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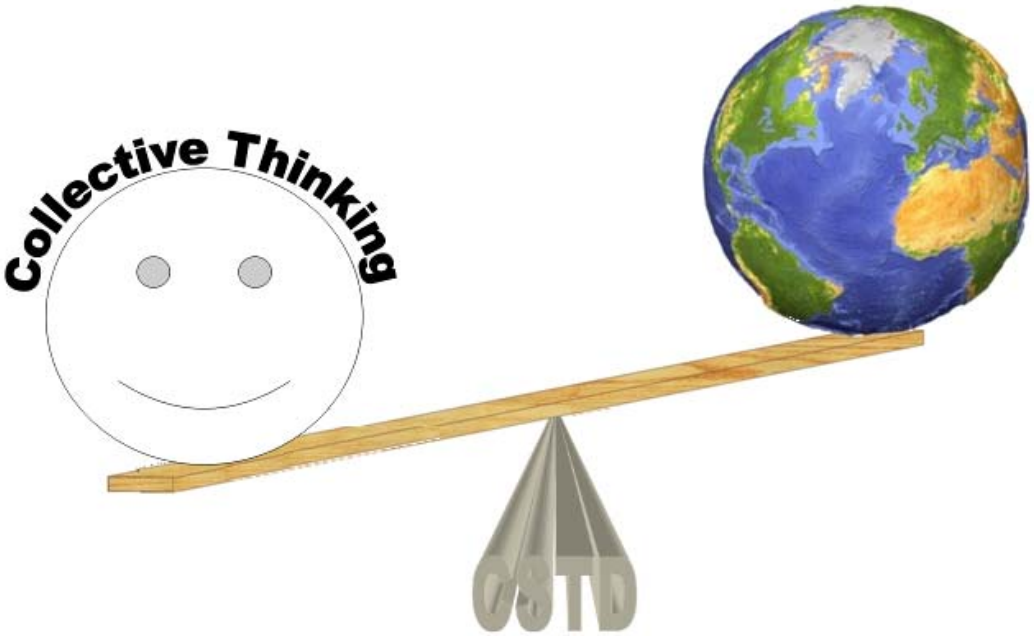
Compilation of reports received from international organizations and other stakeholders as inputs to the report of the Secretary-General on the "Progress made in the implementation of and follow-up to the outcomes of the World Summit on the Information Society at the regional and international levels"

This paper is a compilation of contributions; it does not necessarily reflect the views of the UNCTAD Secretariat

The UNCTAD Secretariat has prepared this 2010 Respective Reports Compilation with the purpose to facilitate access to the different respective reports submitted as inputs for the 2010 UN Secretary General Report “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”, according to ECOSOC resolutions 2006/46 and 2007/8.



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COMMISSION ON SCIENCE AND TECHNOLOGY FOR DEVELOPMENT (CTSD)

Thirteenth Session

Geneva, 17 to 21 May 2010

Submissions from entities in the United Nations system and elsewhere on their efforts in 2009 to implement the outcome of the WSIS

Submission by

DESA

United Nations Department of Economic and Social Affairs

This submission was prepared as an input to the report of the UN Secretary-General on "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" (to the 13th session of the CSTD), in response to the request by the Economic and Social Council, in its resolution 2006/46, to the UN Secretary-General to inform the Commission on Science and Technology for Development on the implementation of the outcomes of the WSIS as part of his annual reporting to the Commission.

UNITEDNATIONS NATIONSUNIES

Report on the Implementation of the

World Summit on the Information Society (WSIS)

by the United Nations Department of Economic and Social Affairs (DESA)

(January 2009 to December 2009)

I. Executive Summary of Activities

During the indicated reporting period, DESA, as the leading facilitator for Action Lines C1, C7eGov, and C11, and administrator of the IGF[1] and GAID[2] Secretariat Units, focused its efforts on implementing the outcomes of the World Summit on the Information Society (WSIS) through a number of modalities and initiatives listed below.

Activities of the United Nations Department of Economic and Social Affairs (DESA)

As in the past, besides organizing the Fourth Facilitation Meeting of Lines C1, C7eGovernment and C11 of the Geneva Plan of Action and the Tunis Agenda (20 May), an Expert Group Meeting (EGM) on 'E-Government and Public Private Partnerships for Better Public Service Delivery and Millennium Development Goals Implementation' was organized by DESA in Geneva, during the 2009 WSIS Forum in cooperation with ITU. Both events provided a platform to create synergies among different stakeholders for more effective knowledge sharing and collaboration to ensure the WSIS and MDGs implementation at the international, regional and national levels.

With the aim of promoting policy dialogue and supporting the building of policy making capacities and technical skills of government officials and practitioners from developing countries in knowledge management for effective electronic and mobile government, DESA organized various Capacity Building Workshops (Addis Ababa, Ethiopia, 17-19 February 2009; Kampala, Uganda, 5-6 March 2009, Manama, Bahrain, 28 May 2009, Santa Cruz de la Sierra, Bolivia, 7-10 September 2009, and San José, Costa Rica, 17-20 November 2009). DESA also continued to strengthen the technical capacity of the United Nations Public Administration Network (UNPAN) Online Training Centre with a

[1] Internet Governance Forum
[2] Global Alliance for ICT and Development

governance and public administration learning content management system encompassing 15 online capacity-building courses on various topics in public administration and management in a multi-language environment.. During 2009, the courses were delivered to 2,181 participants from around the world compared to 1,525 participants in the pervious year. METER 2, a ready-to-use interactive web-based tool aiming to assist governments to monitor and identify areas for further development within the national e-government environment was launched in May 2009 and developed by DESA in partnership with the Centre for Technology in Government (CTG), University at Albany-SUNY, and the Microsoft Corporation.

DESA continued to support its engagement in several technical cooperation activities with the aim of underpinning the internal capacity of the government to use ICT for a more effective and efficient service delivery and for improved service outputs. As part of its "Capacity Building Initiative on ICT for Development", in 2009 DESA provided substantive support and technical assistance for the implementation of e-government projects in Djibouti, Ghana and Togo.

In further support of the e/m-government efforts of the Member States, DPADM has underpinned the content of a ***UN Global Knowledge Repository on Electronic and Mobile Government*** (**emGKR**) by gathering cross national and local information on capacities and challenges of national governments in e/m government development, national e-solutions, research and knowledge transfer activities and projects. The emGKR focused on the establishment of an effective partnership mechanism for national and international stakeholders and UN agencies for knowledge sharing and resource development on e/m-government, including the sharing of data, resources, best practices, and the establishment of consistent and reliable leading indicators for effective e/m government. DESA published the E-government Readiness Indicators: Getting to the Next Level, the Compendium of ICT Applications on Electronic Government Vol. II and the Compendium of Innovative E-government Practices Volume III

In 2009, DESA finalized the UN E-Government Survey 2010: Leveraging E-government at a Time of Financial and Economic Crisis providing a revamped comparative analysis of the e-government development of the 192 Member States based on various features, such as website assessment, telecommunication infrastructure, and human resource endowment. The Survey explores the potential of e-Government, focusing on its relationship with government spending such as stimulus funding, integrity and efficiency in financial monitoring, and public service delivery. As in the previous Surveys, it assesses e-development of Member States according to a number of criteria in an analysis conducted every two years. The Member States are ranked, most of all, on the basis of each Member State's use of the Internet and the World Wide Web (WWW) for the provision of information, products and services; plus the level of telecommunication and human capital infrastructure development. The prime focus of the Survey is the Online Service Index (formerly known as the Web Measure Index), which is based on an extensive analysis of government national web portals/sites and ministries. The Survey was published in early 2010.

DESA continued to provide Advisory Services to Member States and technical assistance missions were undertaken in: Bahrain, Colombia (October 2008), Lesotho (June 2008), Oman (May and November 2008), and Singapore (June 2008) to strengthen their respective e-government capacities to develop solutions and services, as well as policies and strategies.

Activities of the Global Centre for ICT in Parliament

During 2009 DESA and the Inter-Parliamentary Union (IPU) cooperated through the jointly established Global Centre for ICT in Parliament (the Centre) to strengthen the role of parliaments in advancing the Information Society and in contributing to the implementation of the outcomes of the WSIS.

Within the Centre's portal, the online legal repository for ICT-related legislation was considerably expanded to facilitate the sharing of legislative practices among legislatures and interested parties. The repository reached the figure of 450 laws from 121 countries on 9 main topics: Child on-line Protection; Cybercrime; e-Accessibility; e-Commerce; Electronic Communications; e-Signature; Freedom of Information; Open Standards; Privacy.

In April 2009 the Inter-Parliamentary Union (IPU) launched the new version of the *Guidelines for Parliamentary Websites,* which provide concrete recommendations and guidance to website designers, developers and senior managers in parliamentary administrations and reflect advances in technology and new parliamentary practices that have emerged in the last years.

Between June and September 2009, the Centre conducted the second *Global Survey of ICT in Parliaments* to which 134 parliamentary assemblies responded. Its results will form part of the World e-Parliament Report 2010, which will track emerging trends and practices on how ICT is being used by parliaments.

During 2009, the Centre also held a number of trainings, workshops and conferences. A high profile event was the third World e-Parliament Conference organized by the United Nations, Inter-Parliamentary Union, U.S. House of Representatives from 3 to 5 November 2009. The Conference, held at the US House of Representatives in Washington D.C., is the annual forum of the community of parliaments addressing, from both the policy and technical perspectives, how the use of ICT can help improve representation, transparency, accountability, openness, and effectiveness in the complex parliamentary environment In November 2009 a Regional Workshop on "The Impact of New Technologies in Parliament's Transformation in Latin America and the Caribbean" was organized by the Inter-American Development Bank (IDB) in collaboration with the Global Centre for ICT in Parliament. The workshop was attended by more than 75 participants, including members of parliament, secretaries general, and ICT directors, representing 21 countries of the region. At the workshop, participants agreed to put in motion a process of regional dialogue aiming at establishing a formal mechanism of inter-parliamentary cooperation on ICT in the region.

DESA, ECA, the Pan African Parliament and the Parliament of Rwanda jointly organized the Conference “Development of an Equitable Information Society: the Role of African Parliaments”, with the support of the Africa i-Parliaments Action Plan, a regional DESA-led initiative.

In December 2009, DESA, through the Global Centre for ICT in Parliament and the Africa i-Parliaments Action Plan, organized the three-day workshop “Strengthening the Cooperation among Parliamentary Libraries in the Framework of the Africa Parliamentary Knowledge Network (APKN)” (see www.apkn.org).

Activities of the Global Alliance for ICT and Development (GAID)

In 2009, the Global Alliance for ICT and Development (GAID**)** managed by DESA took advantage of major United Nations events to promote the effective integration of ICT in development strategies and the active engagement of all stakeholders. During the 12th session of the CSTD (Commission of Science and Technology for Development), GAID in cooperation with the CSTD Secretariat, the International Telecommunication Union (ITU) and the World Health Organization (WHO), brought two key perspectives to the Commission, first on innovation, convergence and mobile technologies with a Panel Discussion on 26 May 2009, in Geneva on: “Mobile Technology, Convergence and Social Networking Tools for Development and Poverty Alleviation" and a second on digital health with a Panel on “Delivering Innovation in Global Public Health”.

During the High-level Segment of ECOSOC in July 2009, GAID underlined the unique opportunity that exists to maximize multi-stakeholder partnerships among governments, donors, business, civil society and international organizations in the debate on the future of the global public health agenda through the ECOSOC process. Two events were organized: a “Special Ministerial Breakfast Roundtable on Africa and the Least Developed Countries (LDCs): Partnerships and Health - Digital Health and Development in Africa and the LDCs” on 7 July 2009 and a “Special Event on Africa and the Least Developed Countries” on 8 July 2009.

Ministers, policymakers, business leaders, and innovators in the field of information and communication technologies for development from around the world converged in Monterrey, Mexico for the Annual Meetings and Global Forum of the Global Alliance for ICT and Development (GAID) on 2-4 September, 2009. A major outcome of the Global Forum was the formation of a broad new partnership under the GAID umbrella on ICT and education. This global partnership titled “Education for All in the Digital Age” involves leading UN agencies and private sector organizations (UNESCO, ECLAC, Nokia-Siemens Networks, Intel, Cisco, Korea University, TAGOrg, IEarn, etc.) who

will work collaboratively to define the principles and support the targets derived from the MDGs to be advanced with ICT applications by 2015.

To highlight the role that ICTs can play in advancing progress towards achieving the MDGs, the Global Alliance has launched a project in collaboration with the New School University, a White Paper Series on ICT and MDGs, that will assess the contribution of ICTs as a crucial instrument of economic and social development, based on systematic analysis and research, in a series of papers that can serve as a guide to policy-makers and ICTD practitioners.

Activities of the Internet Governance Forum (IGF)

The Internet Governance Forum held its fourth annual session in Sharm El Sheikh, Egypt from 15 to 18 November 2009 with the theme of 'Internet Governance – Creating Opportunities for All'.

With more than 1800 participants from 112 countries, the Sharm meeting had the biggest attendance so far. The agenda of the meeting touched on a broad range of public policy issues related to the Internet, in line with the definition of Internet governance as set out in the Tunis Agenda. A recurrent point of discussion was the role of children and young people in creating the information and knowledge society. In this context, special attention was paid to the continued growth of social networks, and the ensuing governance issues that are emerging, in particular, the need for new approaches regarding privacy and data protection, rules applicable to user-generated content and copyrighted material, and issues of freedom of expression and illegal content.

One meeting during the session was devoted to stocktaking and looking forward. The Tunis Agenda for the Information Society, endorsed by the General Assembly in resolution 60/252, called for the Secretary-General to examine the desirability of continuation of the Forum within five years of its creation and to make recommendations to the UN Membership in this regard. Formal consultations were chaired by the Under-Secretary General of DESA, Mr. Sha Zukang with 47 speakers representing different stakeholder groups delivering statements on this subject. Eight statements of participants who were not given a speaking slot due to time constraints were posted on the IGF Web site. Two statements were submitted after the session.

All but two speakers and all written statements explicitly supported a continuation of the Forum, with many calling for adjustments and improvement in various degrees. Some were of the view that informal dialogue in the IGF, which has no decision-making authority, should not be seen as a substitute for discussion of global Internet governance in an intergovernmental setting.

In 2009, there was also a spread of the multistakeholder approach to dialogue on public policy issues related to the Internet. A number of national and regional initiatives have been modeled on the IGF. Three initiatives were reported from Africa: in Eastern, Western and Middle Africa, as well as Latin America and the Caribbean. A second meeting of the European Dialogue on Internet Governance (EuroDIG) was held in Geneva. National meetings were held in the United Kingdom, in Italy, in the USA and in Spain.

The fifth meeting of the Forum will be held in Vilnius, Lithuania from 14 to17 September 2010. Kenya has made an offer to host the 2011 meeting should the mandate of the IGF be extended.

II. Brief analytical overview of trends and experiences

E-government at a time of financial and economic crisis.

E-government is never an end in itself. Rather it is a means of enhancing the capacity of the public sector, together with citizens, to address particular development issues. According to the latest edition of the UN E-Government Survey published by DESA in early 2010, one of the most far-reaching and troublesome questions facing policy makers has been how to respond to the world financial and economic crisis.

The Survey presented various roles for e-government in addressing the ongoing world financial and economic crisis. The public trust that is gained through transparency can be further enhanced through the free sharing of government data based on open standards. The ability of e-government to handle speed and complexity can also underpin regulatory reform. While technology is no substitute for good policy, it may give citizens the power to question the actions of regulators and bring systemic issues to the fore. Similarly, e-government can add agility to public service delivery to help governments respond to an expanded set of demands even as revenues fall short. Since the last edition of the survey, in 2008, governments have made great strides in development of online services, especially in middle-income countries. The costs associated with telecommunication infrastructure and human capital continue to impede e-government development. However, effective strategies and legal frameworks can compensate significantly, even in least developed countries. Those who are able to harness the potential of expanded broadband access in developed regions and mobile cellular networks in developing countries to advance the UN development agenda have much to gain going forward.

Policy makers in the e-government arena have over recent years been very much interested in global trends in e-government. Global trends allow policy makers to comparatively assess their country's standing, particularly vis-à-vis other countries in the region. The Survey offers insight in this regard, by offering a comprehensive assessment of national online services, telecommunications infrastructure and human capital. The watchword of e-government is 'citizen-centric practice' and, as in previous years, for a country to be assessed favourably in relation to its peers there needs to be solid evidence of a citizen-centric approach to e-government development. This means, among other things, implementation of strategies that are sensitive to technological progress. The explosive growth of broadband access in developed regions and mobile cellular subscriptions in developing countries are trends that governments cannot easily ignore. The survey methods reflect such advances, as they provide availability of electronic and mobile services designed with citizens in mind.

A notable progression of the last few years is seen in the adoption of national e-government strategies and multi-year action plans. From the most to the least developed, countries can be seen responding to expectations that governments both participate in and enable the information society by communicating and interacting more effectively with increasingly technology-savvy citizens. For this reason, we no longer use the term 'e-government readiness' to describe national capacity but 'e-government development', that is to say how far governments have actually advanced in this field instead of how ready or able they might be to do so.

The survey results show that middle income countries in particular have made significant advances in implementation of online services to the point where a number of them have usurped positions held in the past by high-income countries in the e-government development index. This has occurred despite the relative advantage enjoyed by developed regions in telecommunications infrastructure, which accounts for a third of a country's index value. This may be explained by a combination of ICT investment in the public sector of smaller countries such as Singapore, Bahrain and Tunisia, and comprehensive e-government policies in countries such as Colombia, Malaysia and Chile with well-established firms operating in the ICT sector. Many of these countries have revamped their national and ministry websites as tightly integrated portals providing citizens with a single point of entry to all e-government services.

By contrast, the fruits of e-government development remain a distant hope for many of the least developed countries due to the cost of technology, lack of infrastructure, limited human capital and a weak private sector. Barring a few notable exceptions, such as e-education in Bangladesh and m-health in Rwanda, small ad-hoc and stand-alone projects are the norm in least developed countries usually without regard to a well-thought e-strategy within their national development plans. Once initial funding for these projects ends, they are usually at high risk of simply shutting down. While a paucity of public sector resources clearly imposes a drag on government innovation, the experiences of Ethiopia, Rwanda and Bangladesh demonstrate that significant gains can be

realized in the least developed countries where there are enabling legal and regulatory frameworks in place, including specifically an e-government strategy with clearly identified sectoral priorities aligned with national development goals.

Problems of cost are in no way limited to developing countries. The 2010 assessment of government websites has revealed that many national governments continue to focus on online and mobile dissemination of information rather than expansion of interactive services, for example to streamline processing of applications and payments. Back-office integration imposes its own set of challenges in this regard, as does the difficulty of rethinking business practices. An antidote might be found in incremental expansion of e-services guided by sound institutional principles that have integration as their core objective. Even simple solutions to discrete problems can result in substantial local efficiency gains and increased public satisfaction.

At the same time, there is a still disconnection between e-government supply and demand in most countries. In places where citizens may not be aware of the existence of e-government services, or prefer not to use them, governments would do well to ask them why. One explanation may be that the majority of e-services are designed as efficiency measures – to automate complex functions such as income tax collection, school registration and processing of social benefits – with little input from the intended beneficiaries. Marketing may help raise awareness, but most surveys have shown that users prefer localized and personalized services, attributes that usually call for interdepartmental cooperation, back-office reorganization and reallocation of both human and financial resources.

Further evidence of the citizen-government disjunction has been found in the area of e-participation which remains in a nascent state in many countries.

On the issue of how governments engage citizens in their decision-making process through ICTs, few have sponsored discussion forums or blogs, or posted information to social networking sites although many governments have included polls and feedback forms on their websites. This is especially true for the least developed countries. Governments may need to be more creative about the ways in which they interact with the public, for example by creating integrated ‘one-stop-shop’ portals or actively soliciting views that can either be used in the design of public services or in shaping public policy. Here, the governments of Australia, Bahrain, Canada, Kazakhstan, the Republic of Korea, Singapore, the United Kingdom and the United States have been leading the charge.

Mobile technology, mobile cellular subscriptions have grown exponentially in developing regions in the last ten years but most governments are not exploiting this technology fully in public service delivery. On-demand access to information, services, and social networks on the Internet through a personal computer is no longer considered cutting edge in developed regions but a norm

that many people take for granted. The same may soon be true of the more advanced middle income countries. Cellular telephones and personal digital assistants have the potential to play the same role for developing countries if governments are able to come to grips with the changing face of technology and innovate with a citizen-centric mindset.

For example, alerts sent through short message services ('text messages') are being used to notify citizens that a request for assistance has been processed, that a permit needs to be renewed or that an emergency advisory notice has been issued. Cellular telephones are also being used in a more dynamic fashion to browse public services, authorize payments, and engage in micro-volunteerism, for example by providing government agencies with images or descriptions of local environmental conditions or responding to social surveys.

Despite technological progress, human capital remains a major shortcoming in both middle- and low-income countries. Few civil services are able to compete with private sector salaries with the inevitable result that top information technology personnel in developing countries tend to gravitate towards commercial firms. Even in cases where governments are able to recruit highly skilled information technology workers, these young men and women tend to stay only long enough to acquire enough experience to make them marketable in the private sector then quickly leave their government jobs for more lucrative employment. Similar capacity gaps exist at the management level. Developing country governments often find themselves in the position of having to hire expatriate management consultants and other information technology professionals to develop domestic e-government services.

III. Lessons learned, obstacles and difficulties encountered and initiatives and important measures needed for future implementation of the Summit outcomes

Some country e-government initiatives which have transformed the public sector

E-government, as a means of realizing the vision of a global information society, has become a powerful tool of development and essential to the achievement of the internationally agreed development agenda including the Millennium Development Goals. Countries that have embraced e-government have experienced its transformative power – in revitalizing public administration, overhauling public management, fostering inclusive leadership and moving civil service towards higher efficiency, transparency and accountability. Countries that have not tend to remain mired in the typical institutional pathologies of supply-driven services and procedures, remoteness between government and citizen, and opaque decision-making processes.

Consider the case of Ethiopia. A landlocked country with limited access to international telecommunications lines, low adult literacy levels, and a resource-poor public sector, on the surface it seems ill-equipped to profit from the information revolution. Yet in 2005, the Government of Ethiopia adopted a national information and communication technology policy and, in 2006, a five-year action plan to help diversify the country's economy, promote public sector reform and improve opportunities in education, health, small business development, and agricultural modernization. Nearly 600 local administrations have since been connected to regional and federal offices, 450 secondary schools are tied to a national education network, while some 16,000 villages have obtained access to broadband services.

Even in small, least developed countries with limited economies of scale, the mobile revolution and growth of high-speed broadband and wireless access have begun to have a measurable economic impact, reinforced by expansion of e-government capacity in the public sector. Rwanda is a case in point. The country has reaped the benefits of systematic application of ICT in upgrading its overall economic performance, Cabinet members use the Internet to interact with the President, and government processes have become more efficient and transparent. Similarly, the introduction of electronic identification cards in Uganda has helped the poor to open bank accounts, have access to credit and government services.

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Submission by

UNEP-Basel Convention

United Nations Environment Programme - Secretariat of the Basel Convention

This submission was prepared as an input to the report of the UN Secretary-General on "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" (to the 13th session of the CSTD), in response to the request by the Economic and Social Council, in its resolution 2006/46, to the UN Secretary-General to inform the Commission on Science and Technology for Development on the implementation of the outcomes of the WSIS as part of his annual reporting to the Commission.

Assessment of the progress made in the implementation of and follow-up to the outcomes of the World Summit on the Information Society

Sustainable production and consumption and the environmentally safe disposal and recycling of discarded hardware and components used in ICTs

Contribution from the UNEP Secretariat of the Basel Convention

(a) Executive Summary

Electronic waste is growing at a rapid and uncontrollable rate and is the fastest growing portion of the municipal solid waste stream. Currently electronic waste constitutes 1% of municipal waste in the US and 4% in the EU. Future trends taking into account current stocks, the life time of electronic products and current e-wastes flows in various countries, show a linear increase of e-wastes production in many countries from 2005 to 2020. In countries in which the penetration of electronic products is not yet high, such as Senegal, the PC-waste generation would quadruplicate or increase of eight-fold by 2020.

The Geneva Plan of Action (2003) encourages "… government, civil society and the private sector … to initiate actions and implement projects and programmes for sustainable production and consumption and the environmentally safe disposal and recycling of discarded hardware and components used in ICTs." In the Tunis Agenda for the Information Society (2005) the commitment is reaffirmed: **"…** strongly encouraging ICT enterprises and entrepreneurs to develop and use environment-friendly production processes in order to minimize the negative impacts of the use and manufacture of ICTs and disposal of ICT waste on people and the environment."

At the eighth meeting of the Conference of the Parties to the Basel Convention, held from 27 November to 1 December 2006, the high- level segment featured an in-depth discussion on the theme during a one-day World Forum on E-wastes. Ministers, corporate officials, civil-society representatives and other participants explored solutions for advancing the objectives of ensuring the environmentally sound management of e-waste. Subsequently, the Nairobi Declaration on the Environmentally Sound Management of Electrical and Electronic Waste and Decision VIII/2 were adopted.

Pilot projects are under implementation in technical assistance programmes of UNEP, Basel Convention, UNIDO and others, to explore environmentally sound e-waste management schemes in developing countries. They aim to find incentives and methods to divert end-of-life personal computers from land disposal and burning into commercial material recovery/recycling operations, to develop technical guidelines for proper repair, refurbishing and material recovery/recycling, and to promote sustainable development for the continued use, repair and refurbishment of used personal computers in developing countries and countries with economies in transition.

