Economic & Social Affairs

UNITED NATIONS E-GOVERNMENT SURVEY 2016

E-GOVERNMENT IN SUPPORT OF SUSTAINABLE DEVELOPMENT

UNITED NATIONS

UNITED NATIONS E-GOVERNMENT SURVEY 2016
E-Government in Support of Sustainable Development

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United Nations Department of Economic and Social Affairs

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Foreword

The year 2015 marked a milestone in efforts to eradicate poverty and promote prosperity for all people on a safe planet. With the adoption of the 2030 Agenda for Sustainable Development and other major international commitments, we embarked in an unprecedented endeavour to transform our world. The 2030 Agenda is centred on a set of far-reaching and people-centred universal Sustainable Development Goals (SDGs). Reaching these goals in all countries and creating peaceful, just and inclusive societies will be extremely difficult in the absence of effective, accountable and inclusive institutions. Institutions need to be capable and equipped to adapt the Agenda to the national situation. They need to be able to mobilize the society and the private sector in implementing the SDGs. Capacities and innovation will be required to promote policy integration, enhance public accountability, promote participation for more inclusive societies as well as ensure equitable and effective public services for all, particularly for the poorest and most vulnerable groups. ICT and e-government are important tools to realize these objectives.

Against this backdrop, the 2016 United Nations E-Government Survey highlights a positive global trend towards higher levels of e-government development. Countries in all regions are increasingly embracing innovation and utilizing ICTs to deliver services and engage people in decision-making processes. One of the most important new trends is the advancement of people-driven services. It addresses the growing demand for more personalized services that reflect individual needs, as well as people's aspiration to be more closely engaged in the design and delivery of services. These new demands are transforming the way the public sector operates.

At the same time, disparities remain within and among countries. Lack of access to technology, poverty and inequality prevent people from fully taking advantage of the potential of ICTs and e-government for sustainable development. For ICTs to truly transform the public sector into an instrument of sustainable development, efficiency in service delivery must be also coupled with social equity and ensuring that all people can access quality services. Such efforts are vital to making sure that the sustainable development goals are at the centre of all government policies and of public management and that no one is left behind.

WU Hongbo
Under-Secretary-General for Economic and Social Affairs
United Nations Department of Economic and Social Affairs

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Acronyms

AAAA	Addis Ababa Action Agenda
AfDB	African Development Bank
App	Software Applications
CARICOM	Caribbean Community and Common Market
CDO	Chief Data Officer
CIO	Chief Information Officer
CPI	Corruption Perception Index
DESA	Department of Economic and Social Affairs
DPADM	Division for Public Administration and Development Management
EEA	European Environmental Agency
EGDI	E-Government Development Index
EIA	Environmental Impact Assessment
EPI	E-Participation Index
FOI	Freedom of Information
FOIAs	Freedom of Information Acts
G2G	Government-to-Government
GCC	Gulf Cooperation Council
GFW	Global Forest Watch
GIS	Geographic Information Systems
GNI	Gross National Income
GODAN	The Global Open Data for Agriculture and Nutrition
GPS	Global Positioning System
HCI	Human Capital Index
HTML	Hyper Text Markup Language
ICT	Information and Communication Technology
IDRC	International Development Research Centre
ILO	International Labour Organization
INTOSAI	International Organization of Supreme Audit Institutions
IoT	Internet of Things
ITU	International Telecommunication Union
LDC	Least Developed Country
MAMA	Mobile Alliance for Maternal Action
MDGs	Millennium Development Goals
MENA	Middle East and North America
METEP	Measurement and Evaluation Tool for Engagement and e-Participation
MFI	Microfinance Institutions
MYS	Mean Years of Schooling
NEPAD	New Partnership For Africa's Development
NGO	Non-Governmental Organization
OECD	Organization for Economic Cooperation and Development
OGD	Open Government Data
OSI	Online Service Index
OSM	Open Street Map
PPPP	Public-Private-People Partnerships

