIS e-government objectives call on governments to:

•   implement e-government strategies focusing on applications aimed at innovating and promoting transparency in public administrations and democratic processes, improving efficiency and strengthening relations with citizens;

•   develop national e-government initiatives and services, at all levels, adapted to the needs of citizens and business, to achieve a more efficient allocation of resources and public goods;

•   support international cooperation initiatives in the field of e-government, in order to enhance transparency, accountability and efficiency at all levels of government.[2]

The WSIS e-government objectives reflect a growing recognition on the part of policy-makers that the judicious use of ICTs can play a crucial role in pursuing the aims of the public sector and contribute towards achieving social and economic development goals. The underlying principle of e-government has served to improve the internal workings of the public sector by reducing financial costs and transaction times and strengthening linkages between different government agencies, the private sector and civil society for the effective delivery of public services.

Box 6.1: The benefits of e-government

The multistakeholder effort at WSIS recognized that access to information and knowledge is critical for development. ICTs cut across sectors and provide support to key governance processes that are critical for improved functioning of the public sector and for good governance. The 24/7 availability of ICT tools enables faster and more efficient communication not only between the public sector and citizens, but also between government agencies, processes and systems. Thus, ICTs help governments operate more efficiently, improve the delivery of public services and enable more widespread information dissemination to citizens.

E-government can facilitate communication and improve coordination between authorities at different levels of government, including within organizations. This is critical for improved policy coordination and better communication of the resulting decisions, which, in turn, is very important for policy coherence and achieving policy objectives. Increased transparency should also strengthen trust.

E-government can enhance the speed and efficiency of operations, by streamlining processes, lowering costs, improving research capabilities and improving documentation and record-keeping. By making more information publicly available, e-government solutions reduce uncertainty for other socio-economic actors, thus enhancing their resource-allocation decisions.

E-government enables greater inclusion and participation of citizens in policy processes. By enhancing the government's ability to request, receive and take on board feedback from constituents, policy measures can be better tailored to meet the needs and priorities of citizens. Thus, e-government enables more participatory and potentially more democratic governance.

Best practices indicate that the focus on service delivery is becoming intertwined with an emphasis on achieving cost savings and enhancing efficiency in the public sector. By lowering application processing and waiting times, innovative e-government-for-business solutions can reduce the cost of complying with government regulations, lighten the administrative burden for businesses and cut through red tape.

Thus, innovation in e-government solutions at all levels of government enhances the speed and efficiency of public-sector operations, streamlines processes, lowers costs, improves service-delivery capabilities and improves documentation and record-keeping. At the same time, the underlying principle of e-government also serves to strengthen linkages between different government agencies, the private sector and civil society.

Source: UNDESA.

Measuring Target 6 — Proposed indicators

Target 6, namely "**Connect all local and central government departments and establish websites and e-mail addresses**," can be interpreted as comprising three distinct goals:

i)   Connect central and local government departments
ii)   Establish websites for central and local government departments
iii)   Establish e-mail addresses for central and local government departments.

The conceptual framework of the target stemmed from an increasing recognition of the value of integrating technology into government so as to find more effective and speedy solutions for more efficient functioning of governments, improved delivery of basic services and wider dissemination of information to the citizen.

In establishing the WSIS target for e-government, it was deemed important that national and local/municipal governments and departments should implement the use of ICTs, be connected online and make the relevant public officials' e-mail information available to the citizen as a first step towards providing online information.

However, as is the case for the other WSIS targets, it was not clear exactly how the terms "connecting" central and local governments or "establishing a website" were to be interpreted. For example, government offices could have Internet access and/or an established website at varying levels of use. A registered entry point for a ministry or government department does not mean that all its offices and staff are fully equipped with ICTs, or that links have been established between different government entities. Similarly, simply having e-mail contact information posted on a government website is not sufficient to allow a thorough assessment of the website in question in terms of effective service delivery. Experience shows that countries utilize ICTs differently. Assessments based on ICT use show that the establishment of a website without appropriate and useful navigation, interaction or transaction capability may not have any impact in terms of developing effective e-government solutions.

The *Partnership on Measuring ICT for Development* (see Box 2 in the introductory chapter of this report), which was set up in the wake of WSIS, through its Task Group on E-government Indicators (TGEG), is working on the development of a global framework for measuring e-government, including recommendations on a proposed set of indicators which can form a core group to be collected by Member States. Such an approach is important in order to root out inconsistencies in definitions, methodology, reporting and monitoring of e-government indicators across — and between — national and local governments, and will lend consistency to international and national benchmarking efforts. A consistent global approach will also support the application of lessons learnt and best practices in e-government development around the world.

Based on the *Partnership*'s ongoing work, the following key indicators are proposed for measuring progress towards Target 6. The proposed indicators consider basic access to and use of ICTs in government, as well as the role of the government as a provider of public information and services. The suggestions also take into consideration the work accomplished at the regional level by the Working Group on ICT Measurement of the ECLAC Statistical Conference of the Americas (SCA-ECLAC), which has been discussing a core list of e-government indicators [OSILAC, 2009] [OSILAC, 2010]. The proposed indicators are based on a straightforward interpretation of the current wording of Target 6, and the review of the target in the following section follows this interpretation. The indicators will be further refined in due course, as part of the ongoing work of the *Partnership*.