The technology for environmentally sound dismantling and disposal of e-waste exists, but it has to be linked to the product life-cycle to become economically viable. The introduction of a life-cycle approach for electronic products needs concerted efforts of producers, users, recycling and disposal operators and a robust and sustainable financing system.

(b) Analytical Overview

Introduction

There is a rapidly increasing demand globally by consumers for information technology. The positive impact of Information and Communication Technology (ICT) on development particularly in developing countries and countries with economies in transition is well recognized and acknowledged. Advances in technology yield in faster, smaller and more responsive equipment. As a consequence there is a high and even increasing turnover of products and increasing number of equipment becoming obsolete. The lifespan of computing equipment decreased from 4-6 years in 1997 to 2-4 years in 2005. Worldwide about 500 million personal computers (PCs) reached the end of their life in the decade between 1994 and 2003.

A rapidly growing problem

Worldwide estimates indicated that by 2005, there would be above 500 million mobile phones weighing 250,000 t stockpiled in drawers, closets and elsewhere, waiting to be disposed. In the United States, mobile phone use was projected to reach approximately 175 million by 2005. Meanwhile, experts' estimates that 130 million mobile phones were discarded in the US by 2005, resulting in 65,000 t of mobile phone waste. Between 1999 and 2003, 2.5 million phones were collected for recycling or reuse in the US accounting for less than 1% of the millions of phones retired or discarded each year.

Electronic waste is growing at a rapid and uncontrollable rate and is the fastest growing portion of the municipal solid waste stream. Currently electronic waste constitutes 1% of municipal waste in the US and 4% in the EU.

Future trends taking into account current stocks, the life time of electronic products and current e-wastes flows in various countries, show a linear increase of e- wastes production in many countries from 2005 to 2020. In countries in which the penetration of electronic products is not yet high, such as Senegal, the PC-waste generation would quadruplicate or increase of eight-fold by 2020. In countries with higher penetration than Senegal, such as China, the PC -wastes generation would duplicate or quadruplicate. Trends for India show a five-fold increase in PC-wastes and an eighteen-fold increase in mobile phones-wastes generation by 2020.

Developing countries are hurt most

While industrialized countries have started to introduce comprehensive take-back and recycling systems for electrical and electronic equipment, the situation in developing countries is nearly uncontrolled and even more critical for several reasons:

- Legislation and enforcement schemes do not exist or are not operational;
- Controlled take-back systems do not exist;
- Dismantling of computing equipment and recycling of raw material from end-of-life computers is nearly exclusively in the hands of the informal sector;
- E-waste is shipped under a false pretence, e.g. e-waste reported to be post-consumer products for re-use, while they are clearly are no longer fit for re-use;
- Lack of awareness of governments and the general public of hazardous impacts of improper handling of e-waste;
- Considerable part of the e-waste exported from developed countries is exported illegally in contradiction to International (Basel Convention) or Regional (EU waste shipment regulation; African Bamako Convention, South Pacific Waigani Convention) legislation.

This problem is known since long. The Geneva Plan of Action (2003) encourages "… government, civil society and the private sector … to initiate actions and implement projects and programmes for sustainable production and consumption and the environmentally safe disposal and recycling of discarded hardware and components used in ICTs." Even stronger, in the Tunis Agenda for the Information Society (2005) the commitment is reaffirmed **"…**to using ICTs, as a tool to achieve the internationally agreed development goals and objectives, including the Millennium Development Goals, by … strongly encouraging ICT enterprises and entrepreneurs to develop and use environment-friendly production processes in order to minimize the negative impacts of the use and manufacture of ICTs and disposal of ICT waste on people and the environment. In this context, it is important to give particular attention to the specific needs of the developing countries."

Recognizing the global dimension of this problem, the theme for the eighth meeting of the Conference of the Parties to the Basel Convention, held from 27 November to 1 December 2006, was "Creating Innovative Solutions Through the Basel Convention for the Environmentally Sound Management of Electronic Waste". The high-level segment featured an in-depth discussion on the theme during a one-day World Forum on E-wastes. Ministers, corporate officials, civil-society representatives and other participants explored solutions for advancing the objectives of ensuring the environmentally sound management of e-waste. Subsequently, the Nairobi Declaration on the Environmentally Sound Management of Electrical and Electronic Waste and Decision VIII/2 were adopted. The Declaration would serve as the overall mandate for a roadmap of actions on tackling the e-waste problem under the Convention.

The two sides of recycling

End-of- life computing equipment has a considerably high recycling value. E-waste contains besides plastics also valuable ferrous (e.g. iron), non-ferrous (e.g. aluminium, copper) and precious and special (e.g. gold, palladium, platinum, silver, indium, gallium) metals that can be obtained from dismantling of computer cases, frames, wires, cables and other components. The rising value of these materials makes recycling even more economically viable and attractive.

Crude recycling for e-waste is currently taking place for example in Asia-Pacific countries such as China and India, and in some African countries such as South Africa, Senegal, Ghana and Nigeria. However, recycling operations are handled nearly exclusively by the informal sector without any appropriate pollution control measures and workers protection. These crude 'backyard' recycling processes include open burning of plastics to reduce the waste volume, burning of copper wires to salvage valuable metals, in particular copper, and strong acid leaching of printed wiring boards to recover precious metals. It is a fact that a large number of people in developing countries are involved in the handling and disposal of obsolete computers in the informal sector.

These crude material recovery processes have resulted in environmental pollution while exposing millions of people to toxins including persistent organic pollutants POPs, such as dioxins/furans as well as brominated flame retardants in plastics.

The Extended Producer Responsibility (EPR) policies, by which the producers assume the responsibility of the electronic products throughout their life-cycle, gave impetus to the recycling

industry in many developed countries. Through EPR policies, producers put in place take back schemes and partially cover the cost of recycling also in conjunction with consumers who in many cases pay a small recycling -tax included in the price of new electronic products. These and similar schemes, which are in place at the national and at regional level, especially in OECD countries, do not cover the electronic products exported to countries outside the geographic scope of domestic EPR policies. New electronic products, second hand electronic goods and end e-wastes shipped to developing countries fall off of these schemes and represent a loophole in the EPR policies of developed countries. Financial mechanisms for the establishment of EPR policies at the international level, in a global economy, represent an important challenge for the international community and could foster sound recycling and environmentally sound management of e-wastes globally.

Pilot projects are under implementation in technical assistance programmes of UNEP, Basel Convention, UNIDO and others, to explore environmentally sound e-waste management schemes in developing countries. Mandated by the Conference of Parties of the Basel Convention, the Secretariat of the Basel Convention is facilitating a Partnership for Action on Computing Equipment (PACE) with different stakeholder groups like industry, public interest NGOs, international organizations and governmental institutions and agencies. It aims to find incentives and methods to divert end-of-life personal computers from land disposal and burning into commercial material recovery/recycling operations, to develop technical guidelines for proper repair, refurbishing and material recovery/recycling, and to promote sustainable development for the continued use, repair and refurbishment of used personal computers in developing countries and countries with economies in transition. The challenge is that millions of extremely poor people in developing countries earn their living from collecting and selling scrap metal and other usable material from obsolete computing equipment. Introduction of a proper recycling system has to find a way of involving the informal sector without harming health or environment.

(c) Future Actions to be taken

The technology for environmentally sound dismantling and disposal of e-waste exists, but it has to be linked to the product life-cycle to become economically viable. The introduction of a life-cycle approach for electronic products needs concerted efforts of producers, users, recycling and disposal operators and a robust and sustainable financing system. Any financing mechanism for meeting the challenges of ICT for development must consider the whole life-cycle of the equipment involved to ensure that solving the digital divide problem is not creating an equally big or even bigger long-term health and environment pollution problem.

Several prerequisites need to go hand in hand to contribute to a long-lasting solution of the e-waste problem without jeopardizing efforts to achieve the important goal of bridging the digital divide.

Production:

- Producers should minimize and on a longer term avoid any use of hazardous material in ICT equipment production;
- Product design should facilitate refurbishment to extend lifetime of the equipment, and recycling of end-of-life equipment;
- Extended producer responsibility (EPR) should be in place.

Distribution:

- Distributing and selling companies should systematically be linked to a comprehensive take-back system for ICT equipment to avoid uncontrolled recycling and disposal;

Users:

- Need to be have incentives and be encouraged to dispose of their end-of-life e-equipment via a take-back system and not through uncontrolled dumping;

Refurbishment and recycling:

- Before an e-product is dismantled and disposed, it should be checked if refurbishment and re-use is possible;
- Nearly all refurbishment and repair can be handled locally or regionally;
- Dismantling and recycling of e-waste should be done in the most efficient manner to achieve the optimal economic benefit;
- Nearly all e-products can be dismantled and recyclable material separated locally; only hazardous recycling operations, e.g. metal melting, needs specialized treatment;

Financing mechanisms:

- Need to include in the procurement specifications for e-products provision that:
  a) the equipment contains minimum amount of hazardous material,
  b) product design allows easy refurbishment and dismantling;
- E-product life-cycle approach is followed in programmes for solving the digital divide, i.e. programme need to include provisions for establishment of take-back systems and support for refurbishment and controlled dismantling and disposal operations on local level;
- Extended Producer Responsibility policies could be established at the global level and could become the basis of financing mechanisms promoting the environmentally sound management of e-wastes world wide.

Efforts to bridge the digital divide need to follow the life-cycle approach and relevant international laws to avoid health and pollution problems including across the border. This can be seen as a burden, but also as a win-win situation. Using ICT does not only bring tremendous benefits to the development of countries, but can be beneficial also after the end-of- life of the used equipment by substantially contributing to job and income generation in the take-back infrastructure, refurbishment, recycling and disposal sectors.

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Submission by

ECA

United Nations Economic Commission for Africa

This submission was prepared as an input to the report of the UN Secretary-General on "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" (to the 13th session of the CSTD), in response to the request by the Economic and Social Council, in its resolution 2006/46, to the UN Secretary-General to inform the Commission on Science and Technology for Development on the implementation of the outcomes of the WSIS as part of his annual reporting to the Commission.

ECA 2009 Report on Implementation of WSIS outcomes

Executive Summary

ICTs continue to play an increasingly important role in both national, sub-regional and regional development; and African member States are increasingly seeking the support of ECA to develop and fine tune national policies and promote the use of ICT applications in governance, education, health, agriculture, finance and trade through implementation of WSIS Action Lines in the framework of the African Information Society Initiative (AISI). This has increased the number of African countries and Regional Economic Communities (RECs) that have established and implemented e-strategies and initiatives.

In this connection, ECA in cooperation with its partners such as the Governments of Finland and Korea has provided assistance in enabling policy and regulatory environment; elaboration of regulatory frameworks; development of National Information and Communication Infrastructure (NICI) Plans and sectoral strategies; and capacity building to policymakers, parliamentarians and other stakeholders. Support to the African Union was provided through the ICT sub-cluster of the Regional Coordination Mechanism (RCM) of UN agencies working in Africa in support of the African Union and its NEPAD programme, and also directly by co-organizing the African Union Ministerial ICT Conference in November 2009 to prepare the African Union 2010 Summit on the theme of ICT for Development.

ECA provided support to Cameroon, Congo, Cote d'Ivoire, Benin, Burkina Faso, Ethiopia, Kenya, Mali, Niger, Nigeria, Rwanda, Sierra Leone, Swaziland and The Gambia to develop comprehensive NICI plans, National Spatial Data Infrastructures (NSDI), sectoral e-strategies and local applications to promote access. In addition, member States have benefited from the donation of 5 reference earth stations to the African Reference Frame (AFREF) Project, which was negotiated by ECA. Furthermore, activities were carried out in strengthening science, technology and innovation systems for Africa's development through promotion of the establishment of science and technology parks and incubators and launch of the African Innovation Endowment Fund to boost R&D through a unique public-private partnership arrangement that includes Africa's leading business leaders and institutions.

While assessing WSIS implementation on the continent, ECA launched a questionnaire-administered survey circulated to the WSIS focal points in member States and the regional economic communities, to assess their commitment to the implementation of the Geneva Plan of Action and the Tunis Commitments. The objectives of the survey were: to measure the current level of implementation of the action lines in Africa, including; to use the results of the survey to

establish a database and prepare publications on the status of ICT4D in African countries; and to have readily available up-to-date indicators and information from authoritative sources on the African ICT for development landscape.

Overview of trends and experiences in implementation at the national and regional levels

The following analysis is a result of the WSIS implementation survey and hence is presented according to the WSIS Action Lines.

Action Line 1: The role of public governance authorities and all stakeholders in the promotion of ICTs for development

The role of governments was ascertained, including the extent to which they have adopted and are implementing national e-strategies. Of all the countries which responded to the questionnaire, over 80 per cent strongly agreed that ICTs are their national priority, 10 per cent agreed, and 10 per cent disagreed. Therefore, 90 per cent of the countries consider ICTs as their national priority. This is possible because of high level Government commitment and availability of a Champion, who is the President or Prime Minister. This is an encouraging result, which shows the increasing attention is given to ICTs in national development programmes in Africa. 42 countries have an ICT policy, 5 countries are in the process of developing an ICT policy; while only 6 have not initiated the ICT policy development process. However, the challenge is now to continue securing political commitment for e-strategy implementation and mainstreaming in national development and socio-economic plans. This will include allocation of public funds to ICT programmes. 80 per cent of the countries confirmed that they have public-private partnership initiatives to implement their ICT policies. In order to secure appropriate funding of ICT4D projects, as advocated by AISI, it is essential to develop a comprehensive e-strategy which reflects the need of all ministries and sectors. In addition ministries should develop and own implementation plans covering their respective sectors. These plans would be used to secure funding from national budget, donor agencies and governments as well as the national and international private sector.

Action Line 2: Information and communication infrastructure

Africa has one of the weakest ICT infrastructures in the world. However there is a boom in mobile access. Despite the poor growth of the infrastructure in Africa, the majority of the countries (85 per cent) confirmed that they have a conducive environment for investment in ICT infrastructure. This is corroborated by the fact that 80 per cent of the countries have established universal access strategies to finance access to ICT for development. Also, there is wide use of other traditional ICT facilities, including radio and television, which are very important media for accessing and disseminating information.

On regional backbones, there are positive developments towards improving Africa's connectivity to the rest of the world. Examples include the SAT3 and SEACOM cables, which are already operational, and the NEPAD Broadband Initiative and the TEAM and Eastern Africa Submarine System (EASSy) cable projects, which are currently being developed. These projects will establish fibre optic undersea cable systems connecting the region to the rest of the world.

Action Line 3: Access to information and knowledge

One way of generating information and knowledge is by promoting scientific and technological research and development. In this context, 65 per cent of the countries responded that they have strategies to foster innovation, science and technology and research. Also, 85 per cent confirmed that their Governments have in place a mechanism for respecting intellectual property rights, while encouraging the use of information and sharing of knowledge. 80 per cent indicated that there are initiatives under way or planned in their countries to promote awareness offered by different software models, including proprietary, open-source and free software. Support provided by international development partners has led to the creation of multi-purpose community telecentres and public access points in many African countries since the 1990s. ECA is promoting development of technology parks and incubators.

Action Line 4: Capacity-building

65 per cent of the respondents indicated that ICTs are integrated into the education system and that they have identified capacity-building requirements for their countries to embark on knowledge economy activities. Furthermore, as youth will be the driving force behind economic prosperity in future decades, 80 per cent of the respondents indicated the existence of strategies to ensure that young people are equipped with the skills to use ICTs. Also, 75 per cent of the countries responded that they have taken initiatives to eliminate gender barriers to ICT education and training and to promote equal training opportunities in ICT-related fields for women and girls.

Action Line 5: Building confidence and security in the use of ICTs

In the area of cyber security, 35 per cent of the respondents indicated that they have cyber security laws. 45 per cent have national guidelines for preventing, detecting and responding to cybercrime; 60 per cent have guidelines for overcoming obstacles to the effective use of electronic documents and transactions, including electronic means of authentication; and 55 per cent have guidelines on the right to privacy, data and consumer protection. However, most countries rated the level of deployment of security systems in both the private and the public sectors to combat cybercrime as low.

Action Line 6: Enabling environment

All the respondents, with the exception of 2 countries, indicated that they have a legislative and regulatory framework that is conducive to a supportive, transparent and pro-competitive ICT market in their countries. This is one of the drivers behind the boom of the mobile market and other information technologies in Africa. The impact of the legal and regulatory environment on the ICT industry is of paramount importance.

Action Line 7: ICT applications

E-commerce

65 per cent of respondents asserted that their ICT policy fosters entrepreneurship, innovation and investment, with particular reference to the promotion of participation by women. 80 per cent of governments promote the development and use of open, interoperable, non-discriminatory and demand-driven ICT standards. 45 per cent of the respondents indicated that their countries provide e-services. ECA is working with a number of countries to develop e-commerce strategies. At the regional level, ECA has supported establishment of the African Alliance on e-Commerce launched in 2009 by Ports authorities, Customs and clearing and forwarding agents from the African public, private sector and NGO community. ECA carried out a study on m-banking and produced a book on the subject covering Kenya, Senegal and South Africa.

E-government

80 per cent of respondents indicated that they have e-government strategies in place. In addition 70 per cent of the respondents indicated that their countries participate in international cooperation initiatives in the field of e-government. Most countries indicated that there is widespread availability of Internet connectivity in Government ministries, agencies and departments, as well as a growing web presence. However, only few countries provide public services online. The African E-Government Readiness Index shows that Africa is way below the world average. To correct this situation, ECA has started providing support to countries in developing e-government strategies.

At the international level, while coordinating the Task Group on e-Government indicators, which was established by the International partnership on measuring ICTs for development, ECA has prepared and circulated to Task group members a list of 18 indicators as preliminary input to its activities and created a discussion list (tgeg@dgroups.org) to facilitate exchange of information.

E-learning

Only 4 countries believe that they possess adequate digital literacy for supporting digital and knowledge economy activities. However, 60% indicated that they have content development activities under way to

support e-learning. To promote e-learning, ECA has started providing support to countries in developing e-education strategies.

At the regional level, within its Information Technology Centre for Africa (ITCA), and in cooperation with APICT, ECA has developed learning modules for policymakers entitled the "Academy of ICT Essentials for Government Leaders".

E-health

60 per cent of the respondents indicated that they have programmes on building health information systems and are promoting medical education and research through the use of ICTs, including telemedicine initiatives. 40 per cent of the respondents indicated having a common information system that alerts, monitors and controls the spread of communicable diseases. Only 35 per cent have ICT-based initiatives for providing medical and humanitarian assistance in case of disaster and emergency. ECA is providing support to countries in developing e-health strategies.

E-employment

Only 10 per cent of the respondents confirmed that they have best practices on tele working with national and international clients. 45 per cent have initiatives that promote new ways of organizing work and business with the aim of raising productivity and well-being through investment in ICTs. ECA supported the development of an e-Employment project in Central Africa aimed at using ICT to reduce unemployment in Congo. As a result, a number of young graduates have found jobs using the project facilities. The project will be expanded to other parts of Central African countries.

E-environment

55 per cent of the respondents indicated that their governments use and promote ICTs as an instrument for the sustainable use of natural resources. 35 per cent stated that they have guidelines for the production, consumption and environmentally safe disposal and recycling of ICT hardware and other components. 35 per cent indicated that they have an ICT based national monitoring system to forecast the impact of natural and man-made disasters.

E-agriculture

45 per cent of the countries indicated their use of ICTs for dissemination of information on agricultural practices and products. 25 per cent have public-private partnerships that seek to maximize the use of ICTs

as an instrument to improve production. ECA has started supporting countries in development of strategies on e-agriculture and e-services for rural development.

E-science

55 per cent of the respondents indicated that their governments promote affordable and reliable connectivity in higher learning and research institutions. 25 per cent have a strategy or guidelines for the promotion of long-term systematic and efficient collection, dissemination and preservation of essential scientific digital data. 30 per cent have integrated geoinformation and national spatial data infrastructure issues into their e-strategy formulation process. 15 per cent confirmed existence of a coordination mechanism between the national spatial data infrastructure and the e-strategy development and implementation process. ECA has started mainstreaming geo information in sectoral strategies to increase their visibility and facilitate their exploitation.

Action Line 8: Cultural diversity and identity, linguistic diversity and local content

55 per cent of the respondents indicated that they have ICT policy statements regarding the respect, preservation, promotion and enhancement of cultural and linguistic heritage within the information society. 60 per cent indicated that they support local content development, translation and adaptation, digital archiving, and diverse forms of digital and traditional media. Only 35 per cent of the respondents have initiatives that support the creation of software in local languages, while 39 per cent confirmed that their governments promote (through public-private partnership, etc.) research and development programmes in hardware and software development, including proprietary, open-source software and free software, standard character sets, language codes, electronic dictionaries, terminology and thesauruses, multilingual search engines, machine translation tools, internationalized domain names, content referencing as well as general and application software. ECA is supporting countries in developing content using local languages and Open Source Software.

Action Line 9: Media

85 per cent of the respondents indicated that the media play an important role in creating the information society in their respective countries. However, only 50 per cent of the respondents stated that there are initiatives in their countries to encourage traditional media to bridge the knowledge divide and to facilitate the flow of cultural content, particularly in rural areas.

ECA, through its yearly AISI Media Award recognizes Media contribution in building the Information Society in Africa. During this event, prizes are awarded to the media groups and journalists who have undertaken the most outstanding promotional work on the Information Society on the continent. In addition ECA promotes involvement of African media in major Information Society events by sponsoring their participation.

Action Line 10: Ethical dimensions of the Information Society

The WSIS Plan of Action states that "the information society should be subject to universally held values and promote the common good and prevent abusive uses of ICTs." In this regard, only 35 per cent of the respondents confirmed that their ICT policies promote awareness of the ethical dimension of the use of ICTs or that they have established other mechanisms to that end. Also, only 35 per cent of the respondents asserted that the academic community is engaged in research on the ethical dimensions of ICTs.

Action Line 11: Regional cooperation

At the sub-regional level, the Economic Community of West African States (ECOWAS) ICT ministers have adopted in October 2009 the following 3 e-legislations developed by ECA: Act on Electronic Transactions, Directive on cyber crime, and Act on personal data protection. Also, with support of ECA, the Economic Community of Central African States (CEAC) adopted a Strategy for the Information Society, while the Common Market for Eastern and Southern Africa (COMESA) started implementation of various axis of its ICT Strategy guidelines including the ICT indicators, e-Government, e-legislation and e-security.

At the regional level, the Olivier Tambo Declaration which was adopted in November 2009 by the African Union ministerial ICT conference requested ECA to develop under the framework of AISI a convention on

cyber legislation for adoption by member States by 2012. Also, in order to support implementation of the African Regional Action Plan on the Knowledge Economy (ARAPKE) developed by ECA for the African Union, the European Commission endorsed funding of 3 flagship projects for the amount of USD10,000,000.

Innovative programmes and projects

As part of its commitment to creating and managing knowledge in the continent, and availing information and knowledge for informed decision-making process, ECA continues to develop and manage its Information Society training programmes through ITCA, which launched the African Learning initiative, which is both an onsite and an online learning system. ECA partners also with twenty African universities and research institutions in the framework of its Academia Research Network to undertake research on (i) identifying socio-economic core list of indicators for benchmarking and measuring e-strategy impact; (ii) developing a continental guide for promoting enabling legal and regulatory environment for ICT Policy implementation; (iii) developing a standard framework for promoting local language content in the cyberspace and generalized computer-based teaching and learning local languages, (iv) assessing the continent potential for ICT Industrialization; and (v) harnessing the potential of Open source Software, mobile devices for m-payment, m-health and inter-university information system socio-economic development. In this context, support was provided to rural schools in Cameroon through the Electronic Rural Schools in African Languages (ERELA) Initiative, launched by ECA in collaboration with the National Association of Cameroonian Languages Committee (NACALCO). Over a three-year period a computer-based linguistic model was developed based on local languages in rural schools and is currently being piloted. Three training manuals in local languages, for supervisors, teachers and students, were developed, and specialized software in local languages has been installed in the schools. As a result of this initiative, rural school children in Cameroon will be able to use computers in their own local languages. One thousand students are targeted to benefit from this initiative. Similarly in Ethiopia, ECA supported the Addis Ababa University to develop applications using mobile technology to provide increased access to health services. As a result of this programme, an input method for hand-held devices was developed using the Amharic script as well as an online payment system.

Future actions or initiatives

ECA will continue supporting e-strategies and spatial data infrastructure for building and sustaining the African Digital Economy and creating an enabling environment for the knowledge economy. It will in addition concentrate efforts on mobilizing resources to support development of implementation plans and programmes in various sectoral areas such as e-health, e-government, e-

education, e-commerce, e-agriculture; and mainstreaming of Geo information into these sectoral activities to increase their visibility and make them user friendly. This will be complemented by consolidating on-going capacity building activities to strengthen human and institutional capacities for the promotion of sectoral applications, including spatially enabled e-applications, for socio-economic development. The role of ICT in fostering regional economic integration will also be enhanced through activities aimed at harmonizing ICT policies and regulatory frameworks at sub-regional and regional levels. In addition, technical support will be provided to the African Union and its NEPAD programme in the development of continental guidelines in the area of e-legislations to enhance Africa's opportunity to participate in global electronic commerce, and also in the creation of geo information data bases and maps. ECA will also continue promoting implementation of the WSIS Action lines and assessing the outcomes of WSIS through its SCAN-ICT prorgramme and the International partnership on measuring ICTs for development. Work on the e-government indicators will be stepped up in order to come up with suitable indicators for adoption by the international partnership on measuring ICT for development and the United Nations Statistical Commission. The Academia Research Network projects will be enhanced and complemented by actions of ECA's STI activities. ECA will launch its African Science and Technology Innovation Endowment Fund (STAIEF) to support African Scientists and Researchers to commercialize and launch new products and services for the development of the continent, through public-private partnership.