PPP	Public Private Partnerships
RSS	Really Simple Syndication
SDGs	Sustainable Development Goals
SIDS	Small Island Developing States
SME	Small and Medium Enterprise
SMS	Short Message Service
TGEG	Task Group on E-government
TII	Telecommunication Infrastructure Index
UGC	User-Generated Content
UNCTAD	United Nations Conference on Trade and Development
UNDG	United Nations Development Group
UNDP	United Nations Development Programme
UNECA	United Nations Economic Commission for Africa
UNECE	United Nations Economic Commission for Europe
UNECLAC	United Nations Economic Commission for Latin America and the Caribbean
UNEP	United Nations Environment Programme
UNESCAP	United Nations Economic and Social Commission for Asia and the Pacific
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNESCWA	United Nations Economic and Social Commission for Western Asia
UN-OHRLLS	United Nations Office of the High Representative for the Least Developed Countries, Landlocked Developing Countries and Small Island Developing States
UNPOG	United Nations Project Office on Governance
UNSC	United Nations Statistical Commission
UNU-IAS	United Nations University Institute for the Advanced Study of Sustainability
URL	Uniform Resource Locator
W3C	World Wide Web Consortium
WOG	Whole of Government
WRI	World Resources Institute
WSIS	World Summit on the Information Society

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About the Survey

Background

The 2016 E-Government *Survey* is issued at the moment when countries are launching the implementation of the 2030 Agenda for Sustainable Development. It provides new evidence and new analysis to reflect on the potential of e-government to support the implementation of the Agenda and the 17 Sustainable Development Goals (SDGs) that are at its core. The 2030 Agenda itself recognized that "the spread of information and communications technology and global interconnectedness has great potential to accelerate human progress, to bridge the digital divide and to develop knowledge societies, as does scientific and technological innovation across areas as diverse as medicine and energy" (United Nations, 2015, paragraph 15).

The General Assembly has recognized on several occasions the role of information and communications technology in promoting sustainable development and supporting public policies and service delivery.[1] It has underscored that ICT have enabled breakthroughs "in Government and the provision of public services, education, healthcare and employment, as well as in business, agriculture and science, with greater numbers of people having access to services and data that might previously been out of reach or unaffordable" (United Nations, 2015c, para 16). The General Assembly has also specifically affirmed the "potential of e-government in promoting transparency, accountability, efficiency and citizen engagement in public service delivery" (United Nations 2015b). Resolutions adopted earlier by the General Assembly also provided the basis for the Survey.

Scope and purpose

Since 2001, the United Nations Department of Economic and Social Affairs (UNDESA) has published the United Nations E-Government *Survey* (hereinafter referred to as "the *Survey*"). Now in its ninth edition, the Survey provides an analysis of progress in using e-government and how it can support the realization of the internationally agreed development goals and help address emerging public administration issues.

The *Survey* measures e-government effectiveness in the delivery of basic economic and social services to people in five sectors, namely education, health, labour and employment, finance and social welfare (UNDESA, 2005). The environment dimension was added to the *Survey* assessment in 2012, and has been retained since then. The *Survey* identifies patterns in e-government development and performance as well as countries and areas where the potential of ICT and e-government has not yet been fully exploited and where capacity development support might be helpful.

The Survey is also the only global report that assesses the e-government development status of all Member States of the United Nations. The assessment rates the e-government performance of countries relative to one another, as opposed to being an absolute measurement. It recognizes that each country should decide upon the level and extent of its e-government initiatives in keeping with its own development priorities (UNDESA, 2005).

The Survey serves as a tool for countries to learn from each other, identify areas of strength and challenges in e-government and shape their policies and strategies in this area. It is also aimed at facilitating and informing discussions of intergovernmental bodies, including the United Nations General Assembly and the Economic and Social Council, on issues related to e-government and development and to the critical role of ICT in development.

[1] General Assembly Resolution 69/204 of 21 January 2015 stresses "the important role of governments in the effective use of information and communications technologies in their design of public policies and in the provision of public services responsive to national needs and priorities, including on the basis of a multi-stakeholder approach, to support national development efforts" (United Nations 2015a, para.7)

This publication is intended for policy makers, government officials, academia, civil society, private sector and other practitioners or experts in the areas of public administration, e-government, and ICT for development.

