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**Progress made in the implementation of and follow-up to the
outcomes of the World Summit on the Information Society at
the regional and international levels**

Report of the Secretary-General

Executive summary

This report has been prepared in response to the request by the Economic and Social Council to the United Nations Secretary-General, in its resolution 2006/46, to inform the Commission on Science and Technology for Development (CSTD) on the implementation of the outcomes of the World Summit on the Information Society (WSIS) as part of his annual reporting to the Commission. It reviews progress in implementation of the outcomes of WSIS at the international and regional levels and identifies obstacles and constraints encountered. The report has been prepared by the United Nations Conference on Trade and Development (UNCTAD) secretariat based on information provided by entities in the United Nations system and elsewhere on their efforts during 2012 to implement the outcomes of WSIS, with a view to sharing effective practices and lessons learned.

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Introduction

1. In 2012, there was continued growth in the availability and use of information and communications technologies (ICTs). Concerns remain, however, about a new digital divide arising between countries which have high broadband capacity and Internet usage and those, particularly least developed countries (LDCs), where broadband investment and Internet adoption are less advanced. This poses a critical challenge for governments, development partners and the private sector.

2. This report includes information provided by 22 United Nations organizations and other international organizations and stakeholders in response to a letter from the Secretary-General of UNCTAD inviting contributions concerning trends, achievements and obstacles in the implementation of WSIS outcomes.¹ It focuses on major initiatives undertaken during 2012, as reported by relevant organizations.²

I. Current trends

3. Mobile phone subscriptions exceed six billion and have continued to increase.³ More than a third of the world's population now uses the Internet.⁴ Broadband networks, already pervasive in developed countries, are being rapidly deployed in emerging markets. Mobile broadband subscriptions exceed one billion and have been growing at 40 per cent per annum.⁵ Governments and businesses increasingly use information and communications technology (ICT) applications to deliver public services and meet consumer needs. Social networks have had profound impacts on the ways people interact with one another, as citizens and as consumers.

4. The impact of ICTs on development will be an important theme within the post-2015 development agenda and for the introduction of sustainable development goals. The United Nations and international agencies have begun a 10-year review of WSIS outcomes (WSIS+10) to be completed by the General Assembly in 2015, alongside the review of the Millennium Development Goals. The first WSIS+10 Review event, Towards Knowledge Societies for Peace and Sustainable Development, was organized by the United Nations Educational, Scientific and Cultural Organization (UNESCO) and held in February 2013. The Partnership on Measuring ICT for Development is gathering data and will report progress towards WSIS outcomes in 2014, when WSIS and the impact of ICTs on development will also feature at the World Telecommunication Development Conference of the International Telecommunication Union (ITU). The General Assembly will agree on modalities for its overall review of WSIS during its sixty-eighth session.

¹ Africa ICT Alliance, APC, Council of Europe, Department of Economic and Social Affairs, Economic Commission for Africa, Economic Commission for Europe, Economic Commission for Latin America and the Caribbean, Economic and Social Commission for Asia and the Pacific, Economic and Social Commission for Western Asia, FAO, the Global Alliance for ICT and Development, ICANN, ICC-BASIS, IGF, ISOC, ITU, Telefonica, UNCTAD, UNEP, UNESCO, UNIDO, UPU, the World Bank, WHO, WIPO, WMO and WTO.

² Full submissions from these organizations are published on the CSTD website: www.unctad.org/cstd.

³ http://www.itu.int/ITU-D/ict/statistics/material/pdf/2011%20Statistical%20highlights_June_2012.pdf.

⁴ <http://www.internetworldstats.com/stats.htm>.

⁵ http://www.itu.int/ITU-D/ict/statistics/material/pdf/2011%20Statistical%20highlights_June_2012.pdf.

A. Convergence and mobility

5. Liberalization and convergence have been critical drivers of growth in the ICT sector since WSIS. Convergence has removed many distinctions between ICT sectors, including broadcasting, computing and telecommunications, and has fostered innovation in non-ICT sectors such as financial services. As a result, end-users access content, services and applications on multiple platforms, increasing the versatility and sophistication of information access and communications use.

6. Smartphones accounted for almost 40 per cent of new mobile handsets worldwide by mid-2012.⁶ Rapidly growing smartphone adoption has accelerated the variety of services provided over mobile networks. Many users rely on them not just for telephony but also Internet access and, especially, social networking, adding audio and video to text communications. Mobile devices are already the dominant mode of Internet access in many developing countries.⁷ Smartphones will add new dimensions to their use as prices fall and markets grow.