Conclusion

In 2009, while implementing the WSIS outcomes through support from ECA in order to reach goals and targets adopted by the Geneva and Tunis Summit outcomes, African countries have shown impressive results in the development of their comprehensive national e-strategies. Several countries have also developed their implementation plans and extended further their efforts in developing sectoral implementation strategies. So far, there have been major achievements and progress made in harmonizing national e-strategies and plans as well as creating an Information Society based sub-regional framework for regional economic integration.

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UNECE

United Nations Economic Commission for Europe

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UNECE report on WSIS implementation

The UNECE region as a whole is progressing towards a knowledge-based economy. However, as the divide between the transition countries and the western developed countries narrows in some fundamental dimensions, new disparities are appearing. This overview describes the decreasing digital divide and the increasing broadband gap, which are simultaneously unfolding in the region. It also suggests that the most immediate way of providing broadband Internet to a larger number of users and bridging the broadband gap is to upgrade mobile cellular infrastructure in order to support wireless broadband Internet.

Internet penetration

Internet usage in the UNECE region has increased dramatically over the last decade. From 2000 to 2009 Internet usage grew 297% in Europe and 545.9% in the Asian region, much more than in the European Union, where it grew 231%.[3] This suggests that in some aspects less advanced countries are gradually catching up with the leading countries. However, these encouraging signs are tempered by the more nuanced picture that emerges from the comparison of developments at the national level.

According to the World Bank data, the number of Internet users is growing in all UNECE member States.[4] In Uzbekistan, for instance, the number of Internet users per 100 inhabitants increased four-fold between 2003 and 2008. However, despite the spectacularly high growth rate, only 8.8% of the Uzbek population was using Internet in 2008, compared with 86.8% in the Netherlands, the leading country in the region. The gap in percentage points of Internet users between Uzbekistan and the Netherlands in 2008 (77.9%) thus only decreased very modestly from its 2003 level (79.0%).

Similar situations exist in other parts of the Commonwealth of Independent States. In the Russian Federation, the number of Internet users increased in absolute terms (from 8.28% in 2003 to 21.11% in 2007), but not sufficiently to significantly decrease the digital divide in the region.

During the same period in Eastern Europe, Lithuania had a less spectacular growth rate (220%), but the percentage of Internet users grew from 24% to 52.9%, reducing the gap between it and the Netherlands from 56.93% to 33.89%. In Poland and Romania, countries with larger territories, in 2008 the percentage of the population using Internet grew from

[3] http://www.Internetworldstats.com/
[4] See figures 1 and 5 in annex. Data on WDI indicators can be downloaded at: http://ddp-ext.worldbank.org/ ext/DDPQQ/member.do?method=getMembers&userid=1&queryId=6.

24.92% and 8.93% in 2003 to 43.95% and 23.87% respectively. It thus appears that although Internet usage is growing in all countries of the region and especially in CIS countries, the digital divide is diminishing at a slower pace in Central Asia than in Eastern Europe.

Fixed broadband Internet

In his 2009 report on the progress made in the implementation of and follow-up to the regional and international outcomes of WSIS, the Secretary-General of the United Nations pointed out that the digital divide debate was "increasingly shifting away from measurements of basic connectivity to issues of speed (bandwidth) and user-centric issues".[5] In Europe, the average broadband penetration rate is above 23%. In January 2008, there were an estimated 99 million broadband lines in the EU, an increase of 23.8% over 2007. However, the gap between the most and the least developed European countries in terms of broadband penetration is widening. It increased from 8.5 percentage points in 2003 to 18.7 points in 2005 and 28 points in 2008[6].

These trends are confirmed by World Bank figures for countries of the UNECE region.[7] Between 2003 and 2008, the number of fixed broadband subscribers per 100 inhabitants grew from nearly 0 to 0.24 in Uzbekistan. Similar trends can be observed in other Central Asian countries. In Lithuania, the same indicator increased by 15.64 points from 1.93 in 2003 to 17.57 in 2008, more than in most Eastern European countries. In Poland and Romania for example, the percentage of the population subscribing to fixed broadband Internet grew from 0.51% and 0.9% in 2003 to slightly more than 10% in 2008. However, despite positive developments, the broadband gap has dramatically increased in the last few years between most and least advanced countries of the region. In 2003, Iceland was leading, with 14.35% of the population subscribing to fixed broadband and in 2007 Luxemburg (39.35%), Switzerland and Northern European countries all had more than 30%. In other words the Western countries have a faster increase of the use of broadband, while Eastern European and Central Asian countries are lagging behind. As a consequence, the largest difference in the number of fixed broadband subscribers per 100 inhabitants between UNECE member States has risen from 14 to 39 points, further widening the broadband gap.

Price discrepancies

The differences in the rates of fixed broadband subscribers can partly be explained by price differences, as purchasing power parity (PPP) adjusted prices for similar products are higher in Eastern Europe and Central Asia compared with Western Europe. [8] Indeed, although information is missing for many Central Asian countries, it clearly appears that in 2008 access to fixed broadband Internet was much less affordable in Azerbaijan (84 USD and 138 USD if PPP-adjusted) than in the United States (14.95 USD). The Russian Federation (13.92 USD and 19.82 USD if PPP-adjusted) and Lithuania (15.93 USD and 21.27 USD if PPP-adjusted) appear as exceptionally good performers, compared with most Eastern European countries. In Poland and Romania, for instance, the PPP-adjusted price was 34 USD, and in

[5] A/64/64-E/2009/10.
[6] http://ec.europa.eu/information_society/eeurope/i2010/docs/annual_report/2009/sec_2009_1103.pdf
[7] See figures 2 and 6 in annex.
[8] See figures 4 in annex.

general the ratio of PPP-adjusted cost of access to fixed broadband Internet compared with the cost in the United States varied between 2 and 3 in Eastern Europe, and up to 10 in Central Asia, whereas it was contained between 1 and 2 in most of Western Europe.

Developing mobile broadband Internet

To bridge the expanding broadband gap, prices will have to sink in countries where access to broadband Internet is not affordable to the majority of the population. Policies fostering competitiveness in the telecom sector can contribute to this objective. And policy-makers should design strategies for optimal infrastructure development. In many countries, mobile technology represents the most immediate way of bridging the increasing gap in access to broadband Internet and to provide this service to a larger number of users.

Europe is already experiencing dramatic growth of access to broadband Internet through mobile technology, the so-called "third generation" (3G) mobile services, in particular in Western Europe, where nearly all the 10 largest markets are situated. Within Western Europe, Italy had the highest 3G penetration at 38.3% in 2008.[9] A Russian telecommunication company (MTS) launched its first 3G network in Russia in May 2008 before launching another 3G network in Armenia and a test zone in Uzbekistan in 2009.[10] The first 4G network was recently launched in Norway and Sweden, allowing users to stream data with speeds up to 10 times higher than today's 3G networks.[11] However, no international comparative statistics are yet available on the access to broadband Internet through wireless mobile technology.

Existing figures show the number of mobile cellular subscriptions is increasing in all UNECE member States[12] and that the related gap between most and least advanced countries of the region is diminishing, unlike the broadband gap described above. Russia and Lithuania were both among the leading countries with more than 1.3 mobile cellular subscriptions per inhabitant, and many other Eastern European countries, including Poland and Romania, are faring better than some Western European countries with at least one mobile cellular subscription per inhabitant. However, in spite of high numbers of subscribers to mobile cellular services many Central Asian and Eastern European countries are experiencing difficulties in providing access to fixed broadband Internet. In Uzbekistan, for example, the number of mobile cellular subscriptions grew from 2.1% in 2004 to 46.31% in 2008. Although this is still much less than in leading countries and it indicates that almost half the population has access to a cellular network. Recalling there were only 0.24 subscriptions to fixed broadband Internet per 100 inhabitants in 2008 in the same country, it appears mobile technology, if it is upgraded to support 3G and other mobile broadband technologies, could play a significant role in connecting a larger number of users to Internet and bridge also the widening broadband gap.

In this context, the European Commission initiative to urge the 27 European Union countries to reserve a uniform slice of broadcast spectrum for a pan-European mobile

[9] http://www.washingtonpost.com/wp-dyn/content/article/2008/09/04/AR2008090400776.html
[10] http://www.cellular-news.com/story/33992.php?source=newsletter
[11] http://www.itu.int/ITU-D/ict/newslog/CategoryView,category,4G.aspx
[12] See figure 3 in annex.

broadband network would seem to be a step in the right direction that other countries might want to imitate in order to reduce the widening broadband gap.[13]

Programmes

ICT applications are a fundamental part of UNECE activities at the sub-programme level. In some programmes, ICT application constitutes the main activity or project, while in others it may serve mainly as a tool to help attain objectives.

The efforts to implement ICT in sectoral activities are particularly related to the programmes on: (a) environment, (b) trade, (c) transport, (d) sustainable energy, (e) statistics and (f) economic cooperation and integration.

Environment

The Aarhus Convention and electronic information tools

The Aarhus Convention[14] establishes procedures and international standards for access to information, public participation in decision-making and access to justice in environmental matters.

Recognizing that facilitating increased public access to environmental information contributes significantly to strengthening the protection of the environment, the Aarhus Convention Parties adopted in 2008 a statement affirming *inter alia* the importance of the Protocol on Pollutant Release and Transfer Registers (PRTR)[15] to the Convention as a major instrument for implementing some of the provisions of the Convention on collecting, disseminating and accessing environmental information. The Protocol entered into force on 8 October 2009.

The Aarhus Clearinghouse for Environmental Democracy[16] showcases information on laws and practices relevant to the public's right to access information, to participate in decision-making and achieve justice in environmental matters. The Clearinghouse's Resource Directory and News archive increased its electronic collection in 2009 to more than 1800 entries. Through an agreement with the Organisation for Economic Co-operation and Development (OECD) and within the framework of the Clearinghouse, UNECE assumed management of PRTR.net[17], the global portal on pollutant release and transfer registers. In partnership with Google.org and OECD, UNECE developed a global online map of PRTR facilities, which was demonstrated at UNFCCC COP-15 on 15 December 2009.

Together with the Organization for Security and Co-operation in Europe, UNECE supported the development of the network of Public Environmental Information (Aarhus) Centres in Southeastern and Eastern Europe, the Caucasus and Central Asia serving as

[13] http://query.nytimes.com/gst/fullpage.html?res=9B0DE7DC1430F93BA15753C1A96F9C8B63
[14] UNECE Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters (adopted in June 1998 in Aarhus, Denmark).
[15] UNECE Protocol on Pollutant Release and Transfer Registers (adopted in May 2003 in Kiev).
[16] http://aarhusclearinghouse.unece.org
[17] http://www.prtr.net

national nodes of the Aarhus Clearinghouse as well as community access and training points for citizens and entrepreneurs.[18] In 2009, Aarhus Centres expanded to 29 individual locations operating in eight countries.

Internet governance

In cooperation with the Council of Europe and the Association for Progressive Communication, UNECE organized a workshop during the fourth Internet Governance Forum (Sharm El Sheikh, Egypt, on 15-18 November 2009) to discuss a draft "Code of good practice on information, participation and transparency in Internet governance".

In May 2009, a stakeholder consultation, entitled "A code of good practice in public participation, access to information and transparency in Internet governance"[19] had been organized jointly by UNECE, the Council of Europe and the Association for Progressive Communication to develop such a code, building on the principles of WSIS and the Aarhus Convention.

The workshop in Sharm el Sheikh provided an opportunity for stakeholders involved in Internet governance to examine and discuss the draft code. Internet governance institutions present expressed an interest in using the code in their own institutional framework.

Trade

The UNECE, under its Committee on Trade, undertakes work aimed at facilitating national and international transactions through the simplification and harmonization of processes, procedures and information flows through a working party, the United Nations Centre for Trade Facilitation and Electronic Business (UN/CEFACT). Its work supports the achievement of Millennium Development Goal 8 "to develop a global partnership for development". In particular, UNECE activities support Target 5, aiming at "making available benefits of new technologies, especially information and communications in cooperation with the private sector", and Target 2, aiming at "developing further an open, rule-based, predictable, non-discriminatory trading and financial system".

Between 1989 and the present, UNECE has developed and maintains the United Nations Electronic Data Interchange standard (UN/EDIFACT). This standard facilitates the exchange of information in many areas, including transport, customs, government and business procurement, just-in-time manufacturing and finance. UN/CEFACT has also issued and continues to develop a host of data codes for the exchange of information, such as the United Nations Location Code (LOCODE); recommendations such as the United Nations Layout Key for Trade Documents; the Single Window Recommendation (Number 33), launched in 2004 to enhance the efficient exchange of information between trade and government; and a Core Component Library (CCL) and related products for the electronic exchange of data.

[18] http://www.unece.org/env/pp/accontacts.htm
[19] http://www.unece.org/env/pp/international.htm For online consultation on the draft code, see http://igcogp.wiki.apc.org/index.php/Main_Page

In 2009, UN/CEFACT worked to advance the next generation of e-business standards and tools. Agreement was reached upon new instruments, updates or improvements to several important instruments, including: the Single Window; the Cross Industry Invoice; the Core Components Data Type Catalogue and Technical Specification (dealing with data type structures and modeling); the UN/EDIFACT Library; the XML (Extensible Markup Language) schema directory covering trade and business processes; recommendations on codes relating to e-business subjects of international trade; and the Business Requirement Specification Transfer of Digital Records.

Capacity-building and outreach activities included: a presentation on the status of the Single Window in Africa at the World Customs Organization Information Technology Conference and Exhibition (Marrakesh, Morocco, in April); participation in a regional Single Window Workshop (Tbilisi, Georgia, in June); a meeting of the APEC Electronic Commerce Steering Group (Singapore, in July); and presentations on UN/CEFACT's work at the UNECE Conference on Trade Development and Facilitation for Economies in Transition (Geneva, Switzerland, in October). These initiatives will greatly enhance the exchange of paperless trade information, both nationally and internationally in the regions concerned.

Transport

The UNECE promotes safer, more efficient and environmentally friendly transport through the international legal instruments that it administers. One way it does this is by incorporating provisions into those legal instruments which allow the use of information technologies, i.e. by promoting e-commerce, e-environment, e-employment and e-safety.

The TIR system facilitates international transport of goods by ensuring mutual recognition of Customs checks and providing a globally accepted guarantee. Further facilitation and increased security at border crossings will be achieved following the introduction of the TIR system, thanks to a real time electronic data exchange and an enhanced control over guarantees.

The growing number of UNECE member States are intensively developing and implementing intelligent transport systems (ITS) in various transport fields. These systems, as well as their implementation at the international level are, however, currently under-regulated and there is an evident need for more harmonized policies based on a widely adopted consensus about their potential for increasing safety, reliability and quality of transport services. Given that the design and industrial development cycle for ITS systems is shorter than the policy cycle for such technologies, regulatory authorities will have to speed-up their efforts to maximise the potential offered by the implementation of these systems.

Application of information technologies is leading the advances in sustainable transport (safety and environmental aspects) in new vehicle technologies. Some of these technologies (e.g. navigation systems, cruise control and systems to optimise the braking of vehicles) are already in wide use and have contributed to better fuel consumption, fewer accidents and protection of vulnerable road users. The tyre pressure monitoring system (TPMS) and brake assist systems (BAS), are two of the most representative examples. TPMS improves vehicle safety, providing real-time tyre pressure monitoring and also reducing of CO_2 emissions. BAS is aimed at improved brake efficiency also for better pedestrian safety. In 2009, TPMS provisions have been adopted and incorporated into regulations for passenger vehicles. Moreover, the development of provisions of other vehicle based systems, such as

lane departure warning systems and braking assistance systems, are expected to be completed by the end of 2010.

In addition to systems confined to vehicles, a number of other systems interact between the "road side" or infrastructure and the vehicle. Further improvements in safety and environmental performance of transport modes, particularly in relation to global warming could be fostered if ITS applications were streamlined. To this aim, the UNECE Transport Division is developing a road map in the different areas of its competencies regarding ITS technologies and their harmonized implementation in the future.

ITS devices are also widely applied in traffic management and control through, for example, variable message signs, speed cameras, electronic vehicle detection and toll charging systems, and vehicle positioning and tracking. Such systems not only allow the elimination of bottlenecks, ensure greater safety and fuel efficiencies and more cost-effective transport in general, but are also indispensable in assessing traffic loads and patterns, planning for future infrastructure needs and contribute to greater security in transport.

UNECE legal instruments could be developed or used in the future to recommend or regulate the use of these technologies. For example, in the context of UNECE activities related to the development of regulations on inland transport of dangerous goods, work has been initiated to consider how telematics could be used to improve the safety, security and facilitate transport of dangerous goods by using monitoring and tracking systems linking consignors, transport operators, emergency responders, enforcement and control authorities and regulators.

Geographic Information Systems (GIS) technology is used for infrastructure planning purposes. In the similar fashion and as a follow up to the joint UNECE-UNESCAP Project on Developing Euro-Asian Transport Linkages (EATL), in which GIS technology was applied for presentation of priority links, border crossing points and main transhipment nodes, GIS work is being continued through the implementation of phase II of this project.

The Additional Protocol to the Contract for the International Carriage of Goods by Road (CMR) offers new possibilities for a smoother, faster and more efficient road freight transport flows through the use of an Electronic Consignment Note. The Protocol (e-CMR) sets out the legal framework and standards for using electronic means of recording and storing consignment note data, such as declaration, instruction, request, reservation or other communication relating to the performance of a contract of carriage to which the Convention applies. The Protocol has been signed by eight countries and ratified by two. To enter into force it needs to be ratified by five Contracting Parties to the Convention.

The Working Party on Road Traffic Safety (WP.1) approved the creation of an ad hoc group of experts on Variable Message Signs. Their wider mandate is to analyse new technological developments that increase road safety and perhaps to draw up proposals for including these developments in the United Nations relevant legal instruments.

Compiled transport statistics for the UNECE region, until recently produced only in paper form, have entirely been transferred to electronic format. This has been possible not only because of enhanced in-house capacity to compile, process and present transport

statistics database on-line, but also because of a growing capacity of UNECE member countries to apply the advanced information tools for data collection and exchange.

Sustainable Energy

ICT is being applied to better implement the UNECE programme of work in sustainable energy. ICT is being used to foster information exchange and promote communications between officials and institutions, including on-line dialogue facilities (web forum); to provide access and interchange of data and information on projects and initiatives; and to provide links to other useful websites.

The Internet and ICT make a significant contribution to the networks serviced by UNECE websites for implementing the programme of work. The Internet-based dialogue and dissemination of information contributes mainly to two work-programme elements: sustainable energy strategies for the twenty-first century and rational use of energy, efficiency and conservation (ECE/ENERGY/2009/6).

The UNECE makes wide use of Internet-linked networks and websites in this field for the Committee on Sustainable Energy, the Energy Efficiency 21 Project, Financing Energy Efficiency for Climate Change Mitigation project, the Gas Centre and the Regional Network for the Efficient Use of Energy and Water Resources. Members of the Committee on Sustainable Energy are assisting the secretariat in evaluating the energy work programme and energy security risks through online questionnaires.

The Working Party on Gas has developed online questionnaires for its major studies of the gas industry. The sustainable energy programme has also made extensive use of the Internet for posting the United Nations Framework Classification of Fossil Energy and Mineral Resources (UNFC 2009) for expert review and comment by the Ad Hoc Group of Experts on Harmonization of Fossil Energy and Mineral Resources Terminology. This has led to the approval for global dissemination of the UNFC 2009.

Statistics

UNECE has provided active encouragement to national statistical organizations that have not yet implemented relational databases to do so, and to improve the user-friendliness of their web dissemination of statistical data. This included providing a training workshop for countries of Eastern Europe and Central Asia on the dissemination of Millenium Development Goal information and other statistical information, and technical assistance missions to Central Asian countries.

UNECE has also developed a new standard for modelling the statistical production process. The standard has been adopted by many countries in the region and beyond. This model encourages greater harmonization of information systems architectures and facilitates the sharing of statistical software. Efforts are continuing to develop standards for statistical metadata, where the UNECE is leading work to create a Common Metadata Framework, and represents the United Nations as a whole in the development of Content-oriented Guidelines within the Statistical Data and Metadata eXchange (SDMX) initiative.

Data on the percentage of national populations using computers and accessing the Internet (by age and sex) have been added to the UNECE statistical database, in response to user demand (http://w3.unece.org/pxweb/DATABASE/STAT/30-GE/09-Science_ICT/09-Science_ICT.asp).

Economic cooperation and Integration

As part of UNECE sub-programme on Economic Cooperation and Integration an International Conference on "Technological Readiness for Innovation-based Competitiveness: Promoting an Enabling Information and Communication Technology Policy and Regulatory Framework" was organized on 29-30 June 2009 in Geneva.

UNECE jointly with ESCAP has been supporting ICT policy development in the economies of Central Asia through the UN Special Programme on the Economies of Central Asia (SPECA) and in particular its Project Working Group on Knowledge-based Development which includes ICT-related matters as part of its mandate. On 13-14 November 2008, in conjunction with the inaugural session of the PWG on KBD held in Baku, Azerbaijan, UNECE organized a Regional Capacity-Building Seminar on Information and Communication Technology Policy and Legal Issues with Special Reference to e-Commerce Development. A network of SPECA experts and policy-makers in the area of ICT is currently being developed as part of a broader SPECA network on knowledge-based development.

In addition, UNECE, jointly with other UN Regional Commissions, has been participating in the UN Development Account global project on Improving Business Opportunities through ICT Access Points and contributed regional knowledge and lessons learnt to the project which now is entering its final stage.

ANNEX

The following graphs are based on data from World Bank World Development Indicators (WDI).[20] They illustrate some tendencies in ICT developments among the 56 countries UNECE member States for the period 2003-2008.

Not all countries are represented in all graphs as some data points are missing. When no information was available for 2003, but was available for 2004, the latter was used. Similarly, when no information was available for 2008, but was available for 2007, the latter was used.