Structure and methodology

The *Survey* is composed of an analytical part, presented in chapters 1 to 5 and of data on e-government development contained in the annexes of the publication, providing a snapshot of relative rankings of e-government development of all Member States of the United Nations. Every edition of the Survey focuses on a specific theme that is of particular interest to the United Nations Member States and the international community at large.

The methodology for the analytical part of the *Survey* is based on a literature review and an analysis of the *Survey*'s data. Innovative practices are also collected to illustrate how ICTs are being used to transform public administration in support of sustainable development. In addition, during the preparatory process of the publication, expert group meetings are organized to solicit views and inputs from world-renowned scholars and practitioners.

The methodological framework for the collection and assessment of the *Survey*'s data on e-government development is based on a holistic view of e-government that incorporates three important dimensions that allow people to benefit from online services and information. These are: the adequacy of telecommunication infrastructure, the ability of human resources to promote and use ICT, and the availability of online services and content. The Survey tracks progress of e-government development via the E-Government Development Index (EGDI). The EGDI, which assesses e-government development at the national level, is a composite index based on the weighted average of three normalized indices. One third is derived from a Telecommunications Infrastructure Index (TII) based on data provided by the International Telecommunications Union (ITU), one third from a Human Capital[2] Index (HCI) based on data provided by the United Nations Educational, Scientific and Cultural Organization (UNESCO), and one third from the Online Service Index (OSI) based on data collected from an independent survey questionnaire that assesses the national online presence of all 193 United Nations Member States. The survey questionnaire assesses a number of features related to online service delivery, including whole-of-government approaches, open government data, e-participation, multi-channel service delivery, mobile services, usage up-take, digital divide as well as innovative partnerships through the use of ICT. This data is collected by a group of researchers under the supervision of UNDESA through a primary research and collection endeavour.

As a composite indicator, the EGDI is used to measure the readiness and capacity of national administrations to use ICT to deliver public services. This measure is useful for government officials, policymakers, researchers and representatives of civil society and the private sector to gain a deeper understanding of the relative position of a country in utilizing e-government for the delivery of public services. The EGDI is based on an expert assessment survey of the online presence of all United Nations Member States, which assesses national websites and how e-government policies and strategies are applied in general and in specific sectors for delivery of essential services. National online portals, which include information, service or data portals, or a combination of the three, are assessed; as are sectoral sites and portals such as the websites of ministries or departments of health, education, social development, welfare, labour, finance and environment. The results are tabulated and combined with a set of indicators gauging a country's capacity to participate in the information society, without which e-government development efforts are of limited immediate use.

[2] See the Methodology chapter for a definition of Human Capital

The methodological framework has remained consistent across survey periods while its components have been updated to reflect new trends in e-government as well as new indicators for telecommunications and human capital. The 2004 and 2005 editions of the Survey captured the state of a country's readiness for e-government. However, in 2008, as 'readiness' was not deemed to adequately reflect the need for concrete implementation on the ground, the publication changed its focus from assessing readiness to assessing actual development. In 2014, 'e-government maturity' was viewed as obsolete since e-government goals and targets are constantly evolving to deliver and surpass what the public expects (UNDESA, 2014).

The 2016 *Survey*'s data is presented at the end of the publication. This includes data relative to the EGDI by country (in alphabetical order), by region and by countries in special situations, i.e. Small Island Developing States (SIDS), Landlocked Developing Countries (LLDCs), Least Developed Countries (LDCs). The publication then presents information about the Online Service Index and its components; the Telecommunication Infrastructure Index and its components; and the Human Capital Index and its components. Information about the E-Participation Index (EPI) is also contained in the data tables. Further comprehensive information about the methodology of the 2016 Survey is available in the Annexes.