7. Convergence between different communications media is resulting in the diversification of products and services in communications and adjacent markets. Consumers are buying communications through bundles of converged services. Internet-based companies, such as Google and Facebook, have become critical gateways for access to content and applications. These changes in technology and markets require adaptations in policy and regulation, including restructuring of regulatory bodies, as governments seek to maximize the economic benefits of innovation.

B. Cloud computing

8. Cloud computing has developed rapidly since WSIS. It enables governments, businesses and individuals to store data and use applications online rather than on users' own hardware. It is central to business models of e-mail and social network services, and increasingly is used by individuals for music and data storage and back-up.

9. The flexibility of cloud applications enables users to rent services as required, rather than owning sufficient facilities for maximum demand. Governments and businesses can derive significant value through savings on equipment procurement and use. They can reduce hardware and software specifications, costs of maintenance and the frequency with which equipment must be provisioned. Back-up and security arrangements of cloud providers may also be more reliable than those governments and businesses can make themselves.

10. There are, however, challenges. Data in the cloud are outside national jurisdictions, raising privacy and security concerns. Large global businesses are best placed to offer savings through economies of scale, which may reduce the scope for local enterprise. Cloud computing also requires high-quality infrastructure, preferably broadband, and an enabling legal framework, which are not yet available in many countries. Addressing these challenges will be critical to cloud computing's evolution.

⁶ <http://www.gartner.com/newsroom/id/2237315>.

⁷ Ninety-nine per cent of Internet subscriptions in Kenya are mobile subscriptions (http://cck.go.ke/resc/downloads/SECTOR_STATISTICS_REPORT_Q1_12-13.pdf).

C. Interactive applications

11. Another major development since WSIS has been that of Web 2.0 services and applications, which have made it cheap and simple for organizations and individuals to publish their own content online and to interact more extensively with one another.

12. Blogs offered the first widely used self-publishing format in the mid-1990s. By 2011, over 150 million were published worldwide, while many media and other organizations now enable interactive content through website blogs. Social networking has added intensive interactivity and sharing of personal information in the new millennium. The leading social network, Facebook, is now visited by more than 40 per cent of daily Internet users. Microblogging, pioneered by Twitter, added another popular format for self-publishing and now has a daily reach of 6–7 per cent. Other popular services such as YouTube and Flickr enable users to share audio, image and video content.

13. Social networks, file-sharing and microblogging have become widely used on mobile phones, with a profound impact on social interactions. They have become tools for free expression and citizen journalism, crowdsourcing information and organization of political protest – but have also raised concerns over privacy, bullying, hate speech and intellectual property.

II. Implementation and follow-up at the regional level

A. Africa

14. African countries have continued to make progress in access to ICTs and their application in development. Investment in international and national broadband infrastructure has grown, improving connectivity, increasing bandwidth and enabling services including e-government and development applications. Ownership of mobile telephones and Internet use have grown rapidly, while some countries are positioning themselves to export ICT goods and services. However, broadband deployment has not kept pace with other regions, causing concern that Africa may miss economic opportunities that depend on high-quality communications.

15. The Economic Commission for Africa promotes WSIS objectives by supporting the development of national ICT strategies through its Africa Information Society Initiative. Although 45 African countries have national ICT policies, studies of policy implementation undertaken during 2012 revealed the need for improved capacity-building in policy and regulation including more systematic data gathering and analysis to promote developmental outcomes.

16. The Commission worked with the African Union and regional economic communities to develop a convention on cybersecurity that was agreed upon by ICT ministers. It also supported programmes for ICT access points and tele-innovation centres. The annual eLearning Africa conference held in Benin launched the *eLearning Africa 2012 Report*, based on a survey of education professionals on the continent.⁸

17. The African Development Bank, in conjunction with the World Bank and the African Union, published a series of studies on the application of ICTs in education, health, financial services, public services, the local ICT sector, trade and climate change

⁸ http://www.elearning-africa.com/pdf/report/ela_report_2012.pdf.

adaptation.⁹ The studies were launched at the Open Innovation Africa Summit, organized in Nairobi in partnership with the Information for Development Programme, Nokia and Capgemini.¹⁰

18. The first African Internet Governance Forum (IGF) was held in Egypt, with support from the Economic Commission for Africa and the African Union, to coordinate the outcomes of regional IGFs and provide input to the global Forum.

B. Asia and the Pacific

19. Rapid growth in ICT access and use has continued in Asia and the Pacific, where the digital economy is a source of innovation and productivity improvements. However, differences among countries have illustrated the emergence of a new digital divide, especially in terms of quality of ICT infrastructure, broadband access and digital content. Of particular concern has been the high price of broadband Internet access in low-income countries, which the Economic and Social Commission for Asia and the Pacific attributes to lack of competition at national and regional levels and to gaps in regional infrastructure.

