Input to the report of the Secretary-General
for the 2013 Annual Ministerial Review of UN ECOSOC

Department of Economic and Social Affairs
Division for Public Administration and Development Management
January 2013

II.A. Science base, technology, innovation and capacity building for sustainable development

The emergence of the Internet is arguably the most significant technology-driven phenomenon of modern times. It has spawned a new cultural paradigm in the form of the Information Society, increasing the speed and volume of information exchange by many orders of magnitude while connecting billions of people around the world in a vastly complex network of knowledge and experience. Much of this success can be attributed to the non-proprietary nature of the Internet, the low marginal costs of usage and an ethos that encourages cooperation in problem-solving and free flow of information without regard to social, political or economic distinctions of any kind.

II.C. The changing geography and models of innovation

Information and communication technologies have fostered, inter alia, a nascent open government movement that promotes transparency, accountability and participation, and amplified a wave of national freedom of information and data protection laws adopted over the past ten years. The evolution of the Internet, including mobile and social networking technologies, has enabled the transformation of public administrations to more efficient, effective and citizen-centric systems, and contributed to an alteration of the balance of power between citizens and the State in some cases.[1]

A recent trend in this area is the provision of open data by national and local governments. The push for open government data has arisen from efforts of Member States to strengthen the relationship with citizens seeking enhanced accountability and transparency through disclosure of data produced or collected by public institutions as well as more active participation in decision-making processes.

While the origins of the open government movement are grounded in a vision of more honest and effective government, the economic value of releasing public information assets for research and commercial use is increasingly evident. For example, the European Commission has estimated the total direct and indirect economic gains from open data – which can include decision support systems for businesses, location-based services, climate policy scenario building, and a range of other applications – to be on the order of €140b per year for the EU27.

A number of governments and international organizations have held competitions to foster innovation in service delivery using public sector information. Similar initiatives, broadly termed crowd sourcing and citizen science, have been sponsored by governments, NGOs, private sector firms and others based on voluntary, collaborative participation in such areas as environmental observation, education, engineering, natural sciences and media. Sustainable development challenges that depend on the availability of diverse skill sets, geographic dispersion or large numbers of contributors, e.g. fine-grained monitoring of environmental conditions or open source software development, are particularly well-suited to this type of interaction.

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[1] DESA, UNDP and UNESCO. United Nations System Task Team: Think piece on governance and development. May 2012

As ICT continues to evolve, variant forms of collaboration and innovation will likely emerge. One example is the 'Internet of things' envisages a scenario wherein devices are able to communicate with one another with or without human intermediaries. Another is community-driven social entrepreneurship that empowers women, indigenous peoples and other vulnerable groups.

III.A. Filling the MDG gap

The public sector, for its part, is primarily concerned with the adoption and adaptation of technology in response to demands for more honest and effective government in the areas of education, health, social welfare and other sectors. ICT-enabled transformation of government can support the achievement of the MDGs by increasing efficiency, effectiveness, transparency and inclusiveness in public administration and public service delivery. Through the use of ICT, governments are increasing efficiency and transparency by providing more information online, simplifying administrative procedures and streamlining bureaucratic functions.[2]

ICT is also used effectively in poverty reduction. It gives vulnerable groups access to information on a range of subjects, including health and education information and management systems, education, and management of natural resources. In addition, many technological innovations in support of environmental management depend heavily on diffusion of ICT in government, for example in connection with land use and spatial planning, transport, smart energy grids and natural resources management. Such technologies enable government to become more adaptive in response to changing circumstances in complex situations.

Technological innovation in government can also position the public sector as a driver of demand for ICT infrastructure and applications in the broader economy. The effect is more pronounced in cases where government programmes constitute a significant proportion of a country's GDP and where the regulatory environment is conducive to expansion of ICT manufacturing, software and related services. Studies to evaluate the impact of broadband on national economies have shown that it not only has direct impact on revenues and employment creation, but also has spill over effects in other sectors by helping to increase efficiency and, at the same time, further stimulate broadband adoption.[3]

Alongside improvements in public service delivery, ICT diffusion has led to social innovations in governance in response to popular calls for stakeholder engagement in political processes, the complexities of sustainable development, which make it very difficult for officials to forecast the outcome of public policy decisions, and a realization that government cannot address society's needs on its own. The application of ICTs to extend and transform citizen engagement is known as 'e-participation'. E-participation holds promise not only for sustainable development but also for preventing and managing social unrest and conflict. The power of social media and cellular telephony both for mobilizing mass action and responding to it has been demonstrated recently in some countries of the Arab region.

III.C. Improving the application of STI for the post-2015 development agenda

ICT in the public sector, thoughtfully applied, can bring about orders of magnitude improvements in efficiency that are immediately noted and appreciated by individuals and businesses. The marginal cost of common transactions – such as information retrieval, social benefits payments, application for personal documents and tax filing – is indeed very low

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[2] MDG Gap Force Report 2012, p. 81
[3] See http://www.broadbandcommission.org/work/documents/case-studies.aspx

once the requisite infrastructure is in place, especially in densely populated urban areas. Judicious management of public sector ICT investment thus provides government the opportunity to redirect significant resources to ensuring the most basic needs of citizens.