Proposed indicators:

Connect central and local government departments
1.   Percentage of government employees using the Internet
2.   Percentage of government employees using computers
3.   Percentage of government institutions with Internet access, by type of access (narrowband, broadband)
4.   Percentage of government institutions using corporate networks (LAN, WAN, intranet, extranet)

Establish central and local government websites
5.   Percentage of central government institutions with established websites[3]
6.   Percentage of local government institutions with established websites[3]

Establish e-mail contact information

7.   Percentage of government institutions with online e-mail contact information[3]
8.   Percentage of government institutions offering online services, by type of service (interactive, transactional, connected)

Whereas proposed indicators 1-7 are self-evident, an explanatory note is required for indicator 8. Improving public-service delivery is a key objective of most e-government development programmes. The initial focus of e-government has given way to the notion of *development of coordinated services* such as one-stop shop services to citizens and businesses. In this context, it is important to assess the extent of online public services offered by countries around the world.

For the purposes of assessing the WSIS target, indicator 8 shall also be broken down by level of complexity of service and by type of service:

•   Level of complexity of service:

-   *Basic level*: Accessing general information about the institutions, services offered, requirements and/or documentation; requesting information by e-mail
-   *Intermediate level*: Receiving answers to e-mail/phone inquiries; downloading forms (only); downloading and sending forms (document attachments)
-   *Advanced level*: Completing/lodging online forms; making online payments (bills, taxes, health, licences, certificates); obtaining official certificates (through certification or electronic signature).

•   Type of service, for citizens and companies:

-   Paying taxes
-   Submitting requests / bids for service
-   Citizen participation (vote system, public queries)
-   Filing reports, complaints and claims
-   Health services
-   Education services
-   Social security services
-   Justice services
-   Labour mediation
-   Online training
-   Companies register
-   Other.

Status of Target 6

i) Connect central and local government departments

This component of the target is assessed by looking at the *percentage of government employees using the Internet,* the *percentage of government employees using computers*, the *percentage of government institutions with Internet access, by type of access (narrowband, broadband)* and the *percentage of government institutions using corporate networks (LAN,WAN, intranet, extranet).*

Table 6.1 presents the percentage of government entities with Internet access in 2009 for a few selected countries. As can be seen, most of them reported 100 per cent of government entities with Internet access. With regard to the adoption of newer technologies, whereas developed economies with high rates of access to ICTs such as Denmark, Republic of Korea, Singapore and the United Kingdom indicate 100 per cent access to broadband connectivity, in some countries such as Albania and Lithuania, the rate is much lower.

Internationally comparable data on the type of government connection (broadband or other), the use of networks such as LAN or WAN, and the extent to which government employees are actually using ICTs such as computers

Table 6.1: Percentage of government entities with Internet access, 2009*

Country	Any type of connection	Broadband only
Albania	93	58
Andorra	100	100
Australia	100	…
Bhutan	100	…
Bolivia	100	…
Brunei	100	100
Bulgaria	100	40
Canada	100	…
Colombia	100	…
Croatia	100	100
Czech Republic	99	94
Denmark	100	100
Djibouti	100	100
Egypt	67	49
Finland	100	…
Hungary	97	87
Korea (Rep.)	100	100
Latvia	100	…
Lithuania	100	66
Mexico	87	…
Myanmar	100	…
Nauru	100	100
Paraguay	100	60
Singapore	100	100
Thailand	100	100
Turkey	75	…
United Kingdom	100	100
United States	100	…

Note: * Or latest available year. Includes estimates. "…": data not available.
Source: ITU and national sources.

and the Internet, are scarce. While the data presented in Table 6.1 are indicative of government entities' access to Internet, it is not known how the Internet is being utilized. Available figures on Internet and broadband penetration (see the Chapter on Target 10) suggest that overall government access and use of ICTs is still rather limited in many developing countries.

The effectiveness of ICT for development is a function of the appropriate patterns of ICT use. Not surprisingly, e-government development in a government entity with only one computer connected has been found to be far less advanced than in government entities where all staff have access to computers. Similarly, how the different government entities are connected to each other is often the determinant of effective solutions in e-government.

Table 6.2: The use of ICT in government, New Zealand, 2008

Organization size (No. of employees)	No. of responding organizations	Servers	Desktops/laptops
< 50	10	41	294
50-99	6	79	479
100-499	36	1 503	10 079
500-999	14	1 570	8 730
1000-4999	29	6 243	53 616
5000 or more	10	4 878	68 516
Organization type			
Central government	93	11 726	124 723
State-owned enterprise	12	2 588	16 991
Overall	105	14 314	141 714

Source: New Zealand State Services Commission report. Government Use of ICT 2008.
http://www.e.govt.nz/resources/research/ict-survey-2008/govt-ict-survey-2008.pdf. p 16. Accessed 22 November 2009.

Comparable data on the use of ICTs in government are rare. A few surveys, mostly in developed countries, offer pointers to the use of ICTs in national governments. For example, the New Zealand Government Use of ICT Survey 2008 provides information about the state of ICT use in order to inform government decisions and monitor progress in how ICTs are supporting the goals of efficiency in government (Table 6.2). The survey was administered by the State Services Commission and covered 163 state-sector organizations. Of these, 144 were central government organizations and 19 state-owned enterprises. The overall response rate was 64 per cent, but was somewhat higher for larger organizations (95 per cent for organizations with more than 1 000 employees and 22 per cent for organizations with less than 50 employees). The results illustrate that, after the initial rush by countries to adopt ICTs in government, a more systematic effort is being made at this second stage to ascertain how ICTs are being used by government departments and ministries. Though sporadic, these surveys suggest that, thus far, the potential synergies created by use of ICTs in governments have been exploited only to a limited extent.