For technical notes on the methodology used, please see the following publication: International Telecommunication Union *Information Society Statistical Profiles* 2009, pp. 73-74. It is available online at:
http://www.itu.int/dms_pub/itu-d/opb/ind/D-IND-RPM.EUR-2009-R1-PDF-E.pdf

[20] Data on WDI indicators can be downloaded at: http://ddp-ext.worldbank.org/ext/DDPQQ/member.do?method=getMembers&userid=1&queryId=6

ABBREVIATIONS USED IN THE FIGURES

Country name	Country code	Country name	Country code
Albania	ALB	Latvia	LVA
Andorra	ADO	Liechtenstein	LIE
Armenia	ARM	Lithuania	LTU
Austria	AUT	Luxembourg	LUX
Azerbaijan	AZE	Macedonia (FYR)	MKD
Belarus	BLR	Moldova (Rep. of)	MDA
Belgium	BEL	Monaco	MCO
Bosnia and Herzegovina	BIH	Montenegro	MNE
Bulgaria	BGR	Netherlands	NLD
Canada	CAN	Norway	NOR
Croatia	HRV	Poland	POL
Cyprus	CYP	Portugal	PRT
Czech Republic	CZE	Romania	ROM
Denmark	DNK	Russian Federation	RUS
Estonia	EST	San Marino	SMR
Finland	FIN	Serbia	SRB
France	FRA	Slovakia	SVK
Georgia	GEO	Slovenia	SVN
Germany	DEU	Spain	ESP
Greece	GRC	Sweden	SWE
Greenland	GRL	Switzerland	CHE
Hungary	HUN	Tajikistan	TJK
Iceland	ISL	Turkey	TUR
Ireland	IRL	Turkmenistan	TKM
Israel	ISR	Ukraine	UKR
Italy	ITA	United Kingdom	GBR
Kazakhstan	KAZ	United States	USA
Kyrgyzstan	KGZ	Uzbekistan	UZB

LIST OF FIGURES:

Figure 6. *Increasing broadband gap (difference in fixed broadband subscribers per 100 inhabitants, compared with the most advanced country of the region)*

Progress in absolute terms

Figure 1

Increasing number of Internet users (per 100 inhabitants)

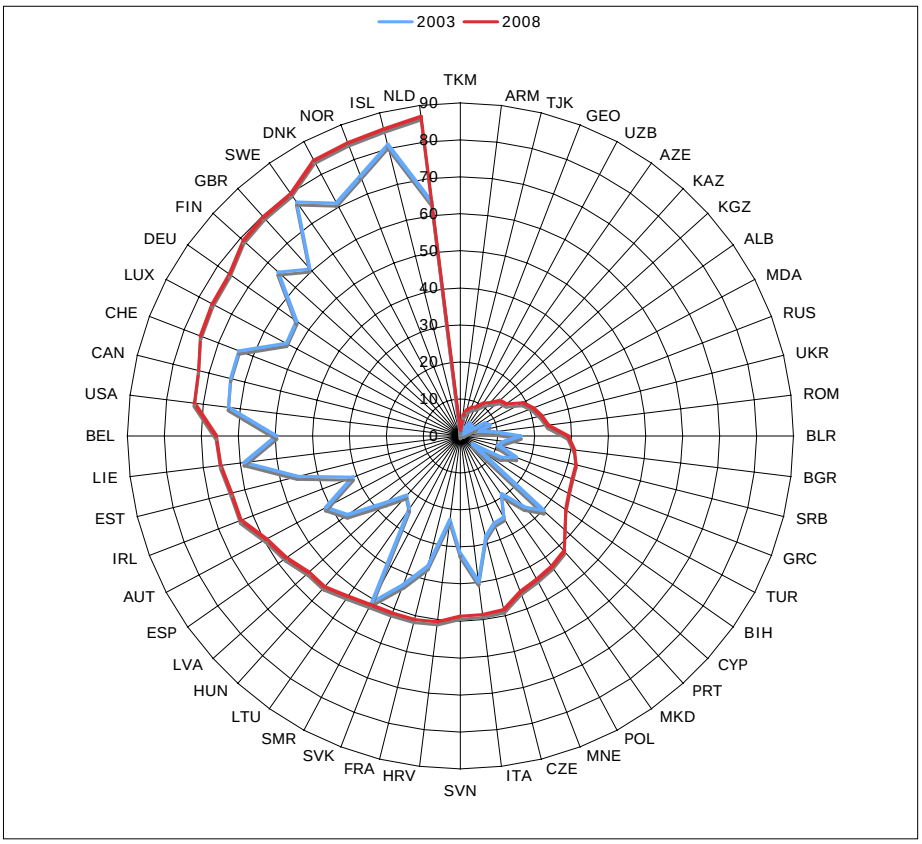


Figure 2

Increasing number of fixed broadband Internet users (per 100 inhabitants)

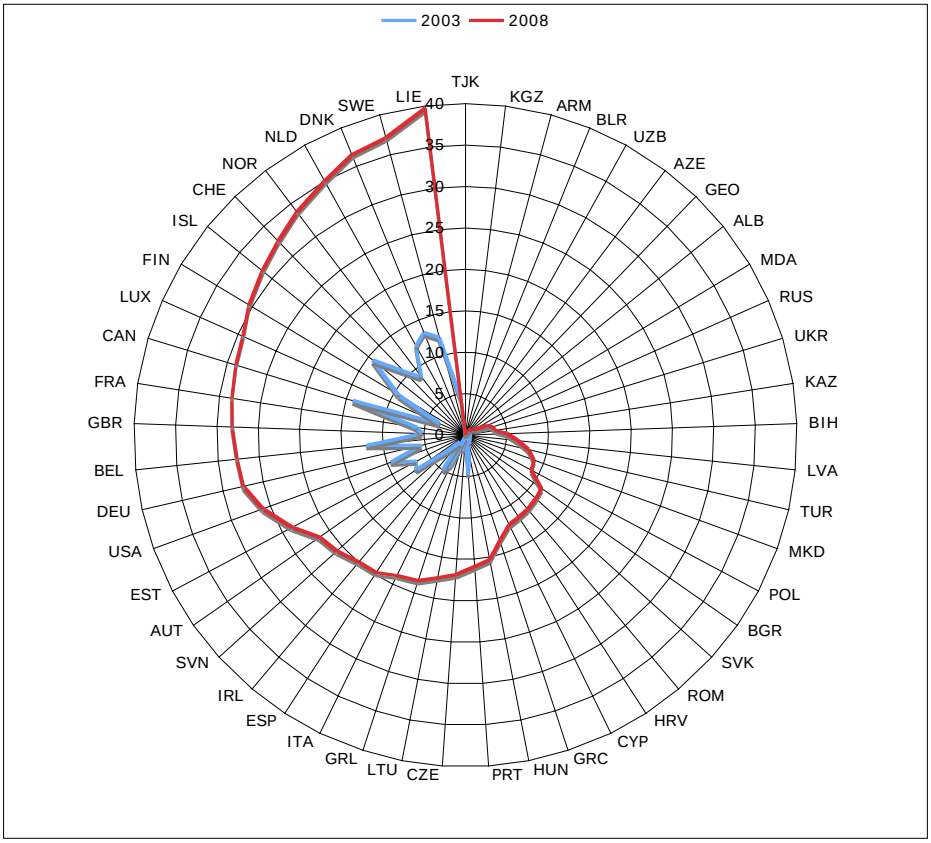
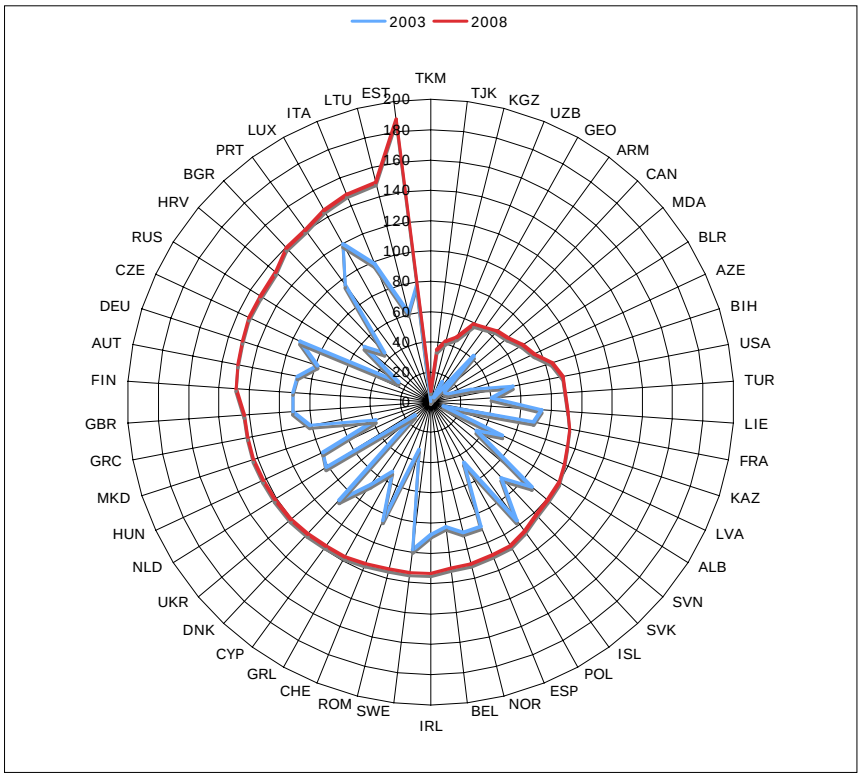


Figure 3

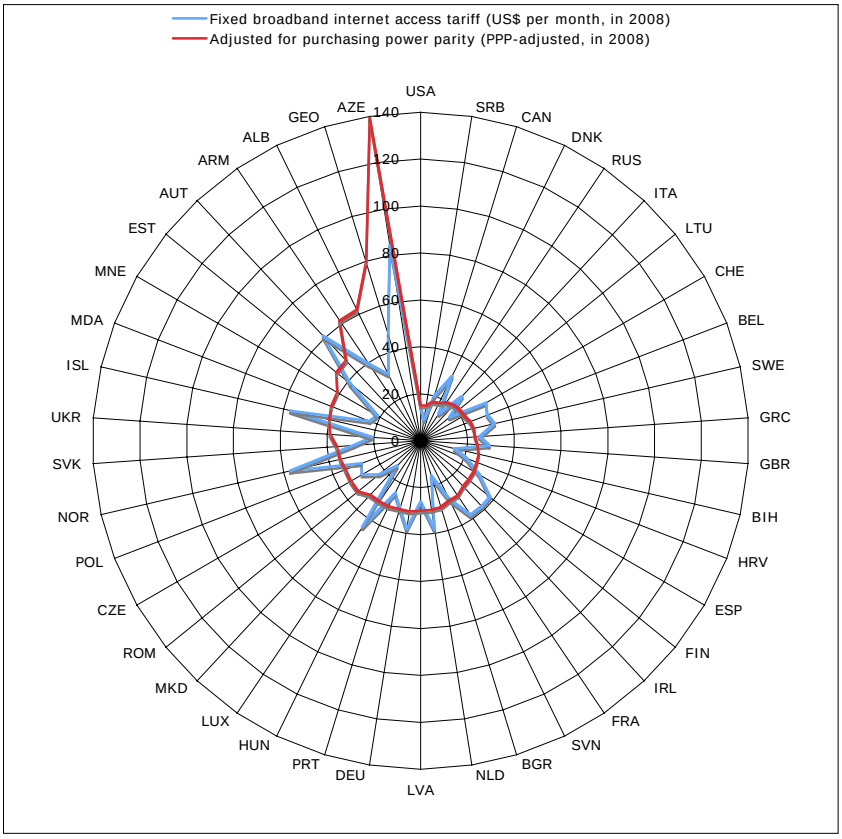
Increasing number of mobile cellular subscriptions (per 100 inhabitants)



Differences in affordability of fixed broadband Internet access [21]

Figure 4

Differences in affordability of fixed broadband Internet access



[21] Information for many Central Asian countries is missing, including Belarus, Kazakhstan, Kyrgyzstan, Turkey, Turkmenistan and Uzbekistan.

Ambiguous developments in relative terms

Figure 5

Decreasing digital divide (difference in Internet users per 100 inhabitants, compared with the most advanced country of the region)

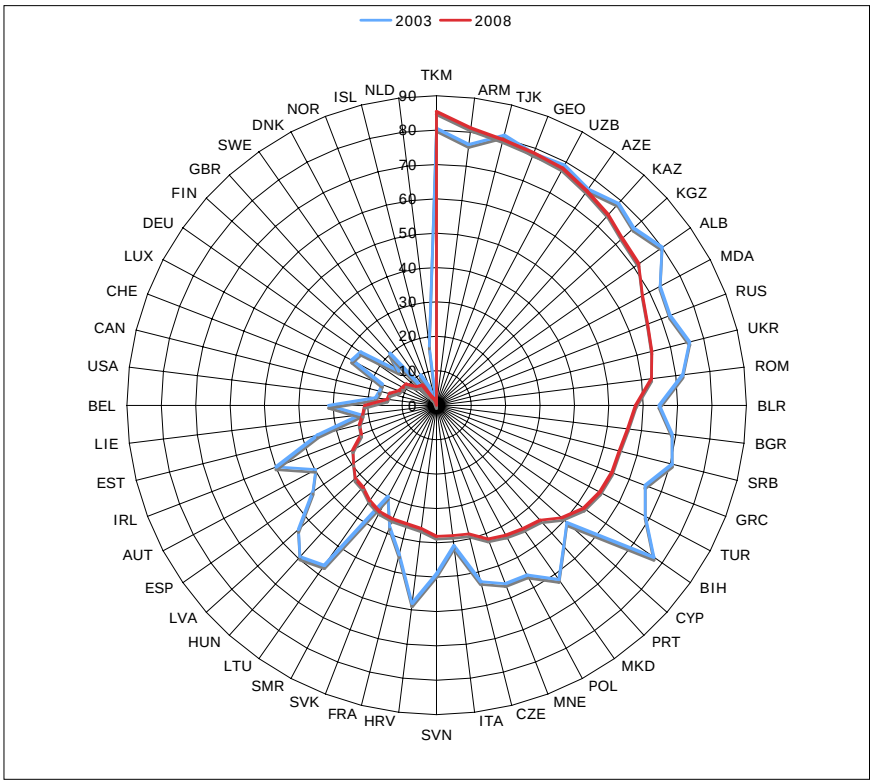
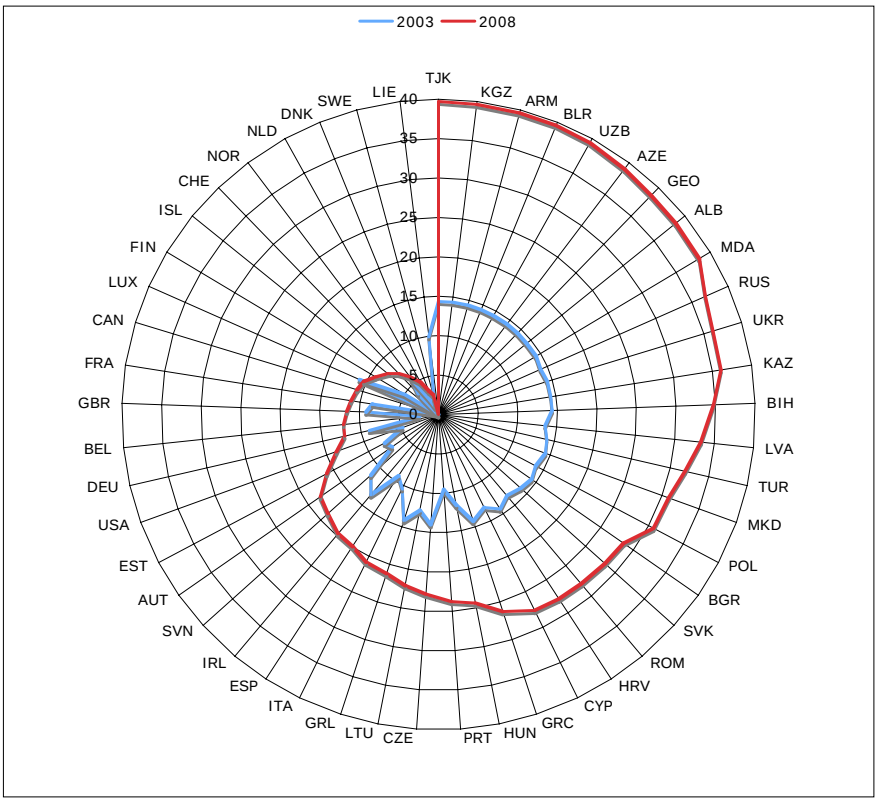


Figure 6

Increasing broadband gap (difference in fixed broadband subscribers per 100 inhabitants, compared with the most advanced country of the region)



COMMISSION ON SCIENCE AND TECHNOLOGY FOR DEVELOPMENT (CTSD)

Thirteenth Session

Geneva, 17 to 21 May 2010

Submissions from entities in the United Nations system and elsewhere on their efforts in 2009 to implement the outcome of the WSIS

Submission by

ECLAC

United Nations Economic Commission for Latin America and the Caribbean

This submission was prepared as an input to the report of the UN Secretary-General on "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" (to the 13th session of the CSTD), in response to the request by the Economic and Social Council, in its resolution 2006/46, to the UN Secretary-General to inform the Commission on Science and Technology for Development on the implementation of the outcomes of the WSIS as part of his annual reporting to the Commission.

Implementation of the action lines of WSIS in Latin America and the Caribbean

Executive Summary

The implementation of WSIS activities in Latin America and the Caribbean (LAC) region continued at the national, sub-regional and regional levels. The LAC countries have started to implement the Regional Action Plan eLAC2010, according to the agreements emanated during the Ministerial Meeting in San Salvador, in 2008, as short-term milestones evolving towards the long-term 2015 Millennium Development Goals (MDGs) and the goals of the World Summit on the Information Society (WSIS). UN Economic Commission for Latina America and the Caribbean (ECLAC), with the financial support of the European Commission through the @LIS 2 Programme "Alliance for the Information Society" and of the Government of Canada, has acted as eLAC2010 technical Secretariat.

High-level decision-makers in the region support this effort, as evidenced during the two eLAC2010 follow up meetings - in April and December 2009 - resulting in a coordination of activities related to the effective utilization of Information and Communication Technologies (ICT) for development. Also, the XIX Ibero American Summit of Heads of State and Government, held on Dec. 1, 2009 in Lisbon, states in its Plan of Action the need to recognize the work of the Regional Action Plan for the Information Society in Latin America and the Caribbean (eLAC2010) as an important contribution of the ICT in promoting the Millennium Development Goals, which include the building of an inclusive Information Society, with the primary objective of reducing poverty in the region. Heads of State and Governments' Plan of Action called for investment in communications infrastructure, to support widespread access to broadband, particularly in sectors with fewer opportunities and in rural areas. During this Summit, the Executive Secretary of this Commission suggested that States should guarantee their population's access to broadband Internet as a way to foster innovation into their economies.

In the process eLAC2010, the progress made in previous years has continued, in spite of the effects of the financial crisis in Latin American and Caribbean countries during 2009. This progress was presented in the "eLAC2010 Progress meeting: establishing priorities for the Information Society of the Future", held in Santiago, 2-3 December 2009. The document "eLAC2010: Monitoring Latin American and Caribbean information societies" states that countries of the region are making firm progress in access, use and incorporation of ICTs for development and social inclusion, particularly in the areas of: education, national electronic government and the use of ICTs in medium- and large-scale enterprises. However, this progress has not been the same across different countries of the region, and big differences still persist inside them among different population sectors. At the same time, the digital divide continues to increase and there is a need to appropriate and make more productive use of these technologies. In

particular, the report noted that the digital access divide between Latin America and OECD countries is decreasing when it comes to fixed and mobile telephony and Internet, but it is increasing when it comes to broadband access. Moreover, the report noted the high cost of Internet tariffs.

The monitoring and evaluation of eLAC2010 revealed the urgent need for Latin American and Caribbean countries to increase their efforts to reduce the digital divide in terms of access and quality of access, to facilitate the use of more sophisticated ICT in order to continue their advance toward the construction of inclusive information societies. The potential impact that ICT can have on economic performance and social integration will be possible when many sectors include it simultaneously and when other complementarities are present. It is urgent to create public development policies, including a regulatory framework appropriate to the technical convergence, in order to establish cost-efficient prices and ensure the expansion of Internet access. Synergies and public-private partnerships are needed in order to increase investment in ICT, as well as to promote the creation of contents, connectivity and capabilities.

New initiatives for intra-regional cooperation based on the different degrees of ICT advance in the countries of the region must be implemented. ICT decision-makers must be motivated to gradually take the lead in adopting policies in this respect. Lastly, a positive approach would consist in focusing attention on strengthening instruments and building institutions for implementing regional initiatives and national and sector ICT policies.

In addition to eLAC2010, ECLAC contributed to achieving the MDG and WSIS goals by (1) acting as Technical Secretariat of eLAC2010 (2) generating knowledge about current Information Society dynamics in the region, especially in those issues relevant for policies; (3) providing technical assistance and capacity-building on selected issues for the development of the Information Society in the Region; (4) nurturing the regional discussion and providing visibility of progress, challenges and initiatives.

Overview of ECLAC's ICT activities

1. As the Technical Secretariat for eLAC2010, efforts focused on supporting the implementation of the Regional Plan of Action eLAC2010 and assisting the countries in its implementation and monitoring.

eLAC2010 implementation: The Action Plan was implemented by decentralized multi-stakeholder activities, at the national, sub regional and regional level, and by 13 Working Groups that were set up by the countries at the Ministerial Conference of San Salvador, in 2008. To support the Working

Groups, the Secretariat provided and maintained an online deliberation space, as well as resources for workshops and the elaboration of studies.

eLAC2010 follow –up: Two eLAC2010 follow-up meetings were held during 2009.

The first Follow-up Meeting of eLAC2010 took place in April 2009, in Santiago de Chile. In order to achieve the effective implementation of the eLAC2010 Regional Action Plan, progress and challenges in its adoption were revised, and strategies and lines of action for its realization were defined. In this meeting, delegates from 22 countries reasserted their support to the Regional Action Plan for the Information Society in Latin America and the Caribbean (eLAC2010).

The second follow-up meeting "eLAC2010 Progress meeting: establishing priorities for the Information Society of the Future," took place 2-3 December at ECLAC headquarters in Santiago, Chile. More than 80 representatives from governments, civil society, academia, the private sector and international organizations proposed new priorities for the eLAC Regional Action Plan. The event also featured roundtables on each of the six thematic areas of eLAC2010: e-education, access and infrastructure, e-health, e-government the production sector, and policy instruments and strategies. The priorities identified in this meeting will be presented at the V Ministerial Forum on the Information Society, bringing together the European Union and Latin America and the Caribbean, to take place in the 1rst quarter of 2010 in Spain.

eLAC2010 priorities definition: On the basis of eLAC2010, a public consultation in four rounds is being carried out in order to review ICT policy priorities. The first round of the consultation was held in November 2009 and received contributions from experts throughout the region. Further consultations will be held during 2010 in preparation of the ICT policy priorities for the next Regional Ministerial Conference which will take place in November 2010, in Lima, Peru.

eLAC2010 monitoring: The conclusions of a preliminary benchmarking report prepared by the Information Society Programme of the United Nations Economic Commission for Latin America and the Caribbean (ECLAC) were presented during the "eLAC2010 Progress meeting: establishing priorities for the Information Society of the Future," which took place 2-3 December at ECLAC headquarters in Santiago, Chile.

2. Knowledge generation

In order to create knowledge, more than 7 publications have been published in the respective ECLAC series on Information Society, 1 comprehensive book has been published and new steps in the progress of data bases have been developed.

Publication series: 7 studies have been added to ECLAC's InfoSoc series, making a total sum of 57 studies (http://www.cepal.org/socinfo/publicaciones). Among them are: "ICT policy for schools in Latin America and in the world: visions and lessons"; "The transformation of access points in knowledge nodes: analysis of ten experiences of community telecentres in Latin America"; "Challenges and opportunities of the software industry in Latin America". All of these studies tackle specific issues and serve as answers to concrete questions made by decision-makers from the region and as input for technical assistance missions.

Books: On February 2009, "The Information Society in Latin America and the Caribbean: Development of Technology and Technologies for Development" was published. This book presents comprehensive analyses of selected issues of strategic importance. It constitutes an unprecedented knowledge stock on diverse but complementary issues of regional Information Society development.

Databases: A New On line Statistical Information System on ICT was launched on April 2009. It was created by UN-ECLAC's Observatory for the Information Society in Latin America and the Caribbean (OSILAC) with the financial support of Canada's International Development Research Centre (IDRC). It allows the general public to process data on access and use of Information and Communications Technology (ICT) in the region. This system makes it possible to obtain ICT data and indicators from the household surveys of 17 countries in the region. The data available in this system has been harmonized to enable their comparison, according to the indicators approved by the Partnership on Measuring ICT for Development.

3. Technical assistance and capacity building

Activities of technical assistance and capacity-building have been focused on the development of national strategies and statistical and measurement capacities.

ECLAC, through the Information Society Program has established technical assistance to Bolivia, Brazil, Colombia, Costa Rica, El Salvador, Ecuador, Nicaragua and Paraguay. Such technical cooperation has been oriented to strengthen policy instruments for the Information Society (Digital Agenda), e-Government, strengthening the integration of ICT to smaller companies as well as support for e- education and e-health, all objectives of the Action Plan eLAC2010. For technical assistance activities, emphasis has been made on local capacity building, identifying partners to work together with consultants and experts, with emphasis on the existence of representative national counterparts to ensure a minimum political leadership for the promotion of ICT in the country.

Moreover, OSILAC, the Observatory on the Information Society in Latin America and the Caribbean has been providing technical and methodological assistance to national statistical authorities in the compilation and analysis of harmonized statistical data on ICT access and use, in order to monitor and influence ICT policies in LAC countries. The Observatory's activities include the development of research capacity and publications, training and an annual regional workshop. As a result, 15 Latin American and 5 Caribbean countries have already adopted OSILAC's suggestions for ICT equipment in their regular household surveys. 9 Latin American and 2 Caribbean countries have adopted OSILAC's suggestions for ICT indicators in enterprise surveys. In 2009, a revised list of ICT core indicators was filed with the United Nations Statistical Commission (UNSC). Besides supporting the regional NSO's, OSILAC has being collaborating in the development of regional Observatories for the Information Society in Bolivia, Colombia and Brazil.

OSILAC, in collaboration with the Brazilian Institute of Geography and Statistics (IBGE), SOFTEX and the Brazilian Internet Steering Committee, organized in 2009 the Fifth Workshop on Information Society Measurement in Latin America and the Caribbean. The meeting was attended by 63 participants of 16 countries of Latin America and the Caribbean, including representatives of 16 National Statistical Offices, representatives of five National Institutions in charge of elaborating, coordinating or fostering the development of statistic on ICT in their respective countries, representatives of four international agencies and other participants from

universities, nongovernmental offices and the private sector. During the workshop the progress and challenges from countries of the region in the production and analysis of ICT access and use indicators were reported, especially in households and business, but also in e-government, education and health. The 2009 version of the Compendium of Practices on the implementation of ICT questions in household and business surveys was presented and reviewed. The revised compendium was presented in the Fifth meeting of the Statistical Conference of the Americas, which took place in Bogota, Colombia, in August 2009, along with an analytical document on methodological and harmonization issues in the implementation of ICT indicators on household and business surveys and recommendations for developing indicators for the eLAC goals, particularly those related to education and e-government.

In the framework of the project on "Networks for Development: The Caribbean ICT research programme", a joint initiative of the University of West Indies and ECLAC, supported by the IDRC, OSILAC has been responsible for the development of an up to date set of core ICT indicators, including measures of mobile and broadband accessibility and usage. Among others, the Observatory will be the technical responsible for the design of a survey on ICT in the Caribbean countries, to be applied by Caribbean Statistical Offices.

E-education: a regional panel on "Learning and teaching with ICTs" took place in September 2009 in Monterrey, Mexico. This panel was part of the Global Forum on ICT (information and communication technologies) in Education, organized by the United Nations´ Global Alliance for ICT & Development (UN GAID). This panel addressed questions about the type of strategy that has been most effective in improving student learning, as well as different technological devices and software. In the area of ICT and education, ECLAC will work with El Salvador's Ministry of Education on the elaboration of pedagogical policies, the adoption of educational technologies, distance education, and teacher training.