ICT is particularly relevant to the post-2015 development agenda because it helps government become a better listener and more agile partner in the sustainable development effort. Techniques such as e-participation, participatory budgeting, mobile voting, data mining and interaction on social media allow policy-makers to take the pulse of a constituency and reshape public services in ways that more closely address the needs and aspirations of people.

ICT is also necessary for dealing with increasing complexity, managing engagement and transforming production methods. The quality of health care systems is a case in point. The progressive roll-out of technology – from rural clinics accessing health information to near real-time epidemiological tracking with mobile devices to computer-assisted diagnostics and remote consultation – builds institutional capacity in a way that transforms lives and makes public health noticeably more effective with every step. The same can be said of educational quality, environmental protection, transport, water, energy and a range of other sectors.

Building institutional capacity through ICT plays a central role in development because technological advantage tends to concentrate wealth. Firms that invest in technology have a competitive advantage over firms that do not. The same is true of governments and countries, with the result that post-2015 efforts to address inequalities between and within countries may unravel if technological diffusion is itself uneven. If people are to interact on an equal footing, their public institutions must also operate on an equal footing with counterparts in other countries. This is an ongoing issue in important areas of international public policy-making including, for example in communications, finance and investment, security and trade.

The corollary of wealth concentration is concentration of influence and the propagation or reinforcement of social divides. Within countries, this can manifest itself in dominance of private over public interests. Across countries this results in a transfer of executive functions to high-income areas with the most advanced technology, and a tendency to locate low-return extraction and manufacturing functions in low-technology.

III.D. Strengthening multi-stakeholder collaboration and building partnerships

Stakeholder engagement has proven to effective identifying public policy issues of concern to STI as well as collaborating and vetting the evidence base underlying decision-making. For example, UNFCCC, UNCCD and others have mechanisms for engaging with non-governmental stakeholders as well as committees that undertake work on methodological and scientific matters pertaining to the issues at hand. The Internet Governance Forum (IGF) is one notable instance of stakeholder involvement in policy-related dialogue. Although the IGF has no decision-making authority, it is a platform for debate that welcomes Governments, intergovernmental organizations, the private sector and civil society organizations in addressing political, developmental and human rights concerns.

At the national level, a whole-of-government approach is increasingly seen as an imperative for delivering coherent and integrated policies, joined-up services, and integrated program management in government. The whole-of-government approach is increasingly seen as an imperative for delivering coherent and integrated policies, joined-up services, and integrated program management in government. Top national officials responsible for e-government can bring together key stakeholders across ministries and agencies, define shared needs, identify potential gaps and redundancies in implementing strategic goals, and guide e-government service delivery. They can also steer process redesign efforts, facilitating communication among departments, highlight best practices, and leverage shared solutions.

There is a similar need to strengthen the linkage and networking among the ministries of public service, management development institutes, universities and other key stakeholders so that technology is applied to the benefit of the full spectrum of society.

V. Enabling environment for transformative change: international level

As with other advances in science and technology, there are risks associated with STI in the public sector, which should continue to be monitored at national and international levels. These include:

- The changing nature of the digital divide and related shifts in wealth and influence that arise from uneven access to technology;
- The balance of public and private interests in policy-making for sustainable development, for example in connection with the role of multinational companies in Internet governance;
- International threats to cyber security and potential for cyber warfare;
- Shortcomings in trans-boundary data protection and respect for freedom of information as a fundamental human right.

The international community also contributes to creating an enabling environment for transformative change by supporting knowledge-sharing among countries on innovations in, or resulting from, the evolution of science and technology. A case in point is the United Nations Public Administration Network which was established to facilitate the exchange of information among institutions of public administration and promote capacity development in public sector policy and management.

Finally, monitoring of public sector innovation at the international level, including e-government development, should continue to be refined and expanded through the United Nations public administration country studies in cooperation with national and local actors.

VI. Toward coherent policy and action frameworks: the role of the ECOSOC system

The Council may wish to consider what roles the Committee of Experts on Public Administration and the Department of Economic and Social Affairs can play in monitoring public sector innovation, including through enhanced stakeholder engagement in public governance and application of ICTs to government functions.

VII. Recommendations

- Encourage MS to reaffirm commitment to WSIS outcomes and encourage stakeholders to accelerate efforts to implement commitments, in particular in the provision of universal, affordable access to broadband Internet
- Encourage MS to continue public sector innovation in pursuit of sustainable development, inter alia, by establishing and strengthening e-government coordinating authorities at national and local levels
- Promote open government in all its forms, subject to appropriate privacy regulation, intellectual property rights and national development objectives
- Encourage the SG to research areas where open data is most valuable to sustainable development and identify the conditions that enhance its utility, including an appropriate legal and regulatory environment
- Encourage the SG to continue to monitor public sector innovation, including e-government development and ICT-related risks, and share best practices in this area.