ii) Establish central and local government websites

Setting up a website is the entry point for governments to move online, and a basis for developing more sophisticated online services. The indicator comprises *the percentage of central government departments with established websites* and the *percentage of local government departments with established websites.*

Central government departments

A review of progress on the establishment of central government websites shows that the pattern of e-government development in the last few years has been one of expansion and consolidation. Considerable progress has been made by governments worldwide since the second phase of WSIS in Tunis towards providing information and services through the use of ICTs. As e-government services have continued to expand around the world, website assessment indicates that the majority of the UN Member States have vigorously embraced electronic service delivery. Progress on achievement of the WSIS goal of establishing national websites has been rapid. Based on the UNDESA survey findings, at the level of central governments, no fewer than 189 of the 192 UN Member States had set up government websites by 2009 (Table 6.3).

In most developed countries, online presence was initially characterized by the development of a national homepage as the point of entry. As e-government endeavours advanced, this gave way to integrated portals, in some cases with enormous amounts of information and services. Often entitled the *Official Government site, Gateway to Government*, or *Government Electronic Portal*, the evolution of these integrated portals in the

Table 6.3: Countries with government websites, 2003 and 2009

	2003	2009
Countries with central government websites	173	189
Countries without central government websites	18	3
Total UN Member States	191	192*

Note: *On 28 June 2006, Montenegro was accepted as a United Nations Member State, bringing the total UN Member States to 192.
Source: [UNDESA, 2003] and [UNDESA, 2010].

past few years reflects increasing attention to user-friendliness for the convenient delivery of information and services.

In some cases, national portals were consolidated in conjunction with standalone websites as an increasing number of countries opted to establish separate, but connected, e-government portals, providing a one-stop-shop window for easy access to all public services. For example, in 2005, the Government of Malta had two separate websites aimed at different sets of users: one providing information, and one offering online services. Since then, the country has moved forward in consolidating its online services into an integrated portal bringing together all e-government services and offering quick, convenient and personalized access to public electronic services.

Some countries have opted for one national site as the main gateway, with links to other service delivery portals aimed at different users (for example the U.S. FirstGov portal, http://www.firstgov.gov, and in Singapore, http://www.gov.sg).

In another model of e-government, some countries have implemented national online presence with separate portals designed to offer different access points for different audiences. For example, Norway has the official government site, described as *your gateway to the public sector in Norway* (http://norge.no), and another government website for *information from the government and the ministries,* (http://www.regjeringen.no) which provides public information and services on a wide range of issues such as agriculture, asylum and refugee policy, taxes, the economy, etc.

Many developing countries have also chosen this audience-targeted portal approach. For example, Mauritius (http://www.gov.mu) has set up dedicated subportals for citizens and the business sectors.

In some countries, instead of the national government website or portal serving as a single point of entry, the Head of State website serves this purpose, with links to other departments. For example, Algeria has the President's webpage (http://www.el-mouradia.dz/francais/Sommaire.html) with links to national institutions such as the Presidency of the Republic, the National People's Assembly, the National Council and the various ministries. In other instances, Head of State websites are provided in addition to a national homepage or a national portal. By 2008, 124 countries out of the 192 UN Member States had a Head of State website, though in many cases in addition to the national government website.

In most countries, many government ministries/departments are online, too. By 2008, some 82 per cent of all countries had established one or more sectoral websites for the ministries of finance, education, health, social welfare and labour. In around three quarters of the 192 UN Member States, non-executive branches of governments were also online (Chart 6.1).

As with national homepages/central portals, there is no discernible pattern to the establishment of departmental services online. Models vary according to each country's vision, strategy and needs. Some countries have set up links to the national portal; others have done so to the Head of State website, where no national portal exists. A few have independent standalone ministry/department websites which may also serve as the country's entry point. In Angola, for example, there is no single national website; instead, there are standalone websites for the National Assembly, the Constitutional Commission, the National Police, the National Bank of Angola, the Radio and the TV, and several ministries.

Chart 6.1: Government ministries and departments with a website, 2008

Number	■ Number of countries	◆ Per cent of UN Member States	%
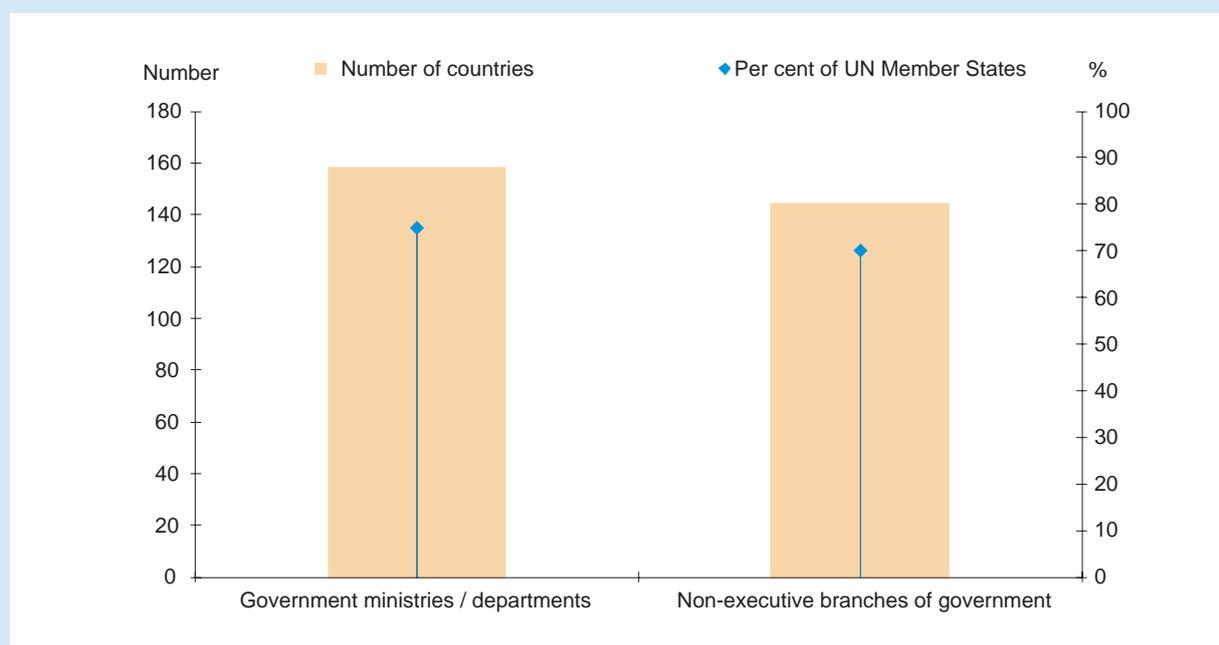
Source: [UNDESA, 2008].