20. The Commission works with other agencies, including the Association of Southeast Asian Nations, to address connectivity challenges and support regional integration. Member States have mandated the Commission to establish an information base on the status of ICT infrastructure, policy and regulatory constraints, and to map infrastructure gaps in the region in collaboration with ITU.

21. The Asian and Pacific Training Centre for Information and Communication Technology for Development provides training, research and knowledge management, particularly through its Academy of ICT Essentials for Government Leaders programme.¹¹ The Economic and Social Commission for Asia and the Pacific is developing the Training Centre's work with young people, academic institutions and civil society.

C. Western Asia

22. Western Asia continued to experience widespread social and political change during 2012. The Economic and Social Commission for Western Asia asserts that political uncertainty has stimulated Internet adoption and use, while mobile phones, the Internet and social media have played a significant part in political dynamics.

23. The growth of ICTs was quantified in the ITU report, *ICT Adoption and Prospects in the Arab Region*.¹² ITU organized the Connect Arab Summit in Qatar, which focused on a regional Arab ICT highway, e-services, empowerment and job creation, and cybersecurity. The Summit was attended by seven Heads of State or Government and saw more than US\$40 billion in new investments announced.¹³

24. The Economic and Social Commission for Western Asia's information society portal provides information and resources for policymakers and other stakeholders.¹⁴ The

⁹ The studies were published under the title *The Transformational Use of Information and Communication Technologies in Africa*.

¹⁰ <http://www.infodev.org/en/Article.845.html>.

¹¹ <http://www.unapcict.org/academy>.

¹² http://www.itu.int/dms_pub/itu-d/opb/ind/D-IND-AR-2012-PDF-E.pdf.

¹³ <http://www.itu.int/ITU-D/connect/arabstates/>.

¹⁴ <http://isper.escwa.org.lb>.

Commission also launched a set of cyberlegislation directives¹⁵ aimed at guiding the development of national legal frameworks, facilitating electronic transactions and supporting regional integration. It provided capacity-building and advisory services on cyberlegislation and improved data collection. The Commission's Technology Centre¹⁶ supported the identification and development of opportunities for technology investors.

25. The Economic and Social Commission for Western Asia has continued to develop Arabic content and online services following the introduction of multilingual Internet domain names. It published studies on the status of digital content in the region¹⁷ and on business models for digital content,¹⁸ as well as supported applications for regional generic top-level domains in English and Arabic.

D. Latin America and the Caribbean

26. The Economic Commission for Latin America and the Caribbean serves as the secretariat for the regional 2010–2015 action plan on the information society (known as eLAC2015).¹⁹ The plan contains a strategic guide for digital development and universal broadband access. The Commission also acts as secretariat of the regional dialogue on broadband, which fosters regional infrastructure integration, regulatory consistency and development of indicators to measure broadband deployment and access. It is supported by the Regional Broadband Observatory,²⁰ which introduced new indicators on diffusion, access, tariffs and service speed during 2012.

27. In 2012, the Economic Commission for Latin America and the Caribbean focused on preparatory discussions for the Fourth Ministerial Conference on the Information Society in Latin America and the Caribbean. This is expected to review eLAC2015 and set new objectives in 2013, when a conference on science, innovation and information and communication technologies will also become operational.

28. ITU organized the Connect Americas Summit in Panama City, attended by seven regional Heads of State or Government, during which projects on access and use of ICTs for economic development, valued at around US\$50 billion, were proposed by stakeholders.²¹

29. The importance of broadband has been growing in the region, facilitated by substantial price falls, but a Commission report found that its economic impact remains constrained by poor diffusion, low connection speeds, affordability and shortages of skills and applications.²²

30. The Commission's Observatory for the Information Society in Latin America and the Caribbean gathers and publishes evidence from household surveys to enable analysis and support sectoral planning. In 2013, it plans to review the digital economy of Latin

¹⁵ <http://isper.escwa.un.org/Portals/0/Cyber%20Legislation/Regional%20Harmonisation%20Project/Directives/Directives-Full.pdf>.

¹⁶ <http://etc-un.org/PR/Default.aspx?In=1&pid=1&pvr=6>.

¹⁷ http://www.escwa.un.org/information/publications/edit/upload/E_ESCWA ICTD_12_TP-4_E.pdf.

¹⁸ <http://css.escwa.org.lb/ictd/1901/2.pdf>.

¹⁹ <http://www.cepal.org/elac/default.asp?idioma=IN>.

