

Executive summary

Progress in online service delivery continues in most countries around the world. The United Nations E-Government Survey 2012 finds that many have put in place e-government initiatives and information and communication technologies applications for the people to further enhance public sector efficiencies and streamline governance systems to support sustainable development. Among the e-government leaders, innovative technology solutions have gained special recognition as the means to revitalize lagging economic and social sectors.

The overall conclusion that emerges from the 2012 Survey in today's recessionary world climate is that while it is important to continue with service delivery, governments must increasingly begin to rethink in terms of e-government – and e-governance – placing greater emphasis on institutional linkages between and among the tiered government structures in a bid to create synergy for inclusive sustainable development. An important aspect of this approach is to widen the scope of e-government for a transformative role of the government towards cohesive, coordinated, and integrated processes and institutions through which such sustainable development takes place.

In the current recessionary world climate, in which the lives of people have become ever more interconnected, governments have been harnessing the power of information and communications technologies (ICT) for delivering much needed sustainability in social and economic services to their citizens. As part of this shift towards e-government, there has been an increasing recognition that efforts towards a holistic approach to governance for sustainable development require strategic national planning to ensure efficacy, transparency, responsiveness, participation and inclusion in the delivery of public services. These aims could not be achieved without the underlying notion of sustainable development for the people.

The overall challenge then is to deliver improvements in the standards of living in such a manner that development today does not compromise development tomorrow. Embedded in the concept of sustainability is the viability of (i) national and sub-national governance systems that are citizen-centric, socially inclusive and participatory; and (ii) the associated government operations and services that affect development outcomes. In paying attention to citizen needs, there is a critical need for governments to encompass modalities in working together with citizens in fulfilling service delivery. Therefore the theme of the United Nations E-Government Survey 2012 is E-Government for the People. Areas deserving special emphasis include expanding usage of e-government services, including through multiple channels, and a whole-of-government approach in promoting equity and bridging the digital-divide by extending service delivery to all, particularly vulnerable groups.

The nexus of e-government, institutional linkages and sustainable development

E-government has an important role to play, now and in the future. As the world moves towards 2015, the date set for reaching the Millennium Development Goals, the unmet targets of poverty reduction and other social and economic development goals are being revisited within the ambit of climate change and natural resource conservation. Inherent in this paradigm is a focus on pivotal linkages among public institutions, such that development challenges

can be met with a concerted and coordinated effort that incorporates the environmental dimension into development planning at every stage.

Within this context, national governments need to understand the economic, social and environmental pathways must be adapted to develop or reform their strategic frameworks towards outcomes that promote sustainable development. The basic strategic approach needs to germinate first and foremost in the acceptance of the importance of the inter-linkages among the economic, social and environmental aspects of development.

The role of the government is once again being redefined to reform the governance systems through which services are delivered in a way that maximizes development and minimizes natural resource degradation. A holistic approach to governance includes taking into account the efficiency and distributional aspects of sectoral policies and their outcomes, national development agendas, and international cooperation agreements, so that resulting solutions are sustainable in the future.

The message of the 2012 Survey is that all stakeholders need to recognize the key role that e-government – and e-governance – can play in support of the establishment of effective institutional linkages necessary for sustainable development.

Evidence shows that it is possible to successfully utilize ICT based on governance frameworks that underpin the effectiveness of public sector institutions.

E-government is at the core of building a strategic sustainable development framework. One of its key functions has been to provide an integrated framework of policies, laws and regulations and develop institutions and processes that allow the private sector to provide – and the people to partake of – the benefits of newer technologies.

The underlying principle of e-government, supported by an effective e-governance institutional framework, is to improve the internal workings of the public sector by reducing financial costs and transaction times so as to better integrate work flows and processes and enable effective resource utilization across the various public sector agencies aiming for sustainable solutions. It seeks to establish 'better processes and systems' aimed at more efficiency, effectiveness, inclusion and sustainability. As a key

driver of efficiency and coordination, e-governance encompasses institutions, mechanisms and processes for planning, organizing, coordination and implementation of successful socio-economic development programmes.

Utilizing e-government can be the key to the achievement of the integration of economic, social and environment goals for development planning. In this context, national governments need to:

- Recognize the opportunity for synergy among institutions that e-government offers;
- Re-engineer the enabling environment for e-governance to enable institutional inter-linkages within the government; and
- Promote coordination and connectivity between ecosystems and development outcomes.