Table 6.4: Government ministries connected to the national homepage, 2009

	Number of ministries linked to the national homepage			
	0	**1-5**	**6-10**	**More than 10**
Number of countries	52	13	9	118
Percentage of total	27%	7%	5%	61%

Source: [UNDESA, 2010].

The number of online departments varies across countries as well. In larger and more advanced countries, all departments are online. In developing countries where e-government has not yet fully taken root, only a few individual departments may be online, indicating little synergy. In such cases, the lack of a national website prevents countries from enjoying the benefits of e-government that would stem from effective integration of back-end ministries and departments.

In this context, a review carried out by UNDESA of Member States' progress in interlinking ministries and other government departments shows a mixed picture (Table 6.4). While there has been much progress in establishing websites, less appears to have been done in linking together government departments to improve their combined efficiency and enhance synergies. For example, whereas the majority (61 per cent) of countries had more than 10 ministries/departments connected to the country's homepage or main portal, in almost one-third of the countries none were connected, and another seven per cent had only one to five ministries connected. This suggests that efforts to link up various government departments are still at an early stage worldwide.

Local government departments

Whereas rapid progress has been made in establishing national government websites, the same does not hold true at the local level. At the same time, it should be noted that data on local government online are less readily available than for the national government. Local governments are simply not online, due to a lack of resources, slow implementation of the overall e-government programme or lack of an integrated e-government development. Where local governments have come online, the strategy has followed two distinct paths. Local government websites are either linked from the national webpage, or they exist as standalone sites, delivering services at the local level according to the country's constitutional and political governance.

By 2008, more than half of all countries had one or more local government sites connected via the national website (111 countries, or 58 per cent of the 192 UN Member States [UNDESA, 2008]). In many of these, especially developed countries, local-level information and services were also available via the integrated services portals, as indicated above.

Looking at the level of municipalities, [Holzer and Kim, 2007] examined digital governance in a selected number of large cities in the 100 "most wired" economies. The study evaluated the official websites of each of these cities in their native languages. In 2007, 86 of the 100 cities selected were found to have official municipal websites, and Seoul, Hong Kong, Helsinki, Singapore and Madrid achieved the highest evaluation score. The study found substantial regional disparities, even though these appear to ease somewhat over time. In 2007, 50 per cent of the cities selected in Africa had established official city websites (compared to only 29 per cent in 2005). In Asia, the figure increased from 78 per cent in 2005 to 89 per cent in 2007. By 2007, 70 per cent of the cities selected in North America had established official city websites. In Europe, South America, and Oceania, 100 per cent of the selected cities had their own official website.

iii) Establish email contact and provide online government services

The fact that a government department has set up a website is a necessary but not a sufficient condition for effective e-government. Effective e-government is not achieved if the site does not include any information and features to promote online public services. Collecting information about the types of services offered through the websites is, therefore, crucial for assessing and identifying the potential impact of e-government. Indeed, the usefulness of a public website depends primarily on the services offered (Box 6.2).

The UNDESA Global E-Government Readiness Survey monitors the 192 UN Member States in terms of their state of e-government readiness. The survey is a comparative assessment of the willingness and ability of governments to provide information and services as they progress towards higher levels of digitized public-service delivery, and an appraisal of the use of e-government for the delivery of social services to the citizen.

The assessment of government websites is based upon a four-stage model of e-government development, which is ascending in nature, each stage building upon the previous level of a state's online services. The model defines stages of e-readiness according to the degree of sophistication of the services offered. The websites are assessed on the basis of criteria such as the range of features available on the national portal or an official homepage; links to ministries/departments; current and archived information, such as policies, laws and regulation, newsletters and downloadable databases; and more sophisticated interactive and transactional services. The stages are: *Stage I*: Emerging (where website information is mostly static and/or unidirectional, with information flowing essentially from government to the citizen); *Stage II*: Enhanced (online services of the government enter the interactive mode, with services to enhance convenience for the citizen); *Stage III*: Transactional (two-way interaction and transactional services online); and *Stage IV*: Connected (including features that allow citizens to communicate their views and opinions on public policy issues).