Access of Infrastructure: ECLAC has advocated for the provision of broadband access as a public good. For that, public policies to foster Internet Exchange Points IXPs are needed; to increase awareness of the benefits of maintaining local traffic at the national or sub regional level, to develop frameworks to improve national coordination between Internet governance and telecommunications regulation, and to promote regulation for convergence.

In a joint initiative with Telecentre.org the Telecentre Leaders Forum in Latin America and the Caribbean was organized, in Brasilia in May 2009. At the same time, important initiatives concerning digital inclusion were launched during the international meeting "Rural and urban digital inclusion: ICT access points as strategic spaces for the implementation of public policies for development and innovation," held in October at the headquarters of the ECLAC, in Santiago. Also in October, the campaign "I have something for you" was launched.

E-health: a research program was launched to identify and analyse experiences of Telemedicine and other ICT facilities used in health services in order to achieve MDG goals in the region.

E-government: the government of El Salvador have requested ECLAC for more specific technical assistance developing the e-government platform. A workshop was held in this country to build a Master Plan for e-government.

E-production: ECLAC has launched a research program on facilitating and limiting factors for introducing ICT in enterprises.

National strategies: ECLAC has continued its monitoring activity concerning national ICT policies and practices of ICT-for-development projects. ICT Policies are an important component of all ECLAC technical assistance activities. Discussion and exchange of experiences at a national level have a catalyzing role for the advancement of national ICT strategies.

4. Visibility of progress, challenges and initiatives

Newsletter: during 2009, ECLAC has prepared 4 newsletter referring to different chapters of eLAC2010, namely: Newsletter 7: Policy instruments and strategies; Newsletter 8: ICT and production sector; Newsletter 9: ICT and public management; Newsletter 10: ICT access and infrastructure.

The result of all these activities, as well as studies, reports, newsletters and monitoring materials are available at the website http://www.cepal.org/SocInfo, whereby it is also possible to find events related to Information Society topics organized in the region.

Future Actions

During the 2010 ECLAC will continue carrying out activities as the Technical Secretariat of eLAC2010 and technical assistance and capacity-building for the development of the Information Society in the Region. Additionally, ECLAC will focus on developing studies

and reports to contribute to the generation of knowledge in the areas of access and infrastructure, e-education, e-health, e-government and ICT impact on productivity.

During 2010, the following events are scheduled, which encompass part of the activities described above.

	Activity	Date	Place
1	V European Union–Latin America and the Caribbean Ministerial Forum on Information Society. Digital Content for a Digital Society	14-15 March	La Granja de San Ildefonso, Segovia (Spain)
2	Sixth Regional Workshop on Information Society Measurement in Latin America and the Caribbean, OSILAC	April (to be defined)	Bogotá
3	Third Regional Meeting for the Follow - up of eLAC2010	(To be defined)	(To be defined)
4	Regional Latin American and the Caribbean Ministerial Session on Information Society.	November (to be defined)	Lima, Peru

COMMISSION ON SCIENCE AND TECHNOLOGY FOR DEVELOPMENT (CTSD)

Thirteenth Session

Geneva, 17 to 21 May 2010

Submissions from entities in the United Nations system and elsewhere on their efforts in 2009 to implement the outcome of the WSIS

Submission by

ESCAP

United Nations Economic and Social Commission for Asia and the Pacific

This submission was prepared as an input to the report of the UN Secretary-General on "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" (to the 13th session of the CSTD), in response to the request by the Economic and Social Council, in its resolution 2006/46, to the UN Secretary-General to inform the Commission on Science and Technology for Development on the implementation of the outcomes of the WSIS as part of his annual reporting to the Commission.

ESCAP Inputs On the

Assessment of the progress made in the implementation of and follow-up to the outcomes of the World Summit on the Information Society

(a) Executive Summary

During the past decade, the Asian and Pacific region has experienced extraordinary growth in the expansion of information and communications technology (ICT), becoming the world leader in terms of the number of fixed telephone lines, the number of mobile cellular telephone subscribers and broadband Internet access and development oriented information applications and services.

However, the level and speed of ICT uptake varies considerably among and within the economies of the region. Remote and poor rural areas are particularly underserved and usage is less prevalent among women and certain disadvantaged communities. A digital divide is growing in terms of Internet access and availability of broadband networks.

In order to take advantage of the technology for socio-economic development and address the digital divide of the region, ESCAP member countries have developed regional frameworks; for example, in preparation for the first session of the World Summit on the Information Society (WSIS) in Geneva in 2003, ESCAP members adopted in 2003 the “Tokyo Declaration - the Asia-Pacific perspective to the WSIS”. Similarly, for the Tunis phase of WSIS in 2005, members adopted the “Teheran Declaration on Building the Information Society in Asia and the Pacific” in 2005 and the “Regional Action Plan towards the Information Society in Asia and the Pacific”, coordinated by ESCAP.

To further strengthen regional cooperation mechanisms in addressing the digital divide, ESCAP members established the Asian and Pacific Training Centre for Information and Communication Technology for Development (APCICT) in 2005, and the ESCAP Committee on Information and Communications Technology (CICT) in 2008.

During its First Session in November 2008, this Committee identified priorities including expansion of ICT access in under-serviced areas, the enhancement of Pacific Connectivity, the usage of ICT for disaster risk reduction and the monitoring of the implementation of the WSIS outcomes.

(b) Analytical overview of trends and experiences in implementation at the regional and international level

During the past decade, the region has experienced extraordinary growth in ICT uptake, becoming the world leader in terms of the number of fixed telephone lines, the number of mobile cellular telephone subscribers and broadband Internet access and usage.

Mobile technology is one of the most rapidly expanding ICT areas in the region. According to the ESCAP calculation, while mobile subscriptions in industrialized countries, such as Australia, Japan, and the Republic of Korea, show stabilised reduced growth rates, the compound annual growth rates of mobile subscribers exceed 100 per cent in some landlocked developing countries and least developed countries, such as Afghanistan, Bhutan, and Nepal.

Mobile technology is not only expanding rapidly, but also far outnumbering conventional fixed telephone line communication tools. Statistically speaking, the average mobile subscribers in the ESCAP countries already have exceeded 50 per 100 population. On the surface, it appears to qualify meeting the WSIS objective of providing access to half of the population at the regional level. However, there still are significant disparities and differential growth rates between more advanced countries and developing countries.

A significant digital divide also remains in the number of Internet users between developed countries and developing countries. The ESCAP data in 2008 indicates that Internet users per 100 population are 77.83 in Republic of Korea, 69.22 in Japan, 67.28 in Singapore and 62.57 in Malaysia. In contrast, in the same year, only 0.3 per 100 population in Bangladesh, 0.5 in Cambodia, 0.1 in Myanmar and 0.14 in Timor-Leste subscribed to the Internet. This represents a serious and major problem especially when ICT applications and content are developed for poverty reduction and MDGs, although these figures might not include occasional use of the Internet at Internet cafes or other public access points. However, examining the other figures and tables on fixed telephone lines and much less available broadband networks, such usage might not be prevalent in un-connected and under-serviced areas among developing countries.

The statistical data also show that substitution of fixed telephones with mobile phones is very popular in some developing countries. The average 2008 mobile share among the total telephone lines

are higher in LDC (95.1%), LLDC (84.9%) and SIDS (76.9%) than industrialized countries; these are all above the average of ESCAP (75.4%). Other 2008 data show the high mobile share in South and South-West Asia (87.1%) and North and Central Asia (81.3%).

The disparity in availability of broadband networks and services is even more striking; a country in the region leads the world in terms of households' broadband subscription with close to 80 per cent. However, fixed broadband prices are still unaffordable for the majority of people in some low-income economies where the price could be as high as the monthly Gross National Income (GNI) per capita.

ICT connectivity is the foundation of developing an inclusive and development-oriented Information Society which contributes to socio-economic development and achievement of internationally agreed development goals, such as MDGs. ICT applications and content relevant to such efforts would only reach the intended beneficiaries when reliable and robust ICT connectivity is available.

Against this background, the Economic and Social Commission for Asia and the Pacific (ESCAP) has been assisting member countries in creating enabling policy and regulatory environments and building ICT capacity as well as promoting regional cooperation among its members in preparation for the WSIS and implementation of its outcomes. More specifically, ESCAP has facilitated the implementation of the action lines C1 (the role of public governance authorities and all stakeholders in the promotion of ICT for development), C3 (access to information and knowledge), C4 (capacity building), C6 (enabling environment) and C11 (international and regional cooperation).

With regard to the line C1 on the role of public governance authorities and all stakeholders in the promotion of ICT for development", important progress has been made regionally in the establishment of national authorities responsible for ICT strategies and regulations for socio-economic development. By the end of 2008, 66 per cent of the countries in the region had created separate regulatory authorities for their ICT and telecommunication sectors. ESCAP's initiatives, such as promoting ICT usage at local administrations, have contributed to increased awareness and deepened understanding of ICT in public administrations and ICT for development in general.

Regarding the action line C3, the ESCAP member States made conscientious efforts in making public information available and deepening the usage of ICT for public service delivery. In addition to the central ministries, an increasing number of local administrations have been implementing ICT initiatives to this effect. In this regard, various international and regional frameworks, such as Light Houses Task Force which promotes Open City Portal and CityNet have been actively promoting effective and efficient use of ICT in the work of cities and municipal bodies. Further down to the community levels, there have

been a number of initiatives to bring ICT access to the village level, such as the Asia and Pacific Telecenter Network. ESCAP also supported the expansion of ICT access to rural areas through various Community e-Centre initiatives, supported by the Asian Development Bank and United Nations Development Account.

In the action line C4 on capacity building, the Asian and Pacific Training Centre for Information and Communication Technology for Development (APCICT) was established by the ESCAP member countries in 2006 in Incheon, Republic of Korea, as a regional institute of ESCAP. The role and mission of APCICT is to strengthen the efforts of the 62 ESCAP member and associate member countries to use ICTs in their socio-economic development through building the human and institutional capacity for ICT. A core activity of APCICT is the ***"Academy of ICT Essentials for Government Leaders"*** (Academy). This is APCICT's flagship programme that includes a comprehensive ICT for development (ICTD) curriculum and over a dozen partners that are working with APCICT to roll out the Academy at the national level. The Academy has been conceptualized, developed and implemented through a participatory and inclusive approach. There are currently eight modules available in three languages - English, Bahasa Indonesia and Russian, and two new modules on ICT for Disaster Risk Reduction and Climate Change and ICT are being developed, based on demands from member States. Translations of the Academy modules into other languages are underway, and APCICT is also in the process of updating existing modules.

The APCICT Virtual Academy (AVA – http://ava.unapcict.org) is the online distance learning platform of the Academy. On AVA, the Academy modules, a module on instructional design, and all presentation slides, are made freely available. Learners can take self-paced courses based on the Academy modules. There are a total of 983 enrolments for the modules, with the largest segments coming from government organizations (40%). To assist and support the learners, a network of 'AVA Mentors' has been formed comprising of the Academy alumni. A DVD-ROM version of AVA has been made available for those with limited or no Internet access. The Bahasa Indonesia and Russian version of AVA are being developed.

The e-Collaborative Hub (e-Co Hub – http://www.unapcict.org/ecohub) is APCICT's dedicated online platform for knowledge sharing on ICTD. It aims to enhance the learning and training experience by providing easy access to relevant resources, and by making available an interactive space for sharing best practices and lessons on ICTD. The e-Co Hub is being accessed and used by a growing group. Its membership base has reached more than 600 members from 115 countries. The number of resources has grown to a collection of almost 500 resources from various reputable organizations.

Countries in the region have made significant progress in establishing enabling ICT policy and regulatory environments which encourage ICT development along the action line C6. The establishment of independent and efficient telecommunications regulators, for instance, has resulted in extraordinary growth in mobile subscribers other communication means, and a reduction of prices for consumers, which expanded ICT access to previously under-serviced and unconnected people. ESCAP's analysis deepened an understanding among ICT policy and decision makers of the importance of efficient ICT infrastructure development, sharing and management.

Significant progress has been made in the implementation of action line C11 on international and regional cooperation. In order to take advantage of the technology for socio-economic development and address the digital divide of the region, ESCAP member countries have developed regional frameworks; for example, in preparation for the first session of the World Summit on the Information Society (WSIS) in Geneva in 2003, ESCAP members adopted in 2003 the "Tokyo Declaration - the Asia-Pacific perspective to the WSIS". Similarly, for the Tunis phase of WSIS in 2005, members adopted the "Teheran Declaration on Building the Information Society in Asia and the Pacific in 2005and the "Regional Action Plan towards the Information Society in Asia and the Pacific", coordinated by ESCAP.

ESCAP member countries decided to establish the Committee on Information and Communications Technology (CICT) in its sixty-fourth session in 2008. The Committee is mandated to facilitate the integration of ICT-related issues in development policies, plans and programmes, transfer and application of ICT at the regional and subregional levels, development of human and institutional capacity in the use of ICT and ICT applications for disaster risk reduction. The First Session of the Committee held in November 2008 addressed the major issues and challenges relevant to the region in the context of WSIS, including: a) enhancing access to ICT in under-serviced and un-connected areas, b) Pacific Connectivity, c) monitoring the WSIS implementation, and d) using ICT for disaster risk reduction.

In order to create synergies, various international and regional cooperation mechanisms and frameworks have been put in place. Since 2001, in collaboration with International Telecommunication Union and the Asia-Pacific Telecommunity, ESCAP coordinates the Regional Inter-agency Working Group on ICT, which seeks to strengthen cooperation among United Nations agencies and programmes. The Group seeks to strengthen cooperation and coordination at the regional level and to promote mutually complementary and coherent strategies and programmes, which would ensure synergy of efforts in achieving the WSIS targets. The Group meets annually and in some cases twice a year to address the emerging ICT related issues in the region.

Through its Regional Space Applications Programme (RESAP), ESCAP also promotes regional cooperation on the use and sharing of space-based information and communications resources for

disaster management and sustainable development, bringing together twenty four members from the region.

Through the UN Special Programme for the Economies of Central Asia (SPECA) Project Working Group on Knowledge-based Development (PWG on KbD), in collaboration with the United Nations Economic Commission for Europe (ECE), ESCAP promotes cooperation and capacity-building in the sub-region in the areas of ICT for development, innovation, knowledge-based competitiveness, financing ICT infrastructure and innovative development, commercialization and protection of intellectual property, and private-public partnerships.

(c) Innovative policies, programmes and projects to implement the outcomes of the Summit

In collaboration with partners and other UN agencies, ESCAP implemented various initiatives to facilitate the implementation of the outcomes of WSIS. A recent event entitled Expert Group Meeting on Regional Cooperation towards Building an Information Society in Asia and the Pacific, held in July 2009, reviewed the progress made in the implementation of the outcomes of the WSIS in the region, and came up with a set of recommendations for actions towards attaining the major goals and targets of the WSIS in Asia and the Pacific.

The above mentioned Regional Inter-agency Working Group on ICT in its last meeting in November 2009 discussed key areas of future inter-agency cooperation. The meeting agreed to build regional disaster risk management communication capacity for Asia and the Pacific as the first area for inter-agency cooperation and to develop a joint concept on it. In response to the growing demand for disaster risk reduction efforts, the First Session of the Committee on Disaster Risk Reduction (CDRR) held in March 2009 recommended ESCAP to develop the Asia-Pacific Gateway for access and sharing of information and analysis related to disaster risk reduction. ICT applications and services will be a critical component of the Gateway.

Through the SPECA Project Working Group on Knowledge-based Development (PWG on KbD), ESCAP continued to assist its member states in Central Asia and the Caucasus region. ESCAP and ECE will continue efforts to enhance knowledge of senior decision makers of the SPECA member countries with the best practices for promoting ICT policies and applications, and thereby empower them for better achievement of the WSIS and MDGs.

In order to address region's priorities, such as economic crisis and climate change, ESCAP has been undertaking unique research and analysis, such as promoting green ICT, examining the example of the Republic of Korea in the 1997 financial crisis, review of various ICT initiatives for disaster management.

(d) Future actions and initiatives

Taking into account the characteristics of the digital divide in Asia and the Pacific, differential growth in ICT access and priorities of the region, ESCAP will sharpen its focus in the implementation of the WSIS and CICT in the area of ICT connectivity and capacity building while promoting regional and international cooperation. In these endeavours, public-private partnerships will be pursued, recognizing that the private sector is a major driver of ICT adoption and diffusion.

Accordingly, ESCAP will undertake research and analysis towards enhancing ICT connectivity in under-serviced areas, in particular in the Pacific, and collaborate with other relevant agencies in the monitoring of the implementation of the WSIS outcomes through the Regional Inter-agency Working Group and other mechanisms.

In order to focus on the priorities of the region in the aftermath of the economic crisis, ESCAP will advocate for better regional integration through enhanced ICT connectivity in such areas as trade and transport facilitation. These efforts will also be supported by ESCAP's contributions to the global initiatives, such as the UNDESA's project on promoting ICT for achieving MDGs which covers not only policy and decision makers but also civil society, private sector and academia. Another emerging area in ICT for development is disaster risk reduction. In collaboration with various stakeholders, ESCAP will continue the development of the Asia-Pacific Gateway.

In response to an increasing demand for ICT capacity building, APCICT will continue its human resource capacity development programme and expand national rollout of the Academy of ICT Essentials for Government Leaders, among other activities.

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Submission by

ESCWA

United Nations Economic and Social Commission for Western Asia

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ESCWA's Contribution to the 2010 Annual Report of the United Nations Secretary-General to the Commission on Science and Technology on the Implementation of and Follow-up to the Outcomes of the World Summit on the Information Society

I. Introduction

Over the course of the past year, the overwhelming impact of the global financial crisis on world economies has given a new impetus to the ideas and concepts that are associated with the development of information societies and knowledge-based economies. Faced with dire times, Governments worldwide have come to realize that a faster shift towards a digital environment and a better flow of information and knowledge can play a positive role in the growth of ailing economies.

Conscious of the fact that the economies of member countries have not been immune to the global economic crisis, the United Nations Economic and Social Commission for Western Asia (ESCWA) conceived and implemented measures that would advance its vision of a knowledge-based economy for development (KBE4D). The aim of many of the KBE4D initiatives carried out by ESCWA during 2009 coincides with the ideas, concepts and resolutions that were adopted during both phases of the World Summit on the Information Society (WSIS). Below is a brief look at some of the activities that fall into that category.

II. Regional Plan of Action (RPoA) for Building the Information Society in Western Asia

In keeping with the recommendations of the WSIS "Tunis Agenda for the Information Society" and in order to propel the WSIS momentum forward and accelerate the implementation of the RPoA, ESCWA organised, during June 2009, a conference entitled "Regional Follow-up to the Outcome of the World Summit on the Information Society."[22] Attended by more than 275 participants, the conference took place at the Umayyad Congress Palace in Damascus, Syria. The main objectives of the conference were to review and follow-up on the implementation of WSIS outcomes, the RPoA for Building the Information Society in Western Asia, the Arab ICT Strategy and other national strategies and plans of action and to update them in light of accumulated experiences.

This all-encompassing gathering provided a forum for various WSIS stakeholders in the ESCWA region to discuss and review the progress made towards the implementation of the 11 WSIS action lines and of the RPoA. The main outcomes of the conference included an update of the RPoA and the adoption of the "Damascus Proclamation for the Promotion of the Arab Knowledge Society for Sustainable Economic and Social Development."[23]

ESCWA continued during 2009 to maintain and update its Information Society Portal (ISPER)[24] which was created and developed to serve as a regional online tool for following-up on the RPoA as well as various other WSIS issues. The Arabic and English portal features updated versions of the Regional and National Profiles of the Information Society and provides real-time discussion forums to WSIS stakeholders. It is also connected to the ESCWA Statistical Information System (ESIS) and allows users to query the database for the latest updated figures.

III. Action Lines (C1 through C11)

[22] http://www.escwa.un.org/information/meetingdetails.asp?referenceNum=850E
[23] http://css.escwa.org.lb/ICTD/850/DamascusProclamationAr.pdf
[24] http://isper.escwa.org.lb

C1: The role of governments and all stakeholders in the promotion of ICTs for development

In support of Governments and other stakeholders of the Information Society, ESCWA produced in 2009 its biennial publication entitled "Regional Profile of the Information Society in Western Asia."[25] Based mainly on information collected and submitted by member countries in the 2009 edition of "National Profiles,"[26] the publication contains information covering all WSIS action lines. Other sections highlight regional and national ICT initiatives that impact the achievement of the MDGs.

The 2009 Regional Profile evaluates the progress made towards building an information society in each ESCWA Member Country (EMC). The publication also compares the maturity levels of EMCs for each of the WSIS action lines. Maturity levels were conceived to help Governments, policy-makers and stakeholders identify gaps, outline corrective measures and to update national strategies and implementation plans.

C3: Access to information and knowledge

Access to information and knowledge in disadvantaged areas is a major impediment to the achievement of the Information Society in the ESCWA region. Launched in 2006 and projected to end during July 2010, a project entitled "Knowledge Networks through ICT Access Points for Disadvantaged Communities (KN4DC)" is being implemented worldwide by the United Nations Regional Commissions under the aegis of ESCWA. The project aims at maximizing the benefits of ICT access points in disadvantaged communities by transforming them into networked knowledge hubs. Knowledge hubs provide, develop, organize, share and disseminate knowledge that can help disadvantaged communities overcome problems in the areas of employment, education, gender and health. Throughout the first half of 2009, telecentre managers gathered and published on the knowledge networks' regional portal[27] information and knowledge that are pertinent to the communities they serve.

During July 2009, ESCWA joined telecentre.org in organizing the "Telecentres' Leaders Forum"[28] in Amman, Jordan. This forum aimed at: (a) Convening network leaders to build functional relationships and to lay the foundation of knowledge networks; (b) Presenting best practices, success stories and case studies; (c) Building the capacity of participants to use online tools to foster a nascent regional knowledge network; and (d) Expanding the ESCWA regional network by engaging new partners and practitioners. During January 2010, ESCWA followed up with the "Workshop on the Management and Sustainability of Knowledge Hubs."[29] This workshop was organized in partnership with the Gedaref Digital City Organization and took place in Khartoum. Its main objectives were to: (a) Bring together telecentre managers in order to consolidate relationships that lead to the strengthening of knowledge networks; (b) Familiarize telecentre managers with concepts and methods that are relevant to the goals of the project; (c) Train telecentre managers on the establishment and management of small business ventures. Further activities are planned for the first half of 2010. They include workshops in Egypt and Syria that will strive to iron out issues related to the sustainability of the knowledge network beyond the lifetime of the project, a global meeting that will bring together project stakeholders from the five UN Regional Commissions and an evaluation exercise that will assess the successes and shortcomings of the project.

C6: Enabling environment

[25] http://www.escwa.un.org/information/publications/edit/upload/ictd-09-12.pdf
[26] http://www.escwa.un.org/wsis/profiles.html
[27] http://www.knowledgenets.net
[28] http://www.escwa.un.org/information/meetingdetails.asp?referenceNum=1052E
[29] http://www.escwa.un.org/information/meetingdetails.asp?referenceNum=1217E

Information and communication technology (ICT) is transforming Governments, businesses, educational institutions as well as the lifestyle of whole communities. With increased connectivity, information and communication systems and networks are exposed to an ever increasing number of threats and vulnerabilities. The legal, technical and institutional challenges posed by cyber crimes are far-reaching, their impact being global in scale. During various WSIS events, participants have acknowledged the fact that confidence and security are essential for the development of ICT in general and e-services in particular.

To address these challenges in the region, ESCWA developed and published in March 2009 a study entitled "Building Trust in E-Services in the ESCWA Region."[30] The study identified the various levels of cyber security, reviewed relevant national and regional policies, mechanisms and modalities and shed light on the legal elements that need to be developed in order to build the trust and confidence of ICT users and to encourage them to use e-services. The study also included a model set of laws and procedures that may be used to enforce information and infrastructure security at the institutional and national levels. Furthermore, it tackled ethical and behavioural issues as well as questions related to cyber crime awareness.

Following up on its previous multi-faceted work on cyber legislation, ESCWA launched in 2009 a new initiative entitled "Regional Harmonization of Cyber Legislation to Promote the Knowledge Society in the Arab World." The project aims at bridging regional legislative gaps that were pinpointed in previous ESCWA studies, at preventing the illicit and illegal use of cyberspace and at mapping out a course of action that will foster the creation of a legislative enabling environment in EMCs. It will also complement the Commission's efforts aimed at fostering regional integration by encouraging the harmonization of cyber legislations in the ESCWA region. The enactment of legislations which are similar in nature will bring the legal and regulatory framework of most ESCWA member countries closer to the realities and requirements of the Information Society. The regional harmonization of cyber legislation will facilitate and regulate governmental, professional, commercial, cultural and social interchanges between countries. Removing current legislative barriers will lead to an increase in cross-border transactions. Harmonization will also allow countries to learn from each other's experiences and best practises.

C7: ICT applications

The utilization of ICT applications and e-services in daily life has shown promising results in recent years. Integrating the use of ICT in traditional processes and services greatly improves efficiency, saves time and effort, speeds up processing, promotes better participation, enhances transparency, facilitates the spread of information and knowledge and creates new economic opportunities. Within this context, national and regional information society conferences have called for the development and implementation of ICT applications and the provision of quality e-services for all.