As the public sector continues to reform structural processes and institutions for greater efficiency and better service delivery; provide a climate conducive for businesses; and offer greater participation for citizens, e-government will increasingly become the key enabler of sustainable development. From putting in place policies and programmes to the design of laws and regulation for ICT access and citizen participation, e-government and e-governance will expand their reach in affecting the living conditions of peoples in all countries of the world in general, and in ameliorating the adverse impact of the digital divide in particular.

One of the key challenges in building the framework of sustainable development is how to employ modern technologies to ensure inter-institutional coordination and the effectiveness of development outcomes while safeguarding natural resource conservation. Lessons of experience in a few of the vanguard countries indicate that by deploying innovative ITC solutions e-governance endeavours can optimize solutions to hither-to-fore intransigent development challenges.

There is a growing recognition that e-governance can support development by improving inter-organizational linkages and consolidation of government systems. This emerging e-government paradigm, allied to the twin objectives of efficacy in government functioning and achieving improvements in service delivery, is bringing about new perceptions of the inter-linkages between e-government and the sustainability of systems.

The entry point for economic sustainability is how e-government supports efficiency and effectiveness in government for greater growth and development by employing whole-of-government approaches. Hierarchical and bureaucratic structures need to be transformed into horizontal integrated systems, which facilitate customer orientation and increase levels of transparency and accountability in a move towards public service delivery solutions that are sustainable.

At the same time, social equity and inclusion are possible only if institutional barriers to citizen inclusion are removed and opportunities for their participation through ICTs are equitably distributed. The reach of innovative inclusive solutions to support citizen decision-making processes is just as important as the nature of the participatory process itself. For social sustainability, the role of e-government requires a shift from that of a controller of information and services to that of a facilitator, whereby information and services are geared towards addressing the needs and concerns of the citizenry, especially the vulnerable, and to promoting user uptake.

Finally, e-government can support environmental institutional integration by bringing environment agencies online and linking them with governance structures responsible for development planning so that coordinated solutions can be found that are efficient, effective and sustainable.

The United Nations E-Government Survey 2012: E-Government for the People addresses the conceptual and analytical issues related to how the Member States are utilizing ICTs to support citizen centric service delivery and citizen participation in service delivery to ensure sustainable development.

Global trends in e-government development

The United Nations E-Government Survey 2012 explores the inter-linkages between e-government and sustainable development efforts. While presenting the United Nations e-government development rankings for 2012 it analyses how governments of the world are employing e-government policies and programmes to support efficiency, effectiveness, and inclusiveness as the parameters of sustainable development efforts worldwide.

It addresses conceptual and analytical issues related to an effective e-governance institutional framework as the key enabler for the organizational and regulatory environment that is the necessary ingredient for such development to take place. Building on lessons learnt and best practices identified through previous UNDESA work on e-government, the 2012 Survey highlights the 'silo' or sector-by-sector approach often common to both e-government and environment in development planning. It brings together concepts and best practices such as whole-of-government; effectiveness of multichannel service delivery; increasing access to Internet and mobile use around the world in bridging the digital divide; the importance of e-service to vulnerable groups; and challenges in user uptake. It thereby alerts policy makers to the current need for a holistic vision to sustainable development that emphasizes synergies among various sectors and approaches that will help advance economic sustainability and social equity.

A special focus of this year's Survey is on environment-related services. It assesses the provision of environment and resource conservation information and services to the citizen and presents the first data set on United Nations e-environment indicators.

The message of the 2012 Survey builds upon the findings of the previous United Nations Surveys and sets the importance of e-government firmly within the current global developmental debate. First, underscoring the importance of technological advancements and the role of the government and sustainable development, it highlights the importance of e-government and ICT as integral to sustainable development.

Second, expanding the concept of e-governance it points to the need to place it at the centre of development thinking for a coherent, coordinated and synergistic approach to public sector solutions.

Finally, it draws attention to state-of-the-art e-government approaches that are being deployed in vanguard countries as case studies for a whole-of-government framework and inclusion of the disadvantaged in the circle of development.

Thus, it presents the progress made in e-government development around the world since the last Survey (2010) while cautioning against the digital divide that stems from the current worldwide

disparity in the use of information technologies. In this way it contributes to a better understanding of the need for e-government to be deployed in order to create the required synergy and integration across institutions and processes that will support Member States' efforts towards sustainable development that includes all.