A review of the type of services reveals that not only have countries come online during the past few years, but they have expanded and consolidated their e-services. First-level participatory features such as contact information or e-mail are increasingly the norm, as more and more countries around the world take the first online step towards promoting transparency and accountability in the public sector and allowdirect online citizen contact with the relevant public official. By 2008, 136 countries (out of the 192 UN Member States) had e-mail information available on their national website, while additional contact information, such as telephone number/fax number, was available in 110 countries in 2008 and in 159 countries by 2009.

Chart 6.2: Selected e-government transactional services, 2008 and 2009

Number of countries

Legend: ■ 2008   ■ 2009

Service	2008	2009
Online form submission	39	
Online payment by card	31	
Online payment of individual registrations / permits	29	36
Online bidding for public contracts	21	23
Online tracking of permits	11	21
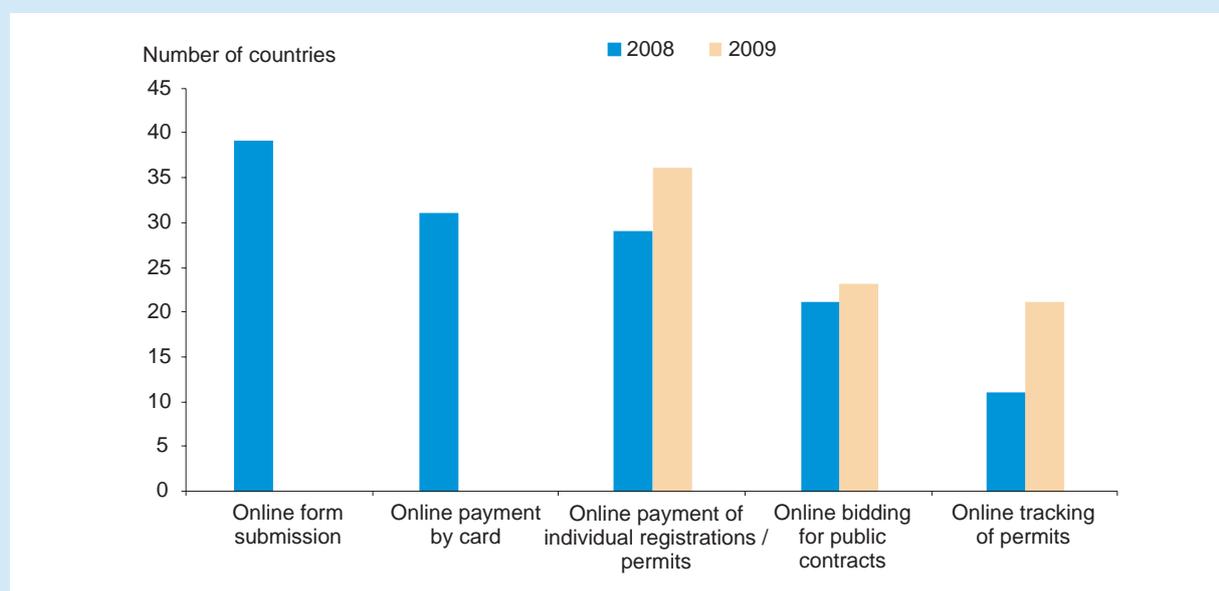
Source: [UNDESA, 2008,) and [UNDESA, 2010].

In regard to the more sophisticated services in *Stage III*, the availability of selected online transactional services offered by countries on their websites is presented in Chart 6.2. In 2008, online form submission was the most widely available service, being reported in 39 countries (one-fifth of all 192 UN Member States), and 31 countries offered users the possibility to make online payments with credit or debit cards. For each of the services for which two years of data are available, there is an increase in the number of countries offering them. Online tracking of permits remained the least common service, being offered in 11 countries in 2008, and 21 countries in 2009.

An important aspect of *Stage IV* (Connected) is the assessment of the government's capability and capacity to provide website features for citizen participation in public policy-making. By enhancing government's ability to request, receive and take on board feedback from constituents, policy measures can be better tailored to meet the needs and priorities of citizens. Online provision can be a catalyst for e-inclusion by offering new and better services. In other words, e-government can contribute to more participatory and potentially more democratic governance. In this context, it is important to assess how many countries are actively using ICTs for inclusive e-government. Some progress has been made in the provision of more mature e-government services (Table 6.5). However, much of this is confined to the more developed economies. Whereas a quarter of the countries have some kind of a statement of policy encouraging citizen participation, less than half of these countries actually provide mechanisms for formal consultation and only nine per cent of them provide any feedback to the citizen.

Table 6.5: Online services related to citizen participation, 2009

	Statement or policy encouraging citizen participation	Formal online consultation	Feedback on policies through the online consultation
Number of countries	53	21	18
Percentage of total	28%	11%	9%

Source: UNDESA E-Government Survey 2010.

Box 6.2: The level of e-government services in the EU

The EU assesses e-government according to a five-stage maturity model reflecting the ways in which businesses and citizens can interact with public authorities. It distinguishes the following stages: (i) Information, (ii) One-way interaction, (iii) Two-way interaction, (iv) Transaction, and (v) Targetization. [European Commission, 2009]

Many European countries have already reached the third and the fourth levels, offering the possibility of two-way interactions and transactions. Examples of services on offer in these levels include the availability of electronic forms for most services, and full electronic case handling, where the user applies for and receives the service online without any additional paperwork. In the EU model, the fifth level, targetization, provides an indication of the extent to which front and back offices are integrated, data are re-used and services are delivered proactively. The fourth and fifth levels are jointly referred to as "full online availability".