During July 2009, ESCWA heeded the call during an expert group meeting (EGM) entitled "ICT Applications and e-Services in the Public Sector,"[31] which was held at UN House in Beirut, Lebanon. Participants at the EGM discussed the national, regional and global challenges facing the development and adoption of ICT applications as well as the problems inherent in the delivery of e-services in the public sector. The EGM focused mainly on e-government, e-payment, e-health and e-learning. Participants shared experiences and best practices and discussed what is needed to improve the delivery of ICT applications and e-services in terms of infrastructure, legal framework and human resources.

[30] http://www.escwa.un.org/information/publications/edit/upload/ictd-09-4-a.pdf
[31] http://www.escwa.un.org/information/meetingdetails.asp?referenceNum=01018E

In December 2009, ESCWA organized a workshop that focused on the "Delivery of e-Services in Civil Society."[32] The workshop aimed at increasing the awareness, capacities and capabilities of selected NGOs in the ESCWA region to provide and use e-commerce services that are based on the priorities and development needs of citizens and communities. It also looked into the impact that portal technologies and e-commerce applications may have on the sustainability of NGOs. It further encouraged NGOs to use already existing e-commerce applications in order to increase economic opportunities and to expand markets and client bases. A Web-based forum complemented the workshop and is currently being used by NGOs to discuss and assess their progress with respect to promoting and using e-commerce services, creating new economic opportunities, expanding outreach and encouraging the participation of communities in an NGO's activities.

C8: Cultural diversity and identity, linguistic diversity and local content

ESCWA is committed to ensuring linguistic and cultural diversity in the digital environment. In this respect, it has expanded extensive efforts that are related to the development and promotion of an Arabic Domain Names System (ADNS). Past ESCWA endeavours have included the formation of the Arabic Domain Names Task Force (ADNTF) and of the Arabic Script in Internationalized Domain Names Working Group (ASIWG). Over the years, ESCWA co-organized four ASIWG meetings which deliberated a number of technical and linguistic issues pertaining to the use of Arabic script in domain names. The meetings have been successful in reaching consensus on a number of issues. The latest meeting, held in 2009, included discussions on numerals, domain name registration processes and selected script.[33]

The year 2009 also saw the publication of a Request for Comments (RFC) of the informational type entitled "Linguistic Guidelines for the Use of the Arabic Language in Internet Domains."[34] The RFC built on past standardization efforts and was developed by ADNTF. Activities are also underway for the establishment of a pan-Arab registry to manage and operate a new ".arab" generic Top Level Domain (gTLD) and its IDN equivalent in Arabic characters. The main documents developed by ESCWA for the purpose include a "Preliminary Feasibility Study for the Establishment of the Domain Name Registry for the ".arab" and ".عربي"[35] The latter will be used to govern an open expression of interest process aimed at selecting a party/consortium to implement and manage the ".arab" registry. Activities pertaining to ".arab" are currently being coordinated by a newly-formed Dot Arab Steering Committee (DASC) of which ESCWA is a key member.

Following two years of implementation, the "Promotion of the Digital Arabic Content Industry through Incubation,"[36] an ESCWA project, came to a close at the end of 2009. Launched in 2007, the project aimed at contributing to the growth of the digital Arabic content (DAC) industry in Western Asia by supporting and promoting the development of DAC applications in ICT incubation facilities. The final activity of the project consisted of a meeting that was held during December 2009 at UN House in Beirut, Lebanon. It was attended by representatives of the ICT incubators that had partnered with ESCWA for the project as well as by incubatees that had been selected two years earlier. Participants reviewed and assessed the progress made towards the promotion of the DAC industry in the region, shared experiences and best practices, discussed the main challenges facing the implementation of DAC projects as well as the requirements for improving the DAC sector in the ESCWA region.

[32] http://www.escwa.un.org/information/meetingdetails.asp?referenceNum=1188E
[33] http://www.escwa.un.org/information/meetingdetails.asp?referenceNum=1176E
[34] http://www.escwa.un.org/information/publications/edit/upload/ictd-09-tech1.pdf
[35] http://www.escwa.un.org/information/publications/edit/upload/ictd-09-tech2.pdf
[36] http://www.escwa.un.org/divisions/projects/dac/index.asp

In view of regional differences in Arabic ICT terminology and in order to enhance the readability of ICT documents written in the Arabic language, ESCWA and other international agencies and organizations, particularly ITU, have felt the need to develop a unified Arabic ICT dictionary that could be used and understood in various parts of the Arabic speaking world. During 2009, ESCWA compiled ICT terms from various documents that it had published in English and Arabic and submitted the compiled terms for review by language experts. ESCWA also participated in regional coordination meetings that brought together local, regional and international organizations partnering to implement the project, with ITU as the lead organization.

C11: International and regional cooperation

Many of the above-mentioned ESCWA initiatives were carried out in partnership with international and regional organizations. Collaborative efforts are coordinated primarily with the Governments of EMCs, non-governmental organizations, a host of stakeholders from the private sector, other United Nations Regional Commissions, UN specialized agencies, UNDP regional offices and the League of Arab States. The latter is a key partner in many of the aforementioned activities that include, among others, the Arab ICT Strategy, the RPoA and ADNS.

The long list of partners that collaborated with ESCWA for the organization of the conference entitled "Regional Follow-up to the Outcome of the World Summit on the Information Society" is a case in point. It included the Government of the Syrian Arab Republic, the International Telecommunication Union (ITU), the United Nations Educational, Scientific and Cultural Organization (UNESCO), the Global Alliance for ICT and Development (GAID), the International Development Research Centre (IDRC), the League of Arab States (LAS), the Arab Institute for Training and Research in Statistics (AITRS), the Syrian Computer Society, the Syrian Telecommunications Establishment, Cisco, Microsoft as well as Talal Abu-Ghazaleh International.

During the conference, ESCWA strengthened its partnership with GAID with the official announcement and launch of the "GAID Regional Arab Network (GAID RAN)."[37] The GAID RAN Steering Committee, created immediately after the launch of the regional network, outlined the four areas targeted for development, namely education, health, entrepreneurship and governance. Planned ICT4D activities within these areas will take place in the form of flagship initiatives, communities of expertise, stakeholder networks and regional networks.

Another initiative that has a long list of regional and international partners is the aforementioned "Arabic ICT Dictionary". The list includes ITU, the Syrian Ministry of Communications and Technology, the Syrian Computer Society, the King Abdul Aziz City for Science and Technology in Saudi Arabia, the Kuwaiti Ministry of Communications, the Lebanese University, the Arabic Language Academy in Damascus, the Higher Institute for Applied Science and Technology in Syria, the National Telecommunications Institute in Egypt and the Arabization Coordination Bureau in Morocco.

IV. Main Themes

MT1: Internet governance

During November 2009, as part of the Fourth Internet Governance Forum (IGF-IV) in Sharm El-Sheikh, Egypt, ESCWA organized a meeting on Arabic Domain names and Internet

[37] http://www.un-gaid.org/Networks/RegionalNetworks/RegionalArabicNetwork/tabid/1090/language/en-US/Default.aspx

Governance[38] in partnership with the League of Arab States and the Egyptian Ministry of Communications and Information Technology. One of the main outcomes of this meeting was the plan for a regional roadmap on Internet governance. This roadmap will go through an open consultation process to be conducted by regional stakeholders and is due to be finalized and adopted in 2010.

ESCWA also published in 2009 a study entitled "Internet Governance: Challenges and Opportunities for the ESCWA Member Countries."[39] It was officially introduced and launched during IGF-IV. The study aims at increasing the knowledge and understanding of Internet governance issues while promoting the role of Arab countries in the global Internet society. ESCWA also participated in a number of other IGF-IV sessions and activities.

MT3: Measuring the Information Society

The digital world constitutes a real challenge for developing countries, particularly in view of the expanding divide with the developed world. Establishing clear indicators to help with the measurement of a country's progress towards the Information Society is becoming increasingly important. In accordance with the goals of WSIS to more effectively measure the information society, ESCWA has been proactively engaged in the Partnership on Measuring ICT for Development. As part of this effort, ESCWA recently produced a study entitled "Impact of ICT on Community Development in ESCWA Member Countries."[40] This publication addresses the difficulties of selecting indicators which effectively measure the results of ICT related projects. Selected case studies illustrate these difficulties with best practices and lessons learned. In addition, the study suggests methodological frameworks for the development of new indicators which will better address the complexities of ICT for development activities.

ESCWA carried out during 2009 a number of other activities aimed at achieving the partnership's objectives. In addition to the "Regional Profiles" activity described above, ESCWA organized two training workshops of sub-regional nature. Entitled "Measuring ICT Indicators,"[41] the first was co-organized with the Kuwaiti Central Agency for Information Technology and took place in Kuwait City during March/April 2009; the second was co-organized with the Syrian Central Bureau of Statistics and was held during July 2009 in Damascus, Syria. Both workshops provided theoretical as well as hands-on training on methodologies that can be used for the collection of data that is related to the core list of ICT indicators. Indicators on ICT infrastructure and access, access to and use of ICT by households and individuals, use of ICT by businesses, ICT sector and trade in ICT goods and ICT in education were prominently featured.

V. Measures for further implementation

ESCWA will continue its efforts to narrow the digital divide in Western Asia and to help build an inclusive, people-centred and development-oriented information society. This will be achieved with the conceptualization and implementation of programmes related to the development of enabling environments, capacity building, ICT applications in government and education, digital Arabic content development as well as building the ICT sector. To achieve its objectives, ESCWA will assess and update existing plans of action, conduct analytical studies, convene meetings, provide advisory services and training workshops and act as a catalyst for change and innovation in policymaking. ESCWA will also continue to

[38] http://www.escwa.un.org/information/meetingdetails.asp?referenceNum=1176E
[39] http://www.escwa.un.org/information/publications/edit/upload/ictd-09-7-e.pdf
[40] http://www.escwa.un.org/information/publications/edit/upload/ictd-09-15.pdf
[41] http://www.escwa.un.org/information/meetingdetails.asp?referenceNum=1048E

enhance the currently used set of ICT indicators and will encourage its adoption and use by the statistics offices and ICT authorities of member countries.

VI. Recommendations

National Governments:

- Accelerating the implementation of national and regional ICT strategies;
- Creating an enabling environment for the development of the Information Society;
- Encouraging foreign direct investment in the ICT sector;
- Increasing national budgets for ICT as well as scientific and technological research;
- Stimulating cooperation between ESCWA member countries (EMCs) with regard to the implementation of WSIS themes and action lines.

NGOs:

- Actively participating in the implementation of national and regional action plans;
- Raising community awareness on Internet security, protecting children from online exploitation and promoting digital Arabic content;
- Participating in programmes focused on empowering women, youth and marginalized groups in the utilization of ICT.

The private sector:

- Increasing connectivity between EMCs by implementing regional ICT infrastructure projects;
- Participating in the development of the ICT sector in alignment with regional needs;
- Collaborating with the public sector in the implementation of national and regional strategies for building the Information Society
- Playing an active part in introducing and promoting the use of the latest technologies.

International and regional organizations:

- Coordinating efforts and increasing cooperation in order to implement regional plans for building the Information Society;
- Providing technical support to ESCWA Member Countries;
- Hosting regional conferences and workshops on topics of importance to the region such as broadband services, promoting the ICT sector and digital Arabic content;
- Following up on the implementation of national and regional projects with various stakeholders;
- Unifying efforts in issues of global importance such as e-governance and Arabic Domain Names Systems (ADNS);
- Increasing capacity building efforts that focus on implementing regional projects that are related to the creation of enabling environments, improving e-services and measuring the Information Society.

COMMISSION ON SCIENCE AND TECHNOLOGY FOR DEVELOPMENT (CTSD)

Thirteenth Session

Geneva, 17 to 21 May 2010

Submissions from entities in the United Nations system and elsewhere on their efforts in 2009 to implement the outcome of the WSIS

Submission by

FAO

Food and Agriculture Organization of the United Nations

This submission was prepared as an input to the report of the UN Secretary-General on "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" (to the 13th session of the CSTD), in response to the request by the Economic and Social Council, in its resolution 2006/46, to the UN Secretary-General to inform the Commission on Science and Technology for Development on the implementation of the outcomes of the WSIS as part of his annual reporting to the Commission.

SUBMISSIONS FROM FAO: EFFORTS IN 2009 TO IMPLEMENT THE OUTCOME OF WSIS ACTION LINE, E-AGRICULTURE

Presented by

Anton Mangstl, Director, Office of Knowledge Exchange, Research and Extension, FAO

Michael Riggs, Knowledge and Information Management Officer, FAO and e-Agriculture Facilitator

1 January 2010

EXECUTIVE SUMMARY

At WSIS, the Food and Agriculture Organization of the United Nations (FAO) accepted the responsibility of organizing activities related to Action Line (C.7) on ICT Applications with specific reference to *"e-Agriculture".* In 2006 the multi-stakeholder e-Agriculture Working Group (EWAG[42]) was set up to guide efforts in this area.

In September 2007, the e-Agriculture Community of Practice (the Community) was officially launched as a global initiative to enhance sustainable agricultural development and food security by enhancing the use of ICT in the sector. The overall aim of the Community is to enable members to exchange knowledge related to e-agriculture, and to ensure that the knowledge created is effectively shared and used worldwide.

By the end of 2009, the e-Agriculture community has grown to over 6,000 registered individual members. This membership encompasses development practitioners, policymakers, representatives of farmer organizations, researchers, and information and communication specialists involved in agriculture and rural development, from more than 150 countries. The

[42] Original members included: the Consultative Group on International Agricultural Research (CGIAR); Technical Centre for Agriculture and Rural Development (CTA); UN Department of Economic and Social Affairs (DESA); FAO; Gesellschaft fur Technische; Zusammenarbeit (GTZ); Global Forum on Agricultural Research (GFAR); Inter-American Institute for Cooperation on Agriculture (IICA); International Association of Agricultural Information Specialists (IAALD); International Centre for Communication for Development (IICD); International Fund for Agricultural Development (IFAD); International Telecommunications Union (ITU); and the World Bank. Since then, more members have joined and contributed, including participation from Microsoft, IBM, Katalyst, Grameenphone Ltd, and others.

Community activities comprise three components: a web-based multilingual[43] space for knowledge sharing and collaboration on a neutral domain (www.e-agriculture.org); face-to-face events; and in-country interventions.

Over this past year, e-Agriculture Community members from around the world participated in activities such as online forum discussions (virtual meetings), international and regional meetings, and free online capacity building opportunities (through the IMARK[44] partnership). Participation from both the private sector and non-UN organizations was also secured with subject matter experts volunteering their time from Microsoft, Nokia, Grameen Foundation, IICD, One World South Asia, Swisscontact and other organizations.

Though restrained by limited staff and financial resources, the e-Agriculture Community has remained strong over the past years due to the active commitment of volunteers and community members. However, looking to realize the Community's full potential, FAO continues to search for both financial support to the Community and substantive editorial contributions for the multilingual platform (particularly in regards to French).

It is envisioned that the e-Agriculture Community will grow in 2010 by building upon the current successful knowledge sharing functions, and developing an interconnected series of pilot interventions, models of action and means for assessment, based on inputs from the e-Agriculture Community. Lessons learned from the national and regional components can be captured and disseminated through the e-Agriculture Community, and through other major participating institutions in support of capacity building. In order to facilitate this effectively, the establishment of a formal Secretariat with some financial commitments from partner organizations is deemed essential.

TRENDS AND EXPERIENCES IN IMPLEMENTATION AT THE NATIONAL, REGIONAL AND INTERNATIONAL LEVEL

The e-Agriculture Community of Practice is a global initiative launched by FAO in partnership with the e-Agriculture Working Group to enhance the role of ICT in agricultural development and food security. It provides an international framework to facilitate the processes of capturing, managing, and disseminating the lessons learned through national and regional activities, as well as the results and implications of multilateral processes related to the use of

[43] The Platform is available in English, French and Spanish.
[44] See http://www.imarkgroup.org for information.

ICT in agriculture and rural development. The e-Agriculture Community also provides the basis for the international community to monitor development and validation of conceptual models and methodologies, and to package and disseminate them once tested. Through its collective activities some additional outputs of the Community include: the development and strengthening of innovative mechanisms and processes for information exchange and communication, including normative guidelines and tools being formulated, tested and disseminated to address the range of demands and capabilities of different Community members; empowering networks for exchange of new mechanisms and processes among key stakeholders; relevant content in digital format being developed, filtered, mobilized and exchanged by community members; and other activities based on active partnerships and collaborative lesson-learning.

The success of the e-Agriculture Community depends to a great extent on the active engagement of a wide range of stakeholders, all with a common interest. FAO[45] currently serves as the Secretary and Facilitator for the community, and coordinating activities and programmes based on commutation and collaboration with the Community at large. FAO also coordinates and facilitates the development, content creation/packaging, and maintenance of the web-based platform, as well as coordinating face-to-face events and drafting of policy documents. It also experiments with new social media tools to extend and improve the reach of e-Agriculture to stakeholders. Regular bulletins of the e-Agriculture Community's outputs are provided to both Community members and to relevant global bodies, including the WSIS Secretariat, the Global Alliance for ICT and Development (GAID), and the United Nations Group on the Information Society (UNGIS).

The web-based collaboration component of the Community's activities is the most popular and effective tool to engage with its 6,000 members. The platform relies solely on volunteer efforts to lead discussions and assist in providing content, which contributes towards the development of policies and best practices. For this the Community is grateful to the individuals and organizations that have willingly taken on leading roles in the Community's activities.

The e-Agriculture Community of Practice, however, continues to face financial limitations that constrain possibilities for further expansion, and thereby limit the potential of this dynamic Community. As there are no funds solely dedicated to the e-Agriculture Community, there are limited resources to support its in-country activities and multi-lingual development. This is particularly relevant with regards to expanding its multi-lingual engagement through French and Spanish speaking community members more effectively.

[45] The e-Agriculture Community of Practice benefits from FAO's experience on its successful implementation of the Bridging the Rural Digital Divide Programme and its related web-based platform (see http://www.fao.org/rdd).

The continued success of e-Agriculture will depend on the active involvement of a wide range of stakeholders and in-kind contributions from organizations in the development community and the private sector. To ensure its future and expand its positive impact, it is envisioned that a formal secretariat should be established, with the primary goal of supporting country-level interventions and other related knowledge sharing activities at the global level.

INNOVATIVE POLICIES, PROGRAMMES AND PROJECTS

FAO facilitated a full schedule of virtual and face-to-face activities in 2009. Some of the most successful are described below.

Face-to-Face Activities (Conferences, Meetings and Workshops):

January 2009: Special Session on *Mobile Telephony in Rural Areas*, Knowledge Share Fair (20-22 January 2009), sponsored by Bioversity International, the CGIAR ICT-KM programme, FAO, IFAD and WFP in Rome, Italy.

May 2009: World Summit on the Information Society Global Forum 2009, in Geneva, Switzerland (18-22 May 2009). This interactive e-Agriculture session reported and discussed the ways in which mobile telephones are now being used by a wide variety of actors in agriculture and rural development to communicate and share knowledge for livelihood-related tasks, the ways in which the role of this technology could be enhanced and challenges that are being faced. The interactive panel included Ms. Roxanna Samii, IFAD, Mr. Arafat Hossain, Katalyst, and Dr. Leo Lehmann, ITU, with Michael Riggs, FAO as Facilitator.

July 2009: IAALD Africa Chapter Conference in Accra, Ghana (15-17 July) on the theme "Towards Opening Access to Information & Knowledge in the Agricultural Sciences and Technology in Africa." The purpose of the conference was to build awareness of the importance of opening access to agricultural information and knowledge in Africa among key stakeholders, i.e. research policy makers, agricultural research scientists, authors, information professionals, information users. There were more than 100 participants from 35 countries.

August 2009: eIndia Conference, in Hyderabad, India (25-27 August 2009). This conference brought together ICT experts, practitioners, business leaders and stakeholders of the region onto one platform, through keynote addresses, paper presentations, thematic workshops and exhibitions. Within the conference was a special focus on e-agriculture, designed to initiate inter-sectoral linkages; facilitate progressive decision-making, information sharing and performance improvement; bring policy makers, development professionals, researchers, academicians, community stakeholders, corporate on a discussion dais; and aid the process of identification and integration of diverse ICT tools that are employed in present day agricultural practices. A feature presentation at e-Agriculture 2009 was on *eAgriculture: Policy-perspective to practice,* presented by Michael Riggs, e-Agriculture Facilitator.

October 2009**:** AIBDA (RIBDA), the XVth Meeting of the Inter-American Association of Librarians and Specialists in Agricultural Information, in Lima, Peru (27-29 October 2009**).** FAO hosted a special e-Agriculture session on *Access to ICTs for the Improvement of Livelihoods in Poor Remote Areas* led by Franz Martin, FAO.

Virtual Activities (Online Forums)

April 2009: A special online Forum on "*Mobile Telephony in Rural Areas*" (Spanish language; 20-30 April 2009). A strategic follow-up to the special e-Agriculture panel discussion held at the IAALD-AFITA-WCCA World Congress in August 2008, where a group of experts discussed the future of mobile telephones in rural development. This also directly responded to a Community demand created by the English Forum, on the same topic, held in November 2008.

December 2009: Online forum on "*The Role of ICT in Agricultural Value Chains*" (English language; 7-18 December 2009). The forum discussed the key opportunities and challenges of ICT interventions in agricultural value chains with a special focus on the most beneficial interventions in rural areas. It proved to be a key opportunity for knowledge sharing on good practices, presenting expectations of future challenges and outcomes, and considered the critical role of policy makers, rural service providers, and the agricultural community at large.

Training: throughout 2009, e-Agriculture Community members were invited to participate in the expanding free e-learning resources available, which are providing capacity building and professional development opportunities for ICT practitioners in developing countries. The Information Management Resource Kit (IMARK) (http://www.imarkgroup.org/) curriculum now offers six modules, four of these now available in three languages, with the latest module entitled "Web 2.0 and Social Media for Development". e-Agriculture will feature information on the next module, "Knowledge Sharing for Development", due to be released in 2010.

FUTURE ACTIONS/INITIATIVES TO BE TAKEN

Frameworks for Development and Evaluation

There is a growing body of knowledge, draft frameworks and other supporting materials in the field of digital ICT programme development and monitoring and evaluation (M&E).[46] To advance this important body of work, FAO and the International Institute for Communication and Development (IICD) will hold an expert consultation in 2010 to develop frameworks that will guide planning and implementing development investments that exploit ICT, as well as monitoring and evaluating their impacts on rural livelihoods.

Possible Involvement in In-Country Interventions and Sub-communities

It is important that that the e-Agriculture Community of Practice expands in 2010 to develop mechanisms from learning lessons in-country interventions. These lessons will be drawn from the activities of e-Agriculture Community members, encompassing national and regional level interventions on information exchange and communication, from which successful elements will be expanded and scaled up. The mechanisms will foster the capturing and sharing of lessons through the e-Agriculture Community Portal, and through other major participating institutions in support of capacity development.

There is always the potential that as the Community continues to grow in size, there will be a need to recognize focused interest groups (sub-communities). This would be a natural part of the growth cycle of any community of practice. The actual timing and results of such events are however, difficult to predict.

The Challenge of Financial Support

As for FAO's contribution to the Action Line on e-Agriculture, and to the Community's facilitation and platform, the Organization will continue to provide content support, in the form of materials; subject matter experts to act as editors and moderators; and other

[46] ODI/FAO/DFID (2001/3), ODI/InfoDev (2006/7), Various/Gates (2007), IICD (2007)

activities, tapping into staff from across the organization including various divisions and offices in FAO headquarters and the decentralized offices. These contributions will be supplemented through outsourced contracts, depending on the size of the initiative and the external resources available.

The strategy for mobilizing resources for activities under this initiative has two elements, namely (a) provision of resources by the stakeholders themselves, from both core and project funding, and (b) mobilization of funds from multilateral and bilateral sources to finance the development of the Community's activities. Contributions from the second source are essential in this stage of expanding development of the e-Agriculture Community. Currently no steady funding source is provided by any institution, apart from the continued staffing contributions offered by FAO and forum support provided ad-hoc by partner organizations through subject matter expert participation.

Expansion of Activities Through Support for a Formal Secretariat

In order to foresee the continuing expansion of the e-Agriculture Community of Practice, and especially in regards to supporting country interventions, the establishment of a formal Secretariat is envisioned.

Hosted by FAO, the Secretariat would be responsible for the following: 1) to develop, prepare and implement various multilingual communication plans and advocacy related to e-agriculture, its Working Group and to the e-Agriculture Community; 2) to arrange for and service virtual and face-to-face meetings for e-Agriculture Community discussions as agreed by the Community members; 3) to coordinate, prepare, share, and disseminate resources (relevant news, reports, case studies, etc.) and to monitor/analyze outcomes of member activities by a broad field of local, national and regional stakeholders; 4) to serve as editorial manager of the Community's web-based platform, including design and implementation; 5) to coordinate technical (IT) and administrative arrangements for the Community; 6) to coordinate and support in-country activities, based on the needs of the Country Community leaders; 7) and to report to the relevant global bodies and institutions.

COMMISSION ON SCIENCE AND TECHNOLOGY FOR DEVELOPMENT (CTSD)

Thirteenth Session

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Submissions from entities in the United Nations system and elsewhere on their efforts in 2009 to implement the outcome of the WSIS

Submission by

ITU

International Telecommunication Union

This submission was prepared as an input to the report of the UN Secretary-General on "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" (to the 13th session of the CSTD), in response to the request by the Economic and Social Council, in its resolution 2006/46, to the UN Secretary-General to inform the Commission on Science and Technology for Development on the implementation of the outcomes of the WSIS as part of his annual reporting to the Commission.