Key findings from the 2012 Survey

According to the 2012 United Nations E-government Survey rankings, the Republic of Korea is the world leader (0.9283) followed by the Netherlands (0.9125), the United Kingdom (0.8960) and Denmark (0.8889), with the United States, Canada, France, Norway, Singapore and Sweden close behind.

The steady improvement in all the indicators of the e-government development index has led to a world average of 0.4877 as compared to 0.4406 in 2010. This reflects that countries in general have improved their online service delivery to cater to citizens' needs. On a regional level, Europe (0.7188) and Eastern Asia (0.6344) lead, followed by Northern America (0.8559), South Asia (0.3464) and Africa (0.2762).

Despite progress, there remains an imbalance in the digital divide between developed and the developing countries, especially in Africa. The latter region had a mean e-government development index of about 30 per cent of Northern America and about half of the world average. The digital divide is rooted in the lack of e-infrastructure, which has hindered information-use and knowledge-creation. The tremendous difference of broadband width and subscriptions between the developing and the developed world proves that there are yet many milestones to be reached in order to close the gap of the digital divide.

Whole-of-government approaches lead the way in vanguard countries

Employing e-government to improve efficiency and effectiveness of public service delivery in government structures is one facet of economic sustainability. The 2012 Survey finds that many Member States are moving from a decentralized single-purpose organization model, to an integrated unified whole-of-government model

contributing to efficiency and effectiveness. The model aims at centralizing the entry point of service delivery to a single portal where citizens can access all government-supplied services, regardless of which government authority provides them. In some countries, the whole-of-government approach helps build a transparent government system with interconnected departments and divisions, feeding into the funnel of greater government efficiency and effectiveness.

Member States are paying closer attention to multichannel service delivery

The increasing power of ICT has also provided governments with the flexibility of providing services and information to citizens through multichannels. Citizens have diverse needs and demands for services; therefore it is no longer sustainable for governments to utilize one preferred way of service provision over the other. It is now ever more essential that governments exploit all possible delivery channels in order to reach out to as many people as possible, no matter how poor, illiterate or isolated. The 2012 Survey shows that 71 Member States partner with third party organizations such as those in the civil society or the private sector to provide e-services.

Progress on the digital divide is far from satisfactory though rapid dispersion of mobile technology gives hope for improvement.

This year's Survey also indicates that global infrastructure access has improved, with the global average ICT index value reflecting an increase in mobile penetration – the global average number of mobile subscriptions per 100 inhabitants is now 88.5. Broadband penetration, however, remains very low, with a global average of only 8.7 fixed broadband connections per 100 inhabitants. Mobile-based technologies have become the most rapidly adapted technologies to provide e-services, playing a pivotal role, especially in developing countries. Rural areas with very little access to telephony can now benefit from mobile and broadband services to access services. According to the 2012 Survey, 25 countries have developed separate m-government websites, and 24 countries provide the option of making payments via mobile phones.

Much more needs to be done to include vulnerable groups in the benefits of technology. With a focus on social sustainability, the underlying approach of the top performers in 2012 is inclusion for all, which has led to the expansion of information and services to vulnerable groups, people who live in isolated rural areas and the disabled. Further, in pursuit of greater efficiency, more and more governments are paying closer attention to citizens' use of online services. The levels still remain low with only around a quarter – or 47 countries – providing information on how citizens use services.

Developing countries make progress in e-participation

Many developing countries have adopted citizen inclusion as key in providing “customer”-oriented services. While the Republic of Korea and the Netherlands are the world leaders, Singapore and Kazakhstan are close behind. Europe has the largest share of the top e-participation countries. Despite progress the gains are not spread evenly, both across and within countries, with the majority still offering low levels of engagement possibilities.

Citizens demand more services

While the primary focus of Member States has been the provision of services from a supplier perspective, recently there has been a shift towards a more consumer demand driven policy and greater emphasis on citizen usage. Nevertheless the level of citizen up-take currently remains at low levels. Usage divides across and within countries is one of the many challenges hindering high levels of citizen up-take. According to the 2012 Survey, only 24 countries openly promote free access to e-government services through free wifi or kiosks. Leveraging social media for the benefit of e-service uptake is another area where a greater effort can make a difference since currently only 40 per cent of Member States are using a social networking site.