A key indicator used to assess the fourth and fifth stages of the e-government maturity model is the percentage of full online availability based on 20 basic public services for citizens and enterprises, including income taxes, corporate taxes, job search services, car registration, enrolment in higher education, health-related services and social contributions for employees. The four leading European Union nations are Austria, Malta, Portugal and the United Kingdom, each having achieved 100 per cent online availability in 2009 (Chart 1 Box 6.2).

Chart 1 Box 6.2: Percentage of full online availability of 20 basic public services, Europe
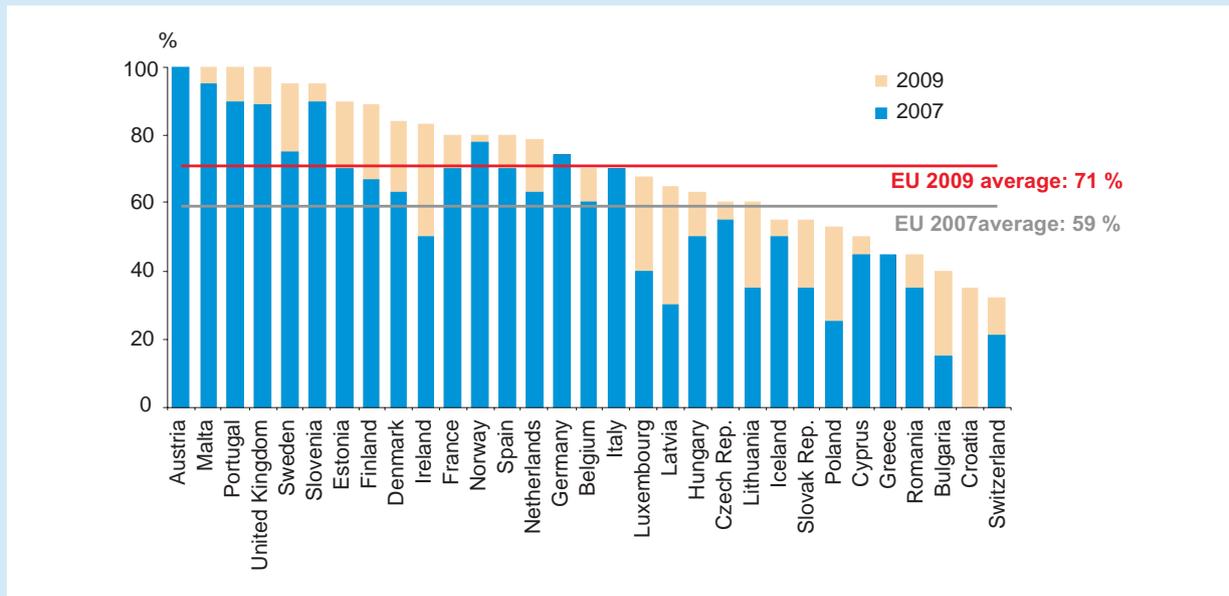
Source: Eurostat, e-Government Statistics Database

Whereas most governments have developed websites and are increasingly providing public services online, less is known about how these services are being used. Information on the uptake of e-government services remains scant, but some insights can be gained from regional or country-level surveys which assess how online services are being used.

Use of government online services

How citizens and businesses have made use of online government services is illustrated in Box 6.3. The information is based on the core ICT household and business indicators developed by the *Partnership on Measuring ICT for Development* and collected at the international level by ITU, UNCTAD and Eurostat.

Box 6.3: Use of e-government services by citizens and businesses

As most governments have developed websites and are increasingly providing public services online, it is important to know how these services are being used by individuals and businesses. As can be seen from Chart 1 Box 6.3, in Europe the proportion of Internet users interacting with government institutions ranges from over 80 per cent in Iceland to over nine per cent in Serbia. For non-European economies, the numbers tend to be lower, ranging from 31 per cent in New Zealand (in 2006) to close to three per cent in Azerbaijan.

In countries which are in the vanguard of e-government, the uptake of e-government by businesses is much higher than by the citizen. For businesses using government online services, a higher percentage of such enterprises interact with public administrations than do individuals, partly because businesses, in general, have greater Internet access and tend to be more connected than individuals. Since the use of ICTs for business offers the opportunity to increase efficiency, including through automation, it is to be expected that businesses use e-government services more than the citizen. In the European Union in 2008, 93 per cent of businesses (with 10 or more employees) had Internet connections, compared to 60 per cent of households.[4]

Between 2004 and 2009, the proportion of businesses in EU countries interacting with government organizations over the Internet was higher, and growing at a faster rate, than the proportion of individuals. Overall, 70 per cent of EU businesses either obtained information or downloaded official forms from government websites in 2009 (Table 1 Box 6.3). The numbers remain relatively lower for e-procurement, with less than 15 per cent of enterprises submitting a proposal using an electronic tendering system.

The use of online government services by business increases with the number of employees (Chart 2 Box 6.3), except in Iceland where enterprises with 50-249 employees made greater use of online government services than enterprises with less than 250 employees. The numbers tend to be higher in European than non-European economies for which data are available. The United Arab Emirates, New Zealand, Singapore and Brazil are among the highest ranked non-European economies.