Preparatory process of the 2016 Survey

The preparatory process of the 2016 *Survey* has included a number of activities. For the first time in 2015, DESA organized, in collaboration with national governments, eight regional consultative meetings on "E Government for Sustainable Development" in an effort to allow for a more inclusive, open and participatory approach in the design of the 2016 *Survey*. The consultative meetings were held in Bahrain, Belgium, Colombia, Estonia, Kazakhstan, Morocco, Republic of Korea and Rwanda. Participants included high-level government officials, particularly those who work as national Chief Information Officers (CIOs), or hold equivalent positions within national governments and have specific responsibilities concerning e government policy design, implementation, and evaluation, with impact on service delivery aspects. In addition, an online platform was set up for Member States to provide recommendations on the Survey's content and methodology. A total of 103 out of 193 Member States participated in the preparatory process for the Survey either through the consultative meetings or through the online consultation. The feedback received from Member States during the consultative meetings was presented during an Expert Group Meeting (EGM) organized by DESA on "E-Government for Sustainable Development" from 16 to 17 March 2015, and was attended by 17 experts representing all regions of the world. Insights from the EGM were taken into account during the preparation of this edition.

Executive Summary

With the adoption of the 2030 Agenda for Sustainable Development, Heads of State and Government of all United Nations Member States committed to a shared vision to improve people's lives and transform the world by 2030. This vision is that of a world free of poverty, hunger, disease and want. The 17 Sustainable Development Goals (SDGs) and the 169 targets that are at the core of the 2030 Agenda aim to advance people, planet, prosperity, peace and partnerships. They aim to protect human rights and promote gender equality and the empowerment of women and girls.

The sixteenth SDG calls for effective, accountable and inclusive institutions at all levels, in the framework of peaceful and inclusive societies. It marks the recognition that institutions are critical for realizing the vision of the Agenda and achieving every single SDG.

Governments, together with the private sector and civil society, will play a central role in the implementation of the SDGs. They will need to drive the principles and goals of the 2030 Agenda throughout public institutions at local, national, regional and international levels. This means in particular ensuring that the overarching objective of poverty eradication and "Leaving No One Behind", a key principle of the 2030 Agenda, guides all institutions, actors and policies and public service delivery.

Achieving the SDGs will require governments' unwavering commitment, courageous leadership, creativity, innovation as well as strong capacities and adequate means of implementation.

It will also require far-sighted and holistic decision-making. The SDGs will only be achieved if public and private sector actors take an integrated and balanced approach to social, economic and environmental dimensions – as well as to the various SDGs areas. An unprecedented level of policy integration and institutional coordination will thus be needed so that progress is made on all the SDGs at the same time, building on the interrelations and synergies between them.

It is therefore important to rethink how to provide universal access to quality services while ensuring coherent decisions, developing integrated policies and increasing effectiveness, transparency and accountability. Many countries have already engaged in this direction.

It is against this backdrop that the 2016 *Survey* was carried out. It analyzes how e-government is evolving and gearing itself to support the realization of the SDGs. Through advanced electronic and mobile services, e-government aims at improving the relationship between people and their government. It aims at making public services delivery more effective, accessible and responsive to people's needs. It also aims at increasing participation in decision making and making public institutions more transparent and accountable. The purpose of e-government is thus consistent with the principles and goals of the 2030 Agenda and it should contribute to the implementation of the Agenda.

At the same time, advances in e-government must go hand in hand with efforts to bridge the digital divide. Too many people do not have access to Internet or mobile devices. Bridging the digital divide and ensuring that the poorest and most vulnerable benefit from the progress in the area of ICT and e-government requires an integrated approach to public policy. This means addressing the various facets of inequality between people, countries and regions – an effort which ICT can also greatly facilitate - while also taking measures to bolster access for all and increasing regional and international cooperation. "Leaving no one behind" thus requires improving access to high-speed broadband connection for all through reliable and high-quality infrastructure, and taking a holistic approach that addresses the social, economic and environmental factors that influence digital inclusion.

The *Survey* offers a snapshot of the development of e-government in countries across the globe. Its findings may be used in reflecting on the kind of e-government that will best support the implementation of the SDGs. It can help countries learn from one another and support each others' efforts to provide inclusive and equitable electronic and mobile services to all and bridge the digital divide.

Facilitating integrated policies and services through e-government

A new trend in e-government has been the evolution towards the provision of integrated public services online through, among others, one-stop platforms allowing to access a range of public services. This approach makes it easier for people to interact with public administration and get adequate and holistic responses to their queries and needs.