BUILDING THE INFORMATION SOCIETY

Contribution from ITU

Document : ITU-WSIS/2010/01
Date : 15 January 2010
Original: English

ITU CONTRIBUTION TO THE UN SECRETARY-GENERAL'S REPORT ON THE PROGRESS MADE IN IMPLEMENTATION OF THE WORLD SUMMIT ON THE INFORMATION SOCIETY (WSIS)

Background : This ITU contribution is prepared in response to the request by the Economic and Social Council (ECOSOC), following its resolution 2009/7 on "Assessment of the progress made in the implementation of and follow-up to the outcomes of the World Summit on the Information Society". In that resolution ECOSOC requests the UN Secretary General to submit to the Council through the CSTD an executive summary on the implementation of the WSIS outcome by each UN Agency and Programme.

I. INTRODUCTION

1. As stated in the Strategic Plan of the Union (2008-2011), adopted during ITU Council 2008, the implementation of the outcomes of the World Summit on the Information Society (WSIS) continues to be one of the priorities of the Secretary-General of the International Telecommunication Union (ITU).

• At the **policy level**, Council 2009 strengthened the Union's mandate in relation to the implementation of WSIS outcomes and agreed on the roadmaps for ITU's activities in its role as the sole facilitator for WSIS action lines C2 and C5 in the implementation of WSIS up to 2015. Roadmaps are detailed plans to guide progress towards achieving WSIS goals. The Dedicated Group on International Internet-related Public Policy Issues was created and tasked to identify, study and develop matters related to international Internet-related public policy issues. 2009 ITU Council Resolution 1305 recognized the scope of work of ITU on international Internet-related public policy matters, represented by topics listed in the resolution.

• At the **operational level**, ITU has been carrying out the tasks assigned by the WSIS Outcomes Documents, in particular, in its capacity as:

Leading facilitator (along with UNESCO and UNDP) in coordinating the multi-stakeholder implementation of the *Geneva Plan of Action*.

Facilitator of Action Lines C2 (Information and communication infrastructure) and C5 (Building confidence and security in the use of ICTs); Upon the UNDP's request the ITU accepted to play the role of the Facilitator of Action Line C6 (Enabling Environment) on a temporary basis.

Co-facilitator of Action Lines C1, C3, C4, C7, C9 and C11.

Rotating chair of the United Nations Group on Information Society.

(e) Implementation of other WSIS outcomes

4. The **three Sectors** of the Union (Standardization, Radiocommunication and the Development Sector) and the General Secretariat have carried out major initiatives and activities that enhance the WSIS outcomes.

5. Within ITU, the effective coordination of ITU's strategies and activities in relation to WSIS has been ensured by a **WSIS Task Force** chaired by the Deputy Secretary-General.

6. This document is divided into 4 sections, following the introduction the second one provides an overview of the WSIS implementation activities undertaken in 2009 by ITU, the third section highlights forums, innovative initiatives and informs about the planned future activities to ensure the full implementation of the WSIS outcomes. The final section provides conclusions of the report.

II. OVERVIEW OF ITU'S ACTIVITIES UNDERTAKEN DURING 2009 IN THE CONTEXT OF WSIS IMPLEMENTATION

(a) Leading facilitator (along with UNESCO and UNDP) in organizing the multi-stakeholder implementation of the *Geneva Plan of Action*.

- In 2009, ITU hosted the WSIS Forum 2009, from 18 to 22 May, which was jointly organized by ITU, UNESCO, UNCTAD and UNDP. This event built upon the tradition of annual WSIS May meetings, and its new format is a result of the open consultations with all WSIS Stakeholders. Five days forum comprised of high-level panels, WSIS Action Lines meetings, thematic workshops, and various platforms for networking and partnership creation.
- In line with Paragraph 109 of the Tunis Agenda, ITU, along with UNESCO and UNDP, plays a leading facilitating role in the implementation of the Geneva Plan of Action. The annual meeting of action lines facilitators was held on 22nd of May 2009 as an integral component of the WSIS Forum, with three main objectives: exchange of information among facilitators and other stakeholders; identification of issues that needed improvement; and discussion of the modalities of reporting and the overall implementation process.
- With aim of ensuring inclusiveness in the preparatory process of the WSIS Forum 2010, in December the ITU facilitated amongst the organizers the launch of an Open Consultative Process with reference to the thematic focus of the Forum.

(b) Facilitator of the WSIS Action Lines C2, C5, C6

Action Line C2: Information and Communication Infrastructure

- Within the framework of the existing resources and given mandate, as well as in line with the Geneva Action Plan the ITU carries out several activities with regard to the WSIS Action Line C2 Plan of Action. These are oriented toward six domains as follows (1) Promotion of National ICT-Strategies; (2) Harmonization of the ICT policies in different regions; (3) Development of regional and large-scale national initiatives; (4) Launch of global thematic ICT infrastructure initiatives; (5) Development of a virtual financing platform and (6) Deployment of an online tool for ICT development assessment.
- The 4th Facilitation Meeting on Action Line C2 was held in Geneva on 20 May 2009 as an integral part of the WSIS Forum 2009 and profited from the ministerial segment that highlighted and discussed the strategic role of ICT infrastructure development at the national, regional and international level.
- The Stocktaking Database is used as an effective tool for the exchange of information on the projects in relation to the implementation of Action Line C2. More information on WSIS Stocktaking can be found at WSIS Stocktaking Information System.
- With the aim of mobilizing additional funds and new partnerships to attain the WSIS goals including the development of infrastructure ITU initiated the Connect Summit series in 2007. Building upon the success of its first Summit, Connect Africa, held in Kigali, Rwanda, in October 2007, 2007 that resulted in commitments of 55 billion US Dollars from various stakeholders, ITU organized the second Summit, Connect CIS with

partners on 25-27 November 2009 in Minsk, Belarus. The Summit gathered 353 participants from 18 Member States (10 from CIS Region), including five Heads of State (Republic of Armenia, Republic of Belarus, Republic of Kazakhstan, Kyrgyz Republic and Republic of Tadjikistan) and Government and one First Deputy Prime Minister. The administrations of 10 countries from the region were represented, including 7 at the Ministerial level. Some 40 leading ICT companies, development banks, international organizations and other stakeholders participated in the Summit. The Presidents (Heads of State) addressed participants of the Summit in a special session entitled, "Leaders Statements and Summit Declaration: Towards a Sustainable Information Society ", in which each President (Head of State) outlined their vision for the Summit and pledged their full support to the Connect CIS Initiative. The Summit concluded with the Connect CIS Declaration.

- Within the framework of the Connect the World initiative the ITU launched several initiatives relevant for the WSIS Action Line C2, including Wireless Broadband Partnership, Connecting Villages Initiative, Connect a School, Connect a Community.
- With the Connecting Villages Initiative in particular, ITU entered into an agreement with the Nokia-Siemens Network (NSN) to implement up to 30 sites of Village Connection Solution worldwide, of which the first four sites have been undertaken in the Pacific region.
- Under the *Connect a School, Connect a Community* initiative to improve access to broadband in schools and enable them to serve as community broadband centers, a Project to Connect Schools have been implemented in the Americas Region. It operates through the creation of an online toolkit to share best practices and advice to ITU Members on developing national school connectivity plans and the implementation of pilot projects. The project will also assist beneficiary countries in the preparation of their National Plans to connect schools.
- The ITU continues to encourage the agencies responsible for development aid and assistance to attach importance to ICTs in the development process and to accord a high priority for resource allocation to this sector. To this end, ITU approaches potential donors to encourage them to join ITU's connectivity initiatives.
- The ITU organized the Pacific ICT Ministerial Forum with the theme of "Connecting the Unconnected" in Tonga on 19-20 February 2009 preceded by a senior officials meeting on 17-18 February 2009. Several potential offers and projects were discussed that aimed to improve connectivity in the Pacific. The Forum adopted a Communique that aimed to make available and accessible to all the benefits of new technologies, especially Information and Communication Technologies to all.
- The ITU successfully organized the Sub-regional Telecommunication Ministerial Forum for Cambodia, Lao PDR, Myanmar and Vietnam (CLMV) on 11-12 December 2009 in Vietnam with active participation from the business and government sector, such as the Australian Government, as well as sub-regional and global development partners. Focusing on the theme: "Towards an ICT-strengthened and connected CLMV Subregion", the Forum issued a Communiqué which called on ITU and concerned parties to plan and implement initiatives announced during the Forum focusing on capacity building, public private partnership and enabling policy and regulatory frameworks.
- The ITU organized five ITU Regional Development Forums 2009, one for each Region, and developed training materials in close collaboration with TSB and BR, for bridging the standardization gap and fostering the implementation of Next Generation Networks and Broadband Networks for developing countries.
- In addition the ITU carries out several activities as implementer of the WSIS Action Line C2, through its programmes (around 80 actions in 2009) and projects, for instance:
    - Connecting Remote/Outer Islands in the Pacific, ITU and Andorra Telecom;
    - ICT Applications and Satellite Diversity: Pacific Island States, ITU;
    - Wireless Broadband Access Networks, ITU-McCAW Foundation-Partners;
    - South Africa: Rural Telecoms, ICT Services and Entrepreneurship Development, RSA-ITU-UPU;
    - Feasibility Study on Digital Broadcasting Roadmap in Africa, ITU-Republic of Korea;

- Feasibility Study for the Implementation of Broadband Infrastructures in Africa, ITU and partners;

- Harmonization of policies and guidelines for the ICT market and human/institutional capacity building in the field of ICT in three regions (Sub-Saharan countries, Caribbean countries, Pacific Island States), European Commission;
- Implementation of the cooperation agreement signed between ITU and One Laptop Per Child (OLPC) to connect and educate children; and
- Under Special Assistance to LDCs, ITU provided assistance in establishing IXPs, for instance in Afghanistan and Haiti;
- A Telecom Network Planning Manual for evolving network architectures (versions 4 and 5) to be used to facilitate the planning of network architectures and the transition to the Next Generation Networks;
- The version 3 of the Spectrum Management System for Developing Countries (SMS4DC) was released in November 2009.
- Direct assistance was provided to Mali, Georgia, Kyrgyzstan, Moldova, Bhutan and Nepal in planning the countries' broadband infrastructure by making use of appropriate planning tools.

22. Furthermore, as mandated by its Membership within the framework of the Regional Initiatives, ITU develops a number of the large scale regional projects focusing on 25 regional initiatives facilitating development of the information and communication infrastructure in Africa, Arab, Asia-Pacific, Americas and Commonwealth of Independent States Regions. More information on these projects as well as the other projects can be found ITU-D Projects webpage.

23. In the implementation of Action Line C2, ITU continues to be at the forefront of providing global standards for telecommunication. One of the most important ITU standardization activities relate to Next Generation Networks (NGN), with the approval of specific standards on signalling protocols for QoS resource control, security, multimedia services over NGN, fixed-mobile convergence, service level requirements and architectural framework to provide new services based on Internet Protocol Television (IPTV). Charging and accounting principles for International Internet Connectivity (IIC) and for NGN (including related telecommunication economic and policy issues) also continue to be studied at international and regional levels. On critical internet resource management, ITU is carrying on further study on IP address allocation and encouraging deployment of IPv6 as requested by WTSA-08 Resolution 64. WTSA-08 Resolution 76 on Conformance and Interoperability testing will help in increasing probability of interoperability as requested by developing countries. ITU organized five forums and various workshops in the regions disseminating awareness about standards and ITU's dedication to the reduction of the standardization gap between developed and developing countries.

24. With regard to radiocommunications, some areas that are being actively studied are: wireless internet access (terrestrial and satellite broadband), emergency radiocommunications (to support disaster prediction, detection, mitigation and relief), remote sensing systems (for providing information on environment control and climate change) and digital broadcasting (to help bridge the digital divide).

Action Line C5: Building Confidence and Security in the use of ICTs

25. A fundamental role of ITU, following the World Summit on the Information Society (WSIS) and the 2006 ITU Plenipotentiary Conference, is to build confidence and security in the use of ICTs.

26. To facilitate discussions on work carried out in the area of cybersecurity under AL C5, the 4th AL C5 Facilitation Meeting and a High-Level Panel on Cybersecurity were held during the WSIS Forum in May 2009.

27. The ITU Global Cybersecurity Agenda (GCA), launched in 2007, continues to provide a framework within which the international response to the growing challenges to cybersecurity can be coordinated and addressed in response to its role as Facilitator for ALC5. GCA benefits from the advice of a High-Level Experts Group (HLEG) composed by world-renowned specialists in cybersecurity, representing expertise from across a broad range of backgrounds in policy-making, government, academia and the private sector.

28. Building upon five strategic pillars of the GCA framework, which shows the complementary nature of existing ITU work programmes and facilitates the implementation of ITU-D, ITU-T, and ITU-R activities in this domain, the following actions were carried out in 2009.

1) Legal Measures

29. ITU-D published *Understanding Cybercrime: A Guide for Developing Countries*, in May 2009, to help developing countries better understand and assess the national and international implications of growing cyberthreats, and assist in establishing a sound legal foundation. The publication is available in all official UN languages.

30. ITU-D released a *Toolkit for Cybercrime Legislation* in May 2009, developed by a multidisciplinary international group of experts, to provide Member States with sample legislative language and reference material to assist in the harmonization of cybercrime laws.

2) Technical and Procedural Measures

31. In order to identify cyberthreats and countermeasures to mitigate risks, ITU-T has developed an overview of security requirements, guidelines for protocol authors and specifications for IP-based systems. ITU-T also provides an international platform for the development of the protocols that protect current and Next Generation Networks (NGN). ITU-T's work on secure communication services reviews enhancements to security specifications for mobile end-to-end data communications and considers security requirements for web services and application protocols.

32. ITU-T Study Group 17 (SG17) is the lead study group on telecommunication security and identity management with its role being reinforced by WTSA-08 Res. 50 and 52. SG17 is also working on the implementation of WTSA-08 Res. 58 to "Encourage the creation of national Computer Incident Response Teams, particularly for developing countries". In February 2009 SG17 organized a workshop on "New Challenges for Telecommunication Security Standardizations", approved three Traditional Approval Process (TAP) Recommendations: on spam filtering, on protection of personally identifiable information and on IPTV security and initiated approval procedures for two Recommendations on identity management, and established a new correspondence group on the exchange of trusted network forensics. The Joint Coordination Activity on Identity Management, lead by SG17, is continuing actively and the SG17 work in this area will also result in a Recommendation on identity management terminology (completion expected in September 2009). The fourth edition of the "Security in Telecommunications and Information Technology" manual was published in 2009.

33. ITU-R's work in radiocommunication standardization continues, matching the constant evolution in modern telecommunication networks. ITU-R established clear security principles for IMT-2000 (3G) networks. It has also issued recommendations on security issues in network management architecture for digital satellite systems and performance enhancements of transmission control protocol over satellite networks.

34. As part of ITU's collaboration with the International Multilateral Partnership Against Cyber Threats (IMPACT), the Global Response Centre (GRC) plays a pivotal role in realizing the GCA objective of putting technical measures in place to combat new and evolving cyberthreats.

3) Organizational Structures

35. Watch and warning systems and incident response are essential in responding to cyber attacks. ITU-D, through its partnership with IMPACT, is working with Member States to identify their specific cybersecurity needs and to assist relevant national, regional and international organizations in implementing related activities. As of the end of 2009, around 40 Member States have formally agreed to take part in the services offered by ITU-IMPACT. Sessions on *Cybersecurity Essentials* as well as specialized training on the deployment of GRC are being undertaken with Member States, aimed at building capacity and ensuring effective usage of the capabilities provided. Access to the GRC has been provided to the nominated cybersecurity technical focal points of Member States. Coordination has started on the establishment of Computer Incident Response Teams (CIRTs) with national responsibility in some countries.

4) Capacity Building

36. Within the framework of GCA and DAP Programme 3, ITU-D facilitates the implementation and deployment of cybersecurity capabilities necessary to combat cyberthreats.

37. To assist Member States who wish to design or revise and review their national approach for Cybersecurity and Critical Information Infrastructure Protection (CIIP), ITU-D has developed the *National Cybersecurity/CIIP Self-Assessment Tool*. An updated version has been released, reflecting the feedback received by Membership following pilot projects performed during the period 2007-2009. The *National Cybersecurity/CIIP Self-Assessment Tool* assists Member States in developing their national strategy by examining existing capacity for addressing challenges to cybersecurity and CIIP, identifying requirements and outlining a national response plan.

38. ITU-D is organizing regional cybersecurity forums for all ITU regions, using these as a capacity-building vehicle for different ITU-D programmes and activities as well as an operational platform for cooperation at the regional and international level

39. ITU-D is developing a *Toolkit for Promoting a Culture of Cybersecurity* to raise awareness on cybersecurity issues for SMEs, consumers and end-users in developing countries as well as providing Member States with a tool to facilitate coordination at the national and regional level with all relevant stakeholders.

40. The ITU-D-developed *ITU Botnet Mitigation Toolkit*, in its advanced stage of development, is a multi-stakeholder, multi-pronged approach to track botnets and mitigate their impact, with a particular emphasis on the problems specific to emerging Internet economies. A new release of the background paper, as well as the establishment of pilot projects is in progress.

41. In order to build capacity, ITU-D, through IMPACT's Training and Skills Development Centre, conducts high-level briefings for the benefit of representatives of Member States, providing invaluable exposure and privileged private sector insight on latest trends, potential threats and emerging technologies.

5) International Cooperation

42. The GCA is based on international cooperation and strives to engage all relevant stakeholders in a concerted effort to build confidence and security in the information society.

43. IMPACT is an international public-private initiative with the goal of facilitating greater international cooperation by enhancing the global community's capacity to counter cyber-threats. IMPACT headquarters was inaugurated in March 2009 by the ITU Secretary-General Dr Hamadoun I. Touré and the Malaysian Prime Minister Dato' Seri Abdullah Haji Ahmad Badawi. ITU maintains an IMPACT 'virtual showcase' in Geneva.

44. To enable information access, dissemination and online collaboration among stakeholders working in cybersecurity, the ITU Cybersecurity Gateway was revamped in May 2009. The feedback received from Member States participating in ITU cybersecurity initiatives (such as IMPACT services) would be incorporated into the Gateway.

45. Within the framework of the GCA and in conjunction with other UN agencies and partners, ITU launched the Child Online Protection (COP) on 13 November 2008 as an international collaborative initiative for action to promote the online protection of children and young people by providing guidance on safe online behavior. Two events were organized in May 2009. A Strategic Dialogue on Safer Internet Environment for Children was also held in June 2009 in Tokyo, Japan and an Open Forum on Child Online Protection was organized during IGF-4 in November 2009. Four guidelines for policy makers, industry, educators, parents, guardians and children on the online protection of children were prepared in close collaboration with numerous UN agencies and other organizations, including ITU, UNICRI, INTERPOL and the European Network Information Security Agency (ENISA). These guidelines are available in six UN languages.

46. ITU in partnerships with others has assisted its Members in establishing Computer Emergency Response Teams (CERTs). For instance, support received from the Australian Government and partnerships with other organizations (e.g. AusCERT, IMPACT), ITU is assisting the Pacific Island Countries in establishing a

Pacific Computer Emergency Response Team (CERT). In cooperation with IMPACT, ITU also helped Afghanistan in a feasibility study on establishment of a national CERT.

Action Line C6: Enabling Environment

47. Recognizing the strong commitment of ITU's work towards bridging digital divide in the area of the enabling environment, UNDP officially handed over the lead facilitation role on WSIS Action Line C6 to ITU in May 2008. Since then, ITU has been acting as the sole facilitator for this Action Line building upon its regular work carried out within the framework of the ITU-D Programme 1: Regulatory Reform, in close collaboration with ITU-D Programme3 : E- Strategies and ICT Applications.

48. ITU organized the 4th WSIS Facilitation Meeting in May 2009 with the main task of identifying strategies for further implementation of this Action Line. Stakeholders reached a consensus that a platform for sharing best practices by all stakeholders can be a viable driver of WSIS implementation of the enabling environment for the years to come. For more detail see the WSIS C6 portal and the meeting report.

- ITU continues to assist Member States and Sector Members in developing a pro-competitive policy and regulatory framework for telecommunications. More specifically, through Programmes 1 (Regulatory Reform) and 4 (Economics and Finance), the ITU has undertaken numerous activities that foster the development of an enabling environment worldwide including information sharing, creation of tools for effective regulation, national and regional assistance, and creation of training materials and opportunities. Some of these ongoing activities include:
- The 9th edition of *Trends in Telecommunication Reform 2008: Six Degrees of Sharing* was published in November 2008. The 10th edition focusing on *Stimulating Growth through Effective ICT Regulation* will be published in early 2010. The forthcoming edition will address the challenges of convergence, the new expectations of stakeholders and the changing role of the regulator.
- The *ICT Regulation Toolkit*, developed by ITU and its partner, *infoDev*, includes 7 modules on key regulatory issues. The module on Universal Access and Service was published in 2009. The Toolkit, which is updated on a continuous basis, assists regulators in the design of effective and enabling regulatory frameworks by sharing analysis and information on key regulatory issues as well as best practices.
- The 9th *Global Symposium for Regulators (GSR)* was held in Beirut, Lebanon, on 10-12 November 2009. The overall theme of the event was "Hands-on or hands-off? Stimulating Growth through Effective ICT Regulation" To better engage industry in the planning of future policy and regulatory reforms, the GSR was accompanied by the Global Industry Leaders Forum on 9 November 2009.
- The ITU organize the tenth Forum on Telecommunication/ICT Regulation and Partnership in Africa (FTRA-2009) in Lusaka, Zambia from 20 to 22 May 2009 with the theme: "Universal Access and Service Fund (UASF)".
- A series of regional regulatory meetings, workshops, training events and direct assistance activities were organized in 2008 and 2009. The annual session of the Forum on Telecommunication and ICT regulation and Partnership Forum (FTRA) in 2008 under the theme "Connect Africa: challenges for regulators and operators" and in 2009 under the theme "Universal Service/Access Fund". In the framework of capacity building, Programme 4 organized the ITU Expert-Level Training for national regulatory authorities and operators on cost modeling at regional level. In addition, three regional cost and tariff seminars were organized in the Africa, Asia and Pacific and Americas regions together with the ITU-T regional tariff group meetings in 2009.
- ITU continues to maintain the World Telecommunication Regulatory Database, which can be accessed from the ICT Eye, as well as the TREG website and Global Regulators' Exchange (G-REX), a password-protected online discussion forum reserved for regulators and policy makers, as well as the ICTdec regulatory decisions clearinghouse, a one-stop access point to decisions originating from ICT decision making bodies developed in partnership with the World Bank. Programme 4 maintains the Tariffs Policies database and a database of scientific institutions focusing on telecommunication/ICTs which can also be accessed from the ICT Eye.

- ITU has undertaken projects with partners such as the Asian Development Bank (ADB) and the National Telecommunications Commission of Thailand (NTC) on rural ICT policy and regulation development in the Asia-Pacific region. The projects aim to create tools for policy makers and regulators in view of rural ICT development. More than ten countries have participated in the projects.
- ITU provided assistance to BTRC, Bangladesh, for determination of Significant Market Power as well as creating as MIS Reporting System and assisted BICMA, Bhutan, in cost modelling framework for interconnection pricing to promote affordable access.
- ITU undertook various capacity-building activities, training and seminars to promote an enabling environment. Through a project funded by the EC, ITU led an initiative to support an integrated ICT market in West Africa, resulting in the adoption of a harmonized ICT legal framework currently being transposed into national law by 15 West African States. Building on the success of the West Africa project, ITU and the EC continued implementation of new projects to harmonize ICT frameworks and build capacity in the field of policy and regulation in sub-Saharan Africa, the Caribbean and the Pacific Island States. A number of trainings were carried out under the ITU Centre of Excellence Network initiative to ensure the enabling environment on policy & regulation in case of Asia and the Pacific.
- Moreover in 2009, ITU hosted the World Telecommunication Policy Forum (WTPF) in Lisbon, Portugal, to exchange views on the key policy issues arising from today's fast-changing ICT environment. In accordance with Decision 9 of the ITU Plenipotentiary Conference 2006, WTPF-09 examined the implications of convergence, including Internet-related public policy issues, and new emerging telecommunications policy and regulatory issues. It culminated with the adoption of six opinions on: Internet-related public policy matters; the implications of the advent of Next-Generation Networks (NGNs) and advanced broadband access; ICT and the Environment; collaborative strategies for creating confidence and security in the use of ICTs; Capacity building in support of the adoption of IPv6; and the International Telecommunication Regulations (ITRs).
- ITU also assists its Members to develop policies to ensure ICT accessibility for persons with disabilities. In May 2009, ITU together with its partner G3ict launched an online toolkit to share best practices with policy makers and regulators on promoting accessible ICTs for persons with disabilities. ITU has shared best practices and provided capacity building on the e-Accessibility toolkit in two events in 2009, one held for the Asia-Pacific region and one for African countries.
- ITU also launched the Connect a School, Connect a Community initiative, endorsed by the UN Secretary General during the 2009 ITU World TELECOM Youth Forum, to assist its members to develop policies and national school connectivity plans to meet the WSIS targets of connecting all schools by 2015. ITU will launch an online toolkit sharing best practices and policies on funding school connectivity, implementing low cost computing device programmes and using connected schools as community centres for women, indigenous people and persons with disabilities in 2010.