Chart 1 Box 6.3: Percentage of Internet users interacting with general government organizations online, 2009*
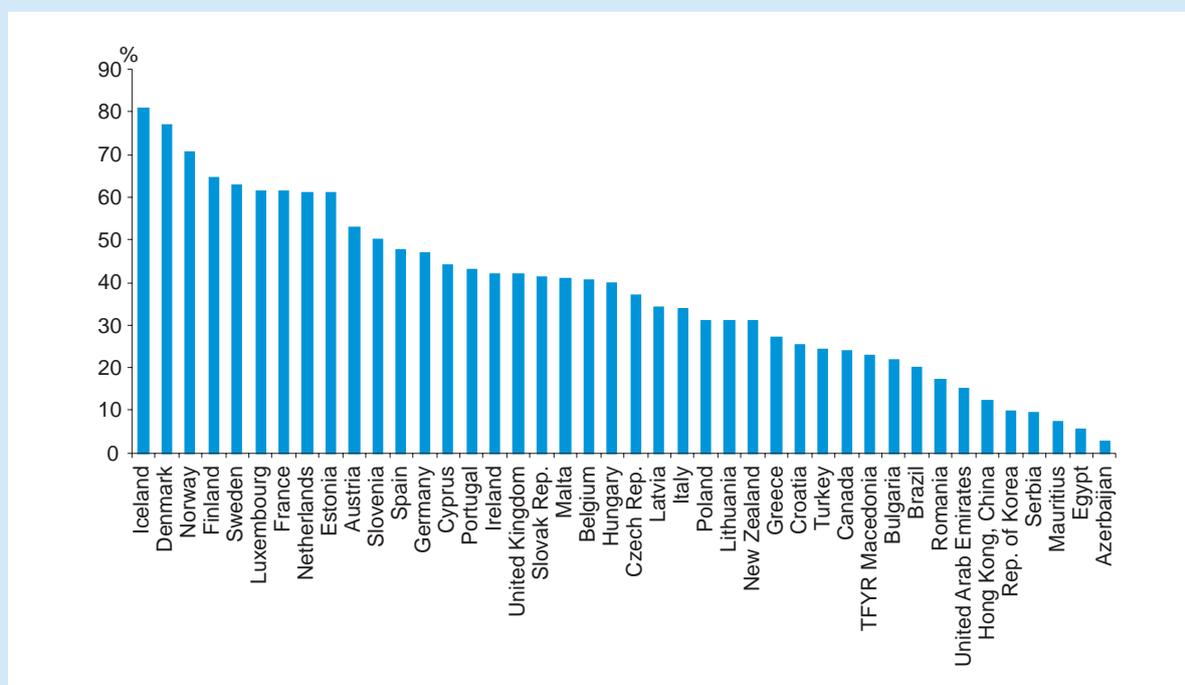
Note: * Or most recent year available.
Source: ITU based on [Eurostat, 2009] and national sources.

Box 6.3: Use of e-government services by citizens and businesses (continued)

Table 1 Box 6.3: Enterprises using the Internet for interaction with public authorities, EU countries, 2009

	Percentage of enterprises using the Internet				
	For obtaining information	**For obtaining forms**	**For returning filled in forms**	**For full electronic case handling**	**For e-procurement**
All enterprises	70	70	60	48	12
Large enterprises	85	84	79	63	21
Medium-sized enterprises	78	79	72	57	16
Small enterprises	62	61	51	40	10

Source: Eurostat, e-Government Statistics Database.

Chart 2 Box 6.3: Percentage of enterprises using the Internet for obtaining information from general government organizations, 2008 or 2007*
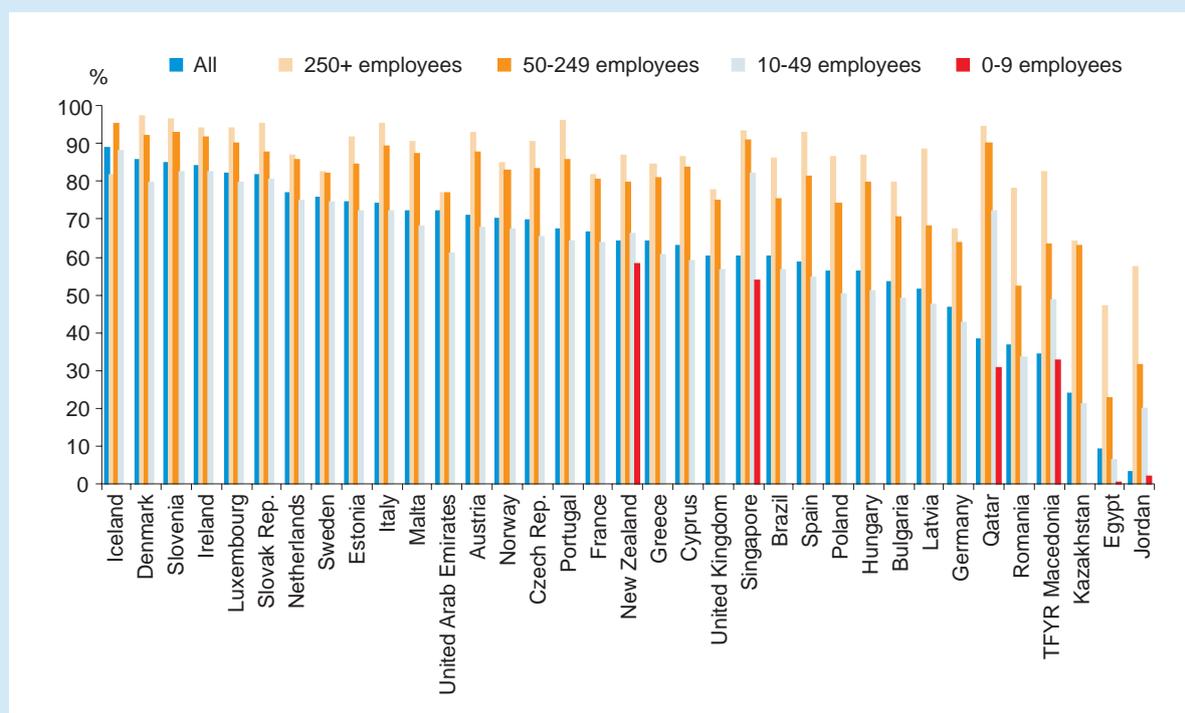
Note: * Includes estimates.
Source: UNCTAD, Information Economy Database.