Progress is being made towards delivering public services in such an integrated way. For example, 98 countries require a digital ID for online and mobile public services. Efforts are being made to ensure privacy and security of personal data. But challenges remain. Some relate to the technical difficulties associated with ensuring interoperability of systems. Proliferation of technologies, while positive, makes it difficult to provide integrated e-health services. It also remains difficult to ensure integration of services across sectors.

Along with integrated services, e-government may increasingly support policy integration and encourage the efforts of various government institutions to work more closely together. It can provide governments with increased insights to help revisit existing decision making processes and work flows. Progress is however slow. Although there are examples of successful integration of policies within the social area for example, integrating policies and services across the economic, social and environmental areas remains difficult. Efforts to promote whole-of-government service delivery and policies have to be accompanied with efforts to ensure that organizational cultures, coordination mechanisms and financial and accountability systems support collaboration among public institutions.

Open Government Data for promoting effective,accountable and transparent institutions

In an effort to make public institutions more inclusive, effective, accountable and transparent, as called for in the 2030 Agenda for Sustainable Development, many governments across the globe are opening up their data for public information and scrutiny. Making data available online for free also allows the public – and various civil society organizations –to reuse and remix them for any purpose. This can potentially lead to innovation and new or improved services, new understanding and ideas. It can also raise awareness of governments' actions to realize all the SDGs, thus allowing people to keep track and contribute to those efforts.

Overall, in 2016, 128 out of 193 UN Member States provide datasets on government spending in machine readable formats. The remaining 65 have no such information online.

The availability and use of Open Government Data initiatives, however, vary around the world; not only in terms of the number of datasets released and how they are presented and organized, but also in terms of the tools provided to increase usage of data.

Combining transparency of information with Big Data analytics has a growing potential. It can help track service delivery and lead to gains in efficiency. It can also provide governments with the necessary tools to focus on prevention rather than reaction, notably in the area of disaster risk management.

The issue that many governments are tackling today is not whether to open up their data, but how to do so. Proper governance and careful consideration of both opportunities and

challenges are needed. Challenges include issues related to legal frameworks, policies and principles; data management and protection; identity management and privacy; as well as cyber security. Regarding legal aspects, 105 UN Member States have legislation on the right to access government information. The same number also offer online policies on open government data and 113 countries offer online personal data protection legislation (Data Protection Acts or equivalent).

Innovative demand-driven approaches have been taken to enhance people's ability to request governments to open up data. Multiple approaches and tools can be used to increase open government data usage. These include campaigns to raise awareness of how open government data can help achieve the SDGs and empower people with new tools.

In the future, steps should be taken to increase the publication of Open Government Data related to vulnerable groups. Ways should also be found to ensure that such data truly contribute to improving the lives of the poorest and most vulnerable. For example, data about location of health services and water points near slums or disadvantaged areas can help improve communities' access to essential social and economic resources. Support can also be provided to help relevant non-governmental organizations to analyze and use open Open Data for improving the situation of the poorest and most vulnerable.

Publishing open data online can help to ensure higher degrees of accountability and transparency not only of national governments, but also of parliaments and of the judiciary, which will play an important role in the achievement of the SDGs.

E-participation to promote participatory decision-making and service delivery

E-participation is expanding all over the world. With growing access to social media, an increasing number of countries now proactively use networking opportunities to engage with people and evolve towards participatory decision-making. This is done through open data, online consultations and multiple ICT-related channels. While developed countries, especially European countries, are among the top 50 performers, many developing countries are making good progress as well; especially lower-middle income countries. In general, a country's lower income level is not an obstacle to posting basic public sector information online on national portals or using social media and other innovative means for consulting and engaging people on a broad range of development-related issues. Yet, a country's income level matters when it comes to developing more technically complex and specialized e-participation portals, such as for e-petitioning or online consultation and deliberation. Low income countries need to be supported in addressing such challenges.

A growing number of e-participation applications and tools are put in place in various sectors with the objective of responding to the needs of various communities. This can contribute to the development of new forms of collaborative partnerships between government bodies and people and reinforces the focus on people's needs. The largest share of these initiatives relates to the central government and local authorities giving access to public sector information and public consultation via e-tools. But there has been a growing focus on mobilizing contributions to policy-making, even though progress has been modest so far. Making progress in participatory and democratic decision-making will increasingly be the criteria against which the success of e-participation will be assessed.