A good beginning but e-environment initiatives have a long way to go

With the worldwide focus on sustainable development this year the 2012 United Nations e-Government Survey devoted a special section to examining the effort made by Member States in provision of

environment-related online information and services. In keeping with institutional development identified as one of the two main themes for Rio +20, the 2012 Survey assessed Member States' online offerings in three areas cited in the Secretary-General's Report to the Preparatory Committee for the United Nations Conference on Sustainable Development: 1) dissemination of information; 2) institutional integration with respect to environmental matters; and 3) opportunities for citizen engagement on environmental issues. With respect to information dissemination services, Chapter 2 looks particularly at four policy areas related to environmental degradation and natural resources management: clean air, clean water, energy, and resource conservation. Given the importance placed on empowering citizens – particularly marginalized groups – with respect to environmental policy making, it also assesses how e-participation tools are deployed in the environmental domain, at the same time, focusing on the importance of institutional integration at all levels for sustainable development. Chapter 3 assesses how e-government offerings support both sub-national and international integration. Among the top-scoring countries on the environment, four provide considerable environment related information and services to their citizens – Germany, the Republic of Korea, Singapore, and the United States. As in the case of e-government development rankings, developed countries dominate the e-environment service delivery, with 36 per cent of countries providing less than one third of the information and services assessed; another one third providing 34 to 66 per cent; and 56 countries providing 67 to 100 per cent of the e-environment services assessed.

A majority of countries provide online information or education to citizens regarding clean water (111 countries), clean air (105 countries), and resource conservation (104 countries). Nearly half of countries, 86, provide information pertaining to energy. However few countries provide features designed to proactively notify citizens of environmental issues or permit citizens to focus online searches specifically on the environment. Similarly, citizen engagement on environment issues is in its infancy. While Europe takes the lead, other regions are slow to follow.

The way forward

As the way forward the first imperative is to recognize the role of national governments in tapping into the transformative nature of e-government for sustainable development as it relates to whole-of-government approaches and multichannel service delivery. In this regard countries must at a minimum establish a persistent online presence with at least basic services in order to build trust in government.

Second, shifting from a structurally disintegrated government to one that is a more interconnected single-purpose whole-of-government will require collaboration and streamlining not only along the whole spectrum of governance but also with private sector and civil societies. Prerequisites for achieving this shift include long-term vision and leadership commitment, a strategic framework, an IT management programme aligned with the overall strategy, and technical integration of IT systems. Whole-of-government practices will not only boost efficiency of government agencies but also utilization of public services if properly administered in accordance with a clear strategy and motivated leadership.

Third, it needs to be reiterated that the digital divide is still an obstacle we face. With all the cutting-edge technologies and development of social media and networking tools, which have re-shaped parts of our modern world, it is becoming more challenging to diminish the digital divide. Not only is the non-availability of infrastructure such as broadband the main reason behind this divide, but differences in skills and lack of means to access information also play a major role. Therefore it is vital for governments to learn from global best practices and collaborate internationally to develop a harmonized framework with indigenous ICT content. An effective approach must address both access to infrastructure as well as barriers to using online services that may persist even when such access is available.

Fourth, there is a need to reach out to all citizens, particularly the disadvantaged and vulnerable groups, in order to bridge the gap and maximize the utilization of online service delivery. However, governance processes for the effectiveness and benefit of all cannot be realized without a well-established coordination framework encompassing the

involvement of all national and international stakeholders, including third party organizations, which can play a pivotal role in the process. This is particularly important in the context of multichannel service delivery, where it is important to follow an evolutionary rather than a revolutionary approach to developing new channels. In other words, service delivery via new channels should not come at the expense of service delivery via established channels.

Fifth, low usage and user uptake indicates that e-services up-take has untapped potential for the improvement of service delivery in line with citizen demand.

Finally, the 2012 Survey assessment points to horizontal and vertical e-government linkages among various institutions and nodal points that

have created opportunities for greater participation and social inclusiveness. By bringing technology to the people instead of making the people come to technology hubs, and by creating opportunities for online service delivery, e-government has contributed to coordinated efforts for increased e-government among public sector officials, public institutions and citizens.

As the collective global effort, led by the United Nations, gains momentum towards a greater acceptance of the institutional linkages among the economic, social and environmental pillars of sustainable development, there is a need to be cognizant of the importance of e-government that is for the people, in achieving higher standards of living for future generations. 