Conclusions and recommendations

Recent trends in ICT use by governments point to mixed progress in e-government development worldwide. However, in terms of the use of ICTs in government institutions, for countries where data are available (mainly developed countries), most government departments have access to the Internet. Less is known about the level of Internet access in governments in the rest of the world. Among developing countries, given the relatively low Internet user/subscriber penetration it can be assumed that many government offices are not yet fully connected, in particular to broadband Internet.

Comparable data on ICT use within government departments are scarce, especially on the type and quality of the connectivity, the extent of its diffusion (for example, the proportion of staff in government departments who have been connected) and the actual use that is made of the connectivity by governments. Relatively little information exists on how ICTs are used, for example, for reforming and restructuring the interdepartmental organization of different levels of government. The lack of data on the use of ICTs by the government sector, and its impact, remains a major barrier to an effective review and analysis of e-government efforts, which would be necessary to inform policy decisions. It also limits the scope of learning from, and employing, best practices, underscoring the need to undertake representative surveys.

Considerable progress has nevertheless been made on establishing public websites, one of the main components of Target 6. Today, almost all countries have a central government website providing basic information online; most of them also have contact details; and a large number of countries are on their way to provide more sophisticated interactive and transactional services online.

While substantial progress has been made in recent years in establishing government websites, no single definitive pattern of e-government development has emerged. Assessment of countries' websites reveals a wide range of e-government strategies as evidenced by varying conceptual frameworks, online entry points, levels of features and services offered and visual representations. Even countries at a similar level of income or development appear to conduct e-government programmes differently. The common thread between the various approaches is that the wide variation among — and between — the national and departmental website offerings appears to be a function of the level of economic, technological and human resource development in a country.

Further, wide disparity remains within and between countries. A major global challenge in the utilization of e-government for economic and social development is inequitable access to and use of ICTs. Advanced countries which are in the vanguard, with successful programmes, have developed these on the solid foundations of infrastructure and human resource development. Though most developing countries have followed suit in the adoption of ICTs for public-service delivery, challenges remain in the form of weak capacity, ad hoc online presence and lack of full use of ICTs.

There is little systematic collection of local government website data. Part of the problem lies in the fact that relatively few local governments are as yet fully online. This is especially true in the developing countries, where lack of resources — financial, human and material — is a constraint. Where data exist at the local level, it is not strictly comparable across countries due to differences in the political and economic regimes of national governments which determine what service is local.

One of the challenges for monitoring the efficacy of e-government development is that most of the statistics are derived from supply-side indicators and often from website assessments alone. Little information is available yet regarding the demand side of e-government. Few surveys exist which would indicate "how" citizens use these services and "what" they see as maximizing public value. Only a few studies have been carried out, mostly in advanced economies. There is even less available in terms of impact assessment of national e-government programmes.

In order to achieve Target 6 on e-government by 2015, action needs to be taken at both the national and international levels. Specific recommendations include:

- development of a strategic framework for integrated e-government development aimed at harnessing the synergies of new technologies in government departments and entities;

- greater focus by Member States on the development and implementation of policies to increase the diffusion of ICT infrastructure, in particular broadband connectivity;

- dissemination of best practices and lessons learnt from experiences in effective e-government and e-governance worldwide;

- development and formal adoption by Member States of ICT-for-development and e-government plans that include access targets, within a holistic framework of the Millennium Development Goals;

- continued follow-up on e-government development at the local level, where data are weak and compliance is sporadic. In this context, efforts are needed at the policy and programme level by the whole range of stakeholders to support Member States in highlighting the central role played by ICTs and e-government for development, in disseminating information through various international forums on local e-government development, and in supporting capacity-building efforts for both the development of local e-government programmes and the monitoring of progress through established indicators;

- support through e-government capacity building at the national and local level for the development of a clear strategic e-government development and management framework which informs national goals and targets;

- continued monitoring and assessment of national government websites to follow up on e-government development between now and 2015.

Finally, a global agreement on a consistent framework for measuring e-government development is called for in order to avoid different meanings and interpretations by national and local governments, pave the way for the more effective adoption of best-practice solutions from around the world, and make progress in the international comparison of e-government use and development. The indicators currently developed by the *Partnership on Measuring ICT for Development* will contribute to collecting internationally comparable data that will serve to monitor e-government development and analyse its impacts.

Notes

1   This chapter has been provided by Seema Hafeez from the United Nations Department of Economic and Social Affairs (UNDESA), in collaboration with ITU.

2   See: WSIS Geneva Plan of Action, 2003, § 15.

3   Indicators 5 and 7 are included here as they are considered important for a review of the target to date. However, for future monitoring of e-government, these indicators may no longer be necessary in view of the high achievement rate.

4   Eurostat e-Government Statistics: http://epp.eurostat.ec.europa.eu/statistics_explained/index.php/E-government_statistics#Development_of_e-government_services_usage, accessed 24 November 2009.

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