Advances in e-participation today are driven more by civic activism of people seeking to have more control over their lives, rather than by the availability of financial resources or expensive technologies. Several developing countries, including some least developed countries, generate numerous good practices by using low-cost (open code source) ready-made solutions that are based on collaboration among citizens.

Overall, enhanced e-participation and the related social practices can support the realization of the SDGs by enabling countries to ensure that their policy decisions are more participatory. This will increase the ownershipof policies by civil society and the momentum for implementation. More analysis is needed to understand whether and how e-participation impacts on the content of policies and focus of decisions ultimately made.

Advanced online services and bridging divides

As of 2014, all countries have an online presence, albeit with different degrees of development. Countries across the world have made substantial progress in online service delivery. This is measured by the Online Service Index (OSI) that assesses the national online presence of all 193 United Nations Member States.[3] The Survey shows that digital technologies—the Internet, mobile phones, and all the other tools to collect, store, analyze, and share information digitally— are being increasingly utilized. In fact, the OSI values for the majority of UN Member States have increased, which suggests that innovative approaches are being applied in the public sector and specifically in public service delivery. In all sectors reviewed, mobile services have experienced a large and significant growth.

The *Survey* shows that since 2014 the number of countries with very high OSI has increased from 22 to 32 whereas the number of countries with low OSI dropped from 71 to 53.

Higher levels of online service tend to be positively correlated with a country's income level. The majority of the high-income countries are at the top 50% of the OSI, while the majority of low-income countries are at the lowest end of the OSI. However, as countries make advances in their e-government reforms, more developing countries feature in the groups with higher levels of OSI. At the same time, the capacity of countries to reform public institutions and their commitment to providing advanced people-driven service delivery, can also influence their ability to use ICT and e-government for promoting inclusive societies and sustainable development.

Regarding sectorial and transactional services, more countries have introduced online services for tax submission and registration of businesses, thus reducing the administrative burden for new and existing businesses and increasing transparency. Online application is also being provided for a growing number of certificates (e.g. birth, marriage, social security). This saves time and money for people, may have significant impacts on poverty and increases the efficiency of public institutions. The availability of information has increased in the area of education, health, finance, welfare, labour and the environment, with the finance sector leading and the environment sector experiencing the sharpest increase.

The increase in the online provision of sectorial and transactional services has been driven by the bold adoption of new technological approaches, a high commitment of the leadership of concerned countries and administrations, effective and capable institutions, as well as regulatory reform. Most of this growth was channelled via SMS services, mobile apps and user-friendly social media tools. At the same time, more efforts are needed to deliver online services in major areas related to the SDGs.

While these advances are overall very positive, access to the Internet and availability of mobile devices, as well as digital literacy are essential to exploit the full potential of the use of technology, in particular information and communications technology. The overall availability of broadband has increased globally, but there are substantial regional disparities and a major divide persists. Accessibility and availability of mobile devices support improvements in health, education, agriculture, commerce, finance and social welfare. It can allow regions that leapfrogged into wireless broadband to step up innovation and narrow the digital divide.

[3] OSI is one of the three components of the EGDI used by the e-government Survey (see above: "About the Survey").

Overall, ensuring the accessibility and availability of broadband remains an urgent global priority. As called for in SDG 9 (on building resilient infrastructure, promoting inclusive and sustainable industrialization and fostering innovation), a major effort is required to increase access to ICT and reach universal and affordable access to the Internet in LDCs by 2030. This needs to go hand in hand with efforts to realize the 17 SDGs and lift people out of poverty.

While divides between and within regions and countries are wide, all regions have seen some advancements in mobilizing ICT and e-government for the poorest and most vulnerable. The *Survey* shows that 26 out of 43 countries in Europe (over 60% of the total number of countries), provide online services to at least one vulnerable group. Africa has also recorded a significant increase with 7 new countries introducing targeted services to vulnerable groups.

At the national level the digital divide does not reflect only issues related to access, infrastructure and availability of technology. It also reflects the inequalities that exists in the social and economic areas. Educational and income levels, race, gender, culture and age also often influence access to digital technology and e-government services. So does geography.