²⁰ <http://www.eclac.cl/socinfo/orba/>.

²¹ <http://www.itu.int/ITU-D/connect/americas/?Language=en>.

²² <http://www.eclac.org/cgi-bin/getProd.asp?xml=/publicaciones/xml/2/48402/P48402.xml&xsl=/tpl/p9f.xsl&base=/socinfo/tpl/to-p-bottom.xslt>.

America and publish studies on broadband access and use, e-agriculture, e-education, e-health and ICTs and the environment.

E. Europe

31. The Economic Commission for Europe plays a central role in ICT-enabled automation of international trade and transport. The United Nations Centre for Trade Facilitation and Electronic Business, which it manages, supports the joint development of electronic business standards by the public and private sectors. The interactive Trade Facilitation Implementation Guide was launched during 2012 to help countries simplify cross-border trade through ICT deployment.²³

32. The Commission unveiled a new strategy package, road map and global goals for intelligent transport systems²⁴ using ICTs to improve efficiency in transport and freight networks. It also promotes ICT development, capacity-building and legal frameworks in emerging markets in Central Asia.

33. The Council of Europe adopted the Internet Governance 2012–2015 strategy, encouraging governments and non-State actors to work together for an inclusive Internet. It continued to lead global initiatives concerning cybercrime. During 2013, it expects to reach agreement on declarations and instruments on human rights for Internet users, digital surveillance, freedom of expression and access to information.

III. Implementation and follow-up at the international level

A. General Assembly

34. The General Assembly adopted resolution 67/195 which welcomed positive trends in connectivity and affordability, including increased Internet access, rapid diffusion of mobile communications and development of new services and applications. It expressed concern, however, about the continuing gap in digital and broadband access between developing and developed countries, and the potential adverse impact of difficult economic circumstances on ICT investment and diffusion.

35. The Assembly reaffirmed its role in the overall review of implementation of WSIS outcomes and agreed to consider modalities for the review process in 2013. It encouraged United Nations funds, programmes and specialized agencies to provide adequate resources to support implementation of WSIS outcomes.

36. The General Assembly invited the Chair of CSTD to establish a working group to examine the mandate of WSIS regarding enhanced cooperation with respect to the Internet. The Assembly also requested the Secretary-General to submit a report on the implementation and follow-up of resolution 66/184, through the CSTD, to its sixty-eighth session in 2013.

²³ <http://tfig.unece.org/>.

²⁴ <http://www.unece.org/fileadmin/DAM/trans/doc/2011/wp24/ECE-TRANS-WP24-54-inf01e.pdf>.

B. Economic and Social Council

37. The Economic and Social Council adopted resolution 2012/5 which noted continuing progress in ICT access and development applications, especially mobile communications, but reiterated concern about inequalities in access, particularly regarding broadband networks.

38. The Council welcomed contributions by United Nations agencies to WSIS outcomes, including the CSTD-published report, *Implementing WSIS Outcomes: Experiences to Date and Prospects for the Future*, on developments since WSIS.²⁵ It noted the emergence of new technologies and services since WSIS, including social networking and cloud computing, stressed the importance of online privacy and child protection, and emphasized the need to maintain multi-stakeholder coordination in implementing WSIS outcomes. It urged United Nations agencies to incorporate WSIS recommendations into United Nations Development Assistance Frameworks.

39. The Council noted the United Nations Group on the Information Society (UNGIS) consultations on the review of WSIS outcomes. It recommended that an appropriate preparatory process should be launched for the WSIS+10 Review, drawing on experience from the two phases of WSIS, subject to decision by the General Assembly.

C. United Nations Group on the Information Society

40. UNGIS was established in 2006 by the United Nations Chief Executives Board (CEB) as an inter-agency mechanism to coordinate implementation of WSIS outcomes in the United Nations system. Its eighth meeting in May focused on the development of its workplan for 2012–2014.

41. UNGIS supports mapping of United Nations agencies' activities through the WSIS Stocktaking Database, as well as initiatives on scientific information, innovation and mobiles for development. It presented a statement at the side event, "ICTs, the foundation of our sustainable future," at the United Nations Conference on Sustainable Development (Rio+20).²⁶

42. At the request of the CEB, UNGIS conducted an open consultation concerning WSIS+10.²⁷ An action plan prepared by UNGIS was discussed by the CEB during April and at the WSIS Forum, and contributed to the development of resolutions adopted by the Economic and Social Council and the General Assembly.

D. Facilitation and coordination of multi-stakeholder implementation of the Geneva Plan of Action

43. ITU hosted the 2012 WSIS Forum, attracting over 1,200 participants from 140

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