It is also important to better understand the factors that influence a country's e-government readiness and overall development so as to develop more targeted interventions to mobilize e-government and online service delivery for the benefit of all people, including the poorest and most vulnerable. Bridging the digital divide calls for enhanced international and regional cooperation in the areas of technology and finance, but also in supporting the capacities of public institutions to develop policies for realizing the SDGs overall.

Technological progress continues to drive innovative development interventions. The use of Geographic Information System data and Internet of Things (IoT) hold the potential to transform the way public policy is formulated, implemented and monitored. Their early adoption has shown increased levels of civic participation and enhanced efficiency, transparency and accountability of public institutions. However improvements of legal and regulatory frameworks and enhanced cooperation are required at all levels.

World e-Government rankings

E-government has grown rapidly over the past 15 years, since the first attempt of the United Nations to benchmark e-government in 2001.[4] In the 2016 Survey, 29 countries score "very-high", with e-government development index (EGDI) values in the range of 0.75 to 1.00, as compared to only 10 countries in 2003. Since 2014, all 193 Member States of the UN have delivered some form of online presence. E-government is now ubiquitous in many more countries, a stark contrast in comparison to 2003 – when 18 countries or about 10% of countries globally were without any online presence.[5] 51 per cent of countries had "low-EGDI" or "medium EGDI" values in 2016, as compared to over 73 per cent of countries in 2003.

Despite the considerable investments in finance and human resources and the related development gains, e-government divides, just as digital divides, exist between and within regions and countries. Regional trends have remained largely unchanged over the past 15 years: in 2016, there is a huge gap between African countries, with a low EGDI average of 0.2882, and European countries, with EGDI average of 0.7241. Oceania countries, with an average EGDI of 0.4154, are also below the global average of 0.4623. Asia and the Americas are very close, with average EGDI values of 0.5132 and 0.5245 respectively.

At the same time, there are champions of e-government in each region, as well as among the small island developing states and least developed countries. In December 2015, the General

[4] Research publication "Benchmarking E-government: A Global Perspective - Assessing the UN Member States"
[5] There were 191 UN Member States at the point of assessment in 2003

Assembly, as a result of its overall review of the implementation of the World Summit on the Information Society, highlighted the breakthroughs which ICT have enabled in government and the provision of public services.

Looking back at the past fifteen years, the e-government development process has been shifting away from a staged process or progression to non-sequential, overlapping and connected building blocks. This allows for leap-frogging and quick wins while calling for longer term sustainable strategies. Evidence suggests that the conceptualization of the e-government maturity[6] no longer holds as e-government goals and targets are constantly evolving in response to evolving values and needs.

Moving forward, concerted efforts are needed to: (i) establish global, national and local e-government indicators to better understand e-government's impact on sustainable development; (ii) adopt a fully inclusive approach to e-government development including through bridging all digital divides and ensuring multilingualism; and (iii) enhance global and regional cooperation, including North-South, South-South and triangular cooperation, and public-private partnerships.

Further work is needed to better understand the expectations people have from e-government and the use they make of it, so that the systems put in place help to improve people's well-being, respond to their needs and empower them to contribute to policy making and public services.

Also critical is to understand how non-state actors, including NGOs and the private sector, engage with e-government; be it to deliver better services to people or make their voices heard.

Today, e-government has become a development indicator and an aspiration in and of itself. It can clearly contribute to development. It has helped advance the delivery of basic services such as education, health, employment, finance and social welfare. It is helping small island developing states in building resilience to climate change and disaster preparedness and disaster management. It can play a critical role in making institutions more inclusive, transparent, and effective.

But for e-government to realize its full potential impact on development, it needs to be accompanied by measures to ensure access and availability of ICT and make public institutions more accountable and more responsive to people's needs. E-government is but one small part of the major effort we are undertaking to close the deep inequalities that continue to exist between countries and within societies. It is important to mobilize its contribution while taking into account the various levels and characteristics of countries' development and keeping the focus on realizing the SDGs.

[6] E-government maturity implies that e-government initiatives can reach a level of full development. Instead, e-government development can be seen as a continuing process that evolves in line with developments in the area of technology and innovation (UNDESA, 2003:14,17).