(c) Co-facilitator of Action Lines C1, C3, C4, C7, C9 and C11.

Action Line C1: The Role of Public Governance Authorities and all Stakeholders in the Promotion of ICTs for Development and Action Line C11: International and Regional Cooperation

49. In accordance with its mandate, the ITU continues to foster international and regional cooperation on a broad range of activities. ITU conducted several meetings, conferences and symposiums to provide a platform to broaden international dialogue on innovative means in harnessing ICTs for advancing development. For example, ITU organized the Global Symposium for Regulators and Global Industry Leaders Forum (Beirut, November 2009), the ITU TELECOM World 2009 as well as ITU TELECOM Telecommunication Development Symposium and Youth Forum (Geneva, October 2009), World Telecommunication Policy Forum (WTPF) (Lisbon, April 2009). In addition the ITU conducted five Regional Preparatory Meetings for the 2010 World Telecommunication Conference (WTDC-2010), where one of the topics discussed was the WSIS implementation.

Action Line C3: Access to Information and Knowledge

50. ITU continues to promote universal access with equal opportunities for all, to scientific knowledge and the creation and dissemination of scientific and technical information. In 2009, ITU held numerous workshops, conferences and symposia, making extensive materials freely and widely available on the web. In addition, a number of online resources have been made available, including web-based information portals, practical ICT toolkits, and online databases, while existing resources were updated.

51. As part of its work on standards development for telecommunications equipment, software and associated telecommunications services, ITU set up the Joint Coordination Activity on Accessibility and Human Factors (JCA-AHF). ITU carried out several actions related to accessibility, for instance a panel on accessibility at the Forum of World Telecom 2009 (October 2009), and two-and-half day accessibility workshop in Bamako, Mali (October 2009), which included training for African policy makers and regulators on the e-Accessibility toolkit jointly developed by ITU and G3ict to facilitate training of policy makers and regulators in mainstreaming ICT accessibility issues to comply with the UN Convention on the Rights of Persons with Disabilities (PwDs). A number of MCTs/ICT centres targeting marginalized communities and PwDs were implemented in partnership with some developing countries in Asia and Africa.

52. ITU increased its dialogue with academia and Universities by organizing a series of forward looking conferences on standardization related issues. Building upon the success of the first Kaleidoscope event "Innovations in NGN" which was held in May 2008 in Geneva to link universities to ITU's activities and studies on new and emerging technologies, the second one "Innovations for Digital Inclusion" took place on 31 August -1 September 2009 in Argentina.

53. ITU proactively participated in the 4th Facilitation Meeting on Action Line C3 "Access to information and knowledge" which was organized by UNESCO on 18 May 2009 at ITU headquarters. This session focused specifically on opening access to scientific data and knowledge, building on the prior discussions of the High-Level Panel on Accessing Knowledge.

Action Line C4: Capacity-Building

54. Within the framework of its mandate as co-facilitator for Action Line C4 ITU organized 4th facilitation meeting of AL C4 which took place during the WSIS Forum 2009. The meeting focused on new emerging trends challenging the building capacity paradigms, for instance nature and emphasis of learning (e.g., wide availability of extensive 'open education resources'), new Web 2.0 and social networking tools that allow far more interactivity and internationally collaborative learning environments.

55. Additionally, ITU carries out several activities through its Human Capacity Building (HCB) programme, including regional and international trainings, workshops, e-learning toolkits, networks of experts etc. In 2009 ITU launched a series of ITU Regional Human Capacity Development Forums, with objective to promote excellence in human capacity development in the information and communications technology (ICT) and telecoms sector.

56. In partnership with the Australian Government (DBCDE), ITU jointly organized the ACMA/ITU International Training Programme from 30 November-4 December, 2009, in Melbourne, Australia, where 100 participants from 40 different countries within the Asia-Pacific region learned from Australia's regulatory model.

57. Moreover, during the WSIS Forum 2009, ITU officially launched the ITU Academy, an initiative that pulls together the diverse education, training and information efforts of the ITU in order to develop a harmonized and streamlined approach to ICT capacity building. The intent is to promote *ITU Academy* as a common portal and platform (http://academy.itu.int) that allows for a single access point for ICT training opportunities whether delivered face-to-face, or through instructor or self-paced distance learning. For example, in the Asia Pacific region, 17 training courses were held under the Asia-Pacific Centres of Excellence (ASP CoE) Network in 2009. These trainings included 9 online courses and 8 face to face courses benefiting more than 450 participants. A new Node for trainings on Broadcasting has also been approved by the Asia-Pacific Centre of Excellence Network Management Committee. In the CIS Region 14 training

courses were held in the framework the CIS Center of Excellence (CIS CoE) in 2009. These training courses included 8 distance learning courses and 6 face to face seminars/workshops, and were attended by more than 300 participants from CIS and from other Regions. The Centre of Excellence for the Americas Region (AMS CoE) implemented in 2009, in partnership with its 23 Nodes, 35 online and face -to-face training activities, including 2 online post graduation courses in benefit of more than 650 participants. The valuable collaboration of OAS/CITEL, which granted more than 129 fellowships, was important to the achievement of these results.

Action Line C7: ICT Applications

58. ITU is one of the co-facilitators together with UNESCO, UNDESA and Regional Commissions, ILO, ITC, FAO, UPU, UNEP, WMO, UNCTAD, WHO, etc. for the eight areas of ICT applications that are covered by WSIS Action Line C7. Within the framework of its mandate as co-facilitator for Action Line C7 ITU co-organized and participated in several facilitation meetings and thematic workshops which took place during the WSIS Forum 2009, for instance Facilitation Meeting on e-Environment (co-organized with UNEP), High Level Panel on Climate Change, thematic workshop on e-Government and Public Private Partnerships for Better Public Service Delivery and MDGs Implementation (co-organized with UNDESA). In addition ITU contributed to several sessions emphasizing on its role and activities related to ICT applications.

59. To build public awareness of the opportunities that ICT applications can bring especially to the government, health and environment sectors in developing countries, ITU has in addition to providing direct assistance to Member States also been developing scoping studies and implementation toolkits. ITU has conducted studies in the areas of e-government, e-environment and e-health and shared the findings through three main deliverables, scoping studies on *" Electronic Government for Developing Countries ", "ICTs for e-Environment – Guidelines for Developing Countries, with a Focus on Climate Change"*, and *" Implementing e -Health in Developing Countries— Guidance and Principles"* respectively. The studies overview the available technologies, applications, trends and key players in each sector, addressing specific challenges faced by developing countries in implementing such e-projects and providing recommendations for future actions. Drawing from the lessons and recommendations highlighted in the scoping studies, ITU is currently developing toolkits in each of the three areas to assist developing countries in the creation and implementation of national e-health, e-environment and e-government strategies. Produced in a series of modules, the toolkits provide principles and suggest course of actions to guide policymakers through the different stages in the life-cycle of a national e-strategy. For example in the area of e-Environment, an *"E-Environment Implementation Toolkit"* that provides policymakers with principles and guidelines for the development and deployment of electronic applications and services in the environment area, has been developed. One of the components of this Toolkit is the ITU's *e-Environment Readiness Index (EERI)*, a tool for evaluating the e-Environment readiness of a country to use ICTs for mitigating and adjusting to the impacts of climate change.

60. During 2009, several activities were undertaken to facilitate progress on the role of ICTs in climate change. ITU has played an active role during the United Nations Climate Change Conference 2009 (COP-15), and shared information on ITU's role and activities in combating climate change to contribute to the development of the Global Framework for Climate Services as requested by the World Climate Conference 3 (WCC-3) held in Geneva, Switzerland in August/September 2009.

61. In collaboration with partners such as the Australian Government (DBCDE) and in line with other ITU's activities particularly on ICT infrastructure development, ITU has undertaken activities aiming at developing ICT applications suitable for local communities and particular user groups such as multi-purpose community telecentres (MCTs), Persons with Disabilities (PwDs), and marginalized people.

62. Under the Asia-Pacific Regional Initiative on NGN Planning, Migration and Applications to address the need for capacity building in the Asia-Pacific region both from policy makers/regulators and operators' perspective; a regional workshop on migration, technical, management, regulatory and security issues was organized in Tehran, Iran, in June 2009 attended by 54 delegates from 13 countries.

Action Line C8: Cultural diversity and identity, linguistic diversity and local content

63. ITU carried out a number of activities supporting cultural diversity and identity, linguistic diversity and local content. ITU developed an ICT Portal for indigenous people of the Americas region, supported by the Navajo Nation, ANACOM and the Inter-tribal Council of Brazil, which includes six tailor-made applications on banking, commerce, environment, government, health and learning which is available in English and Spanish. The portal was donated in 2009 to the beneficiaries through the Indigenous ICT Task Force so that it can be used by indigenous people around the world for social and economic development and to preserve their heritage and cultural legacy

64. Additionally, in relation to Action Line C8, ITU continued studying issues relating to Internationalized Domain Names (IDN) to contribute to easier and greater use of the Internet in those countries, where native or official scripts are not represented in International Reference Alphabet (IRA) characters.

65. In the Americas region, ITU has provided on-line career training courses to over 350 indigenous people and developed an ICT Portal for indigenous people, including six tailor-made applications on banking, commerce, environment, government, health and learning available in English and Spanish, which was donated to the Indigenous ICT Task Force, during the II Regional Indigenous Workshop on ICTs carried out in 2009. To ensure the self-sustainability of the Portal, indigenous representatives from the Americas Region were trained as trainers in the use of this ICT tool.

Action Line C9: Media

66. Number of recommendations relevant to providing access to ICTs through terrestrial and satellite radiocommunication and broadcasting infrastructures have been established, and are under study currently, broadcasting infrastructures are particularly relevant in developing countries and/or underserved areas such as remote and sparsely populated areas.

67. Moreover ITU carried out various studies for Internet Protocol TV (IPTV) that will enable enhanced, media rich delivery of content to users around the world, as well as Next Generation Networks (NGN) to reduce international imbalances affecting the media, particularly as regards infrastructure and technical resources. .

68. ITU is in the process of implementing a project on Transition from Analogue to Digital Broadcasting aiming to assist the developing and least developed countries particularly in the African Region to smoothly shift to digital terrestrial broadcasting.

(d) United Nations Group on the Information Society (UNGIS) (Para 103)

69. In April 2006, UNGIS was endorsed by the CEB. UNGIS serves as an interagency mechanism to coordinate substantive policy issues facing the United Nations system's implementation of the Geneva Plan of Action and Tunis Agenda for the Information Society adopted by the World Summit on the Information Society, thereby contributing to improving policy coherence in the UN system, as requested by the 2005 World Summit.

70. In May 2009 ITU took over from UNESCO the Chairmanship of the Group, and coordinates with Vice-Chairs in order to ensure implementation of the UNGIS Work Programme 2009-2010. In 2009 ITU hosted two physical UNGIS meetings, May and October.

71. Moreover, following an ECOSOC resolution 2008/3, the ITU hosted the Open Consultations on Financial Mechanisms for Meeting the Challenges of ICT for Development, which was held in October 2009 and was organized jointly by UNGIS Chair and Vice-Chairs, i.e. ITU, UNESCO, UNCTAD, UNDP, and UNECA. Results of the consultations were the basis for the several meetings addressing the issue of Financial Mechanisms, including CSTD intersessional Panel, held in November 2009 in Geneva, as well as a briefing meeting during Forum ICT4All+4, November 2009 in Hammamet.

(e) Implementation of other WSIS outcomes

Emergency Telecommunications (Para 91 of TAIS)

72. ITU carried out various actions related to Emergency Telecommunications including:

- Disaster Relief: Assistance was provided to a number of countries. ITU has deployed satellite terminals for disaster relief in various countries like Samoa, Indonesia, Tonga, China, Myanmar, amongst others.
- Direct Assistance to countries in the areas of policy, regulation, technology and designing of National Emergency Telecommunications Plans (NETP) and drafting of Standards Operating Procedures (SOPs).
- ITU in collaboration with various partners organized a number of regional and global forums on emergency telecommunications. For example, the "Global Forum on Effective Use of Telecommunications/ICT for Disaster Management: Saving Lives" was organized in Geneva from 10 to 12 December 2007. ITU also hosted a high-level session at the "3rd Asian Ministerial Conference on Disaster Risk Reduction (AMCDRR)" held in Malaysia between 2 and 4 December 2008.
- A Central American Workshop on Disaster Management was held in El Salvador from 21 to 23 September 2009 and in Jamaica, from 7 to 11 December 2009, in partnership with the Caribbean Emergency Management Agency (CDMEA), ITU organized a Training Workshop on Disaster Management to integrate emergency telecommunications plans into National Disaster Management Plans.

74. ITU continues to define Recommendations in support of emergency communications specifying service definition, alert messaging, call prioritization for relief workers using multimedia and cable systems, telecommunications network management, and special functionality in signalling systems.

International Internet Connectivity (Para 77c.ii and 50d of TAIS)

74. Following a revised version of ITU-T Recommendation D.50, which was approved in 2008 by the World Telecommunication Standardization Assembly (WTSA), the ITU continues to study the question of IIC. Considering the rapid changes in NGN-related signalling, several activities have been identified in relation to recommendation on charging and accounting principles for NGN.

Connect the World Initiative

75. Within the framework of the *Connect the World* initiative, launched by ITU in 2005, the Union dedicates significant efforts further development of this multi-stakeholder platform, with aim to help mobilize the financial, human and technical resources needed to implement outcomes of the World Summit on the Information Society (WSIS) and the World Telecommunication Development Conference (WTDC).

76. As part of this effort, ITU continues to organize high-level events known as *Connect the World* Summits (www.itu.int/partners) in each region where Members have expressed an interest. Building on the success of the firs event *Connect Africa* held in 2007, Rwanda, ITU organized the second Connect CIS Summit in Minsk, Belarus with the aim to leverage the huge market potential of the Commonwealth of Independent States, and to mobilize the human, financial and technical resources which would support the rapid move to a true information economy and society.

77. In early 2009, BDT launched four global *Connect the World* flagship initiatives. The aim of these initiatives is to build upon and strengthen promising projects that start in one region or with one industry partner, by providing an attractive, open platform and brand that can be promoted to additional partners globally and/or in various regions. Wireless Broadband Partnership, Connecting Villages Initiative, Connect a School, Connect a Community, ITU Mobile Health Initiative, ITU-IMPACT Collaboration on Cybersecurity.

Child Help lines (Para 92 of TAIS)

78. In 2008, ITU approved a Supplement to one of its main related Recommendations. This Supplement, *Guidance with regard to the selection of numbers for help lines for children,* reviews and examines the idea of harmonizing an approach to the selection of national numbers on a global basis. National Administrations were invited to consider such global harmonization of numbers associated with help lines specifically those help lines that are aimed at providing assistance for children. Further efforts were dedicated towards other

aspects of child welfare, for example: the case of children who have been displaced from their country of origin or kidnapped that might require special telecommunications applications such as short numbers.

79. By the end of 2009 a new Recommendation, Specification of an International Numbering Resource for use in the provisioning of International Help lines was approved.

World Telecommunication and Information Society Day

80. The worldwide celebration of World Telecommunication and Information Society Day this year took place on 17 May 2009. The ITU WTISD Awards Ceremony took place on Monday, 18 May. To mark the World Telecommunication and Information Society Day, ITU Council adopted the theme: Protecting Children in Cyberspace.

81. Her Majesty Queen Silvia of Sweden was the patron of the 2009 World Telecommunication and Information Society Day. During the ceremony ITU awarded three eminent personalities, H.E. Mr Luiz Inacio Lula de Silva, President of the Federative Republic of Brazil, Ms Deborah Taylor Tate, International Advocate for ICT Child Safety Issues , and Mr Robert G. Conway, CEO, GSMA, for their exceptional contributions towards protecting children in cyberspace.

82. The WSIS outcomes in 2009 specifically recognized the needs of children and young people and their protection in cyberspace. The Tunis Commitment recognized "the role of information and communication technologies (ICTs) in the protection of children and in enhancing the development of children" as well as the need to "strengthen action to protect children from abuse and defend their rights in the context of ICT". On the same occasion within the framework of the Child Online Protection (COP) initiative, the first release of the first release of the " *Guidelines for Policy-Makers, Industry, Parents, Guardians, Educators, and Children on Child Online Safety*" was presented.

Bridging the standardization gap (Paras 26g and 90 of TAIS)

83. ITU is working to implement PP-06 Resolution 123 on bridging the Standardization Gap between developed and developing countries. In this framework several meetings were organized in 2009 including:

ITU Development Forums in five regions. Four of meetings focused on *NGN and Broadband, Opportunities and Challenges* (Zambia, May 2009; Indonesia, July; Moldova, August 2009; Dominican Republic, November 2009). Forum for the Arab Region focused on *Access to Spectrum, including Broadcasting Services - Trends and Technologies* (Tunisia, June 2009)
Forum on Implementation of WTSA-08 Decisions and Workshop on Bridging the Standardization Gap (Fiji, September 2009)
Forum on Implementation of decisions of WTSA-08" Ecuador, 7 July 2009 Meeting of SG12 Africa, Accra, Ghana, 18-19 June 2009
Forum on Implementation of decisions of WTSA-08", Ghana, June 2009

Measuring the Information Society (paras 113-119 of TAIS)

84. ITU continues to monitor the development of the digital divide, through appropriate benchmarks and indicators. The ITU maintains the World Telecommunication/ICT Indicators Database, which is updated regularly, disseminated widely and which can be accessed online through the *ICT Eye*. To improve data availability and comparability, ITU works closely with its member states, particularly the Ministries in charge of telecommunication, regulatory agencies, and national statistical offices.

85. The 2009 edition of the ITU report *Measuring the Information Society* featured the inaugural ICT Development Index (IDI), an important new resource for benchmarking the information society and measuring the magnitude and evolution of the global digital divide. The IDI compares ICT developments in 154 countries over a five-year period from 2002 to 2007. The Index combines 11 indicators into a single measure that can be used as a benchmarking tool globally, regionally and at the country level. These are related to ICT access, use and skills, such as households with a computer; the number of Internet users; and

literacy levels. The publication also features for the first time the ICT Price Basket, a new tool that allows countries to measure and compare the relative cost of fixed lines, mobile cellular and fixed broadband

86. In addition, the ITU released five publications with a regional focus, *Information Society Statistical Profiles 2009*, analyzing ICT trends in Africa, the Americas, Asia and the Pacific, CIS, and Europe. Each report highlights the latest ICT developments in the region, includes key statistical information for every country, highlights key policy issues in the region and provides concrete recommendations for policy makers.

87. ITU is an active member of the *Partnership on Measuring ICT for Development* and together with UNCTAD and ECLAC, one of the three members of its Steering Committee. During the Partnership's meeting at the WSIS Forum in May 2009, the Partnership welcomed the UN Department of Economic and Social Affairs (UN-DESA) as its newest member. The Partnership document "Core list of ICT indicators" was revised in 2009. The Partnership actively contributed to the fortieth session of the United Nations Statistical Commission, held on 24-27 February, 2009, and provided the background document " Revisions and Additions to the Core List of ICT Indicators",

88. ITU provides technical assistance to enhance the capacity of national statistical offices on ICT measurement. In 2009, ITU released its *Manual for Measuring ICT Access and Use by Households and Individuals*, which is available in six languages. A training course on ICT statistics was developed and delivered at the regional level in the Caribbean (January 2009), in Africa (July 2009) and in Asia-Pacific (October 2009).

89. The 7th ITU World Telecommunication/ICT Indicators Meeting (WTIM), which took place in Cairo, Egypt, in March 2009, brought together 386 participants from 94 Member States, 57 public and private companies and 12 regional and international organizations to discuss and review infrastructure and access indicators, benchmarking the Information Society, ICT household statistics, capacity building on ICT measurement and measuring the impact of ICT on employment. It also reviewed global and regional progress on ICT measurement.

Maintaining the WSIS Stocktaking Database (Para 120)

90. Pursuing the outcomes of the Tunis Agenda, Para 120, the ITU continues the work on the WSIS Stocktaking process, providing the means for sharing information related to the implementation of the WSIS outcomes.

91. A publicly-accessible database of WSIS-related implementation activities, initiated during the Tunis phase of WSIS, has been maintained and improved since then. Within the period of three years, the WSIS Stocktaking Database has become an effective tool for the exchange of information on the projects in relation to the implementation of the 11 Action Lines. By end of 2009, more than 4000 entries were registered in the database and the number of entries continues to grow. More than a quarter of entries have been updated on a continuous basis. It is worth mentioning that many of entries reflect more than one flagship initiative and project carried out by the WSIS Stakeholders.

92. Within the framework of preparation to the mid-term review of the progress made in terms of the WSIS implementation, several activities have been planned to be carried out shortly as follows:

- further improvement of the database, with particular focus on interactivity, community • building and interoperability with other existing platforms;
- development of particular functionalities in order to respond to the requirements of the • UNGIS group, in particular in terms of tracking of the activities carried out by the international organizations;
- promotion of the WSIS Stocktaking exercise among the ICT development community • and call for new entries on the activities carried out in the period of time from the end of 2005 to mid 2010;
- preparation of the report • "WSIS Stocktaking 2010: Tracking the Progress", with the aim of updating stakeholders on activities undertaken by governments and other organizations for achieving the WSIS objectives and targets. The report will be a continuation of the WSIS Stocktaking Report series, which was officially launched at the Summit in November 2005.

ICT Success Stories Portal

93. ITU also continues to maintain the ICT Success Stories Portal to track progress made in building an inclusive Information Society for all. The portal showcases innovative ICT strategies, business models, good governance practices and small-scale local development initiatives, providing replicable best practices in various fields of everyday life, as well as the lessons learned from multi-stakeholder partnerships across different geographic, social and economic environments using different ICT technologies. A searchable online database permits access to over 650 ICT projects from over 70 countries.

Internet Governance Forum

94. The fourth Internet Governance Forum was held on the 15th of November 2009 at Sharm El Sheikh, Egypt. ITU played an important facilitation role and participated actively in the third Internet Governance Forum meeting.

95. Ten events were organized or co-organized by ITU:

- Regional Workshop on Arabic Domain Names and Internet Governance
- IGF – Open Forum on Child Online Protection
- The Governance Issues of Country Code Top Level Domains
- ITU Open Forum on Cybersecurity
- Adopting IPv6: What You Need To Know
- Greening the Internet
- Dynamic Coalition on Internet and Climate Change (DCICC)
- Best Practices for an Accessible Web
- Global Internet Access for Persons with Disabilities
- Peace and Security in the Cyberspace

96. ITU also facilitated the participation of experts from developing countries to the Forum through fellowships made available with the kind assistance of the Government of Canada.

III. FORUMS, INNOVATIVE INITIATIVES AND FUTURE ACTIONS

(a) Forums

WSIS Forum

97. Building upon the tradition of annual WSIS May meetings and the outcomes of the open consultations with WSIS Stakeholders, the ITU, UNESCO, UNCTAD and UNDP, proposed new format for the cluster of the WSIS related meetings, WSIS FORUM. The first WSIS Forum was held from 18 to 22 May 2009, at the ITU Headquarters, Geneva, Switzerland.

98. The Forum offered participants a series of diverse meetings, including high-level panels addressing critical issues to the WSIS implementation and follow-up in multi-stakeholder set-ups, WSIS action line facilitation meetings, thematic workshops, kick-off meetings for new initiatives and projects, speed-exchanges facilitating networking among the participants, and the others. It provided an opportunity for structured networking, learning and participation in the multi-stakeholder discussions and consultations on the WSIS implementation. WSIS Forum concluded with an Annual Meeting of Moderators/Facilitators of all Action Lines as requested by TAIS Para 109 and fourth meeting of United Nations Group on the Information Society (UNGIS).

99. WSIS 2010 is scheduled to be held from 10th to 14th of May 2010. Following the outcomes of the 2009 WSIS Action Line Facilitators meeting as well as following the exchange of views among several WSIS stakeholders the organizers of the WSIS Forum, ITU, UNESCO, UNDP, UNCTAD decided to call for a

consultation process regarding the thematic focus of the Forum in the year 2010. The consultation was announced on 5 January 2010 and is structured in three steps as follows: …..

- Online discussions (5 January – 5 February)
- Submission of official contributions (Deadline: 5 February)
- Final review meeting (10 February)

Dedicated Group on International Internet-related Public Policy Issues

100. This group was established as an integral part of WG WSIS, open only to all Member States, in accordance with Resolution 75 (WTSA, 2008), and Council Resolution 1282 (Mod. 2008)

101. It is tasked to identify, study and develop matters related to international Internet-related public policy issues, to disseminate its outputs throughout ITU's membership, and to contribute to the work of WG - WSIS on international Internet-related public policy issues within the mandate of ITU pursuant to the relevant resolutions of the Plenipotentiary Conference (Antalya, 2006) and 2007 Council Resolution 1282.

102. 2009 Council Resolution 1305 invites Member States to recognize the scope of work of ITU on international Internet-related public policy matters, represented by the list of topics of the Resolution, which was established in accordance with decisions of ITU membership at the Plenipotentiary Conference, Council and world conferences; and to elaborate their respective position on each of the international Internet-related public policy issues referenced in the list of topics and to contribute actively to the work of ITU on these issues. Accordingly, the Dedicated Group is a forum for all governments, on an equal footing, to discuss public policy issues pertaining to topics falling under several Action Lines. For example:

- AL C2: Availability, affordability, reliability, and quality of service, especially in the developing world
- AL C5: Combating Cybercrime, Dealing effectively with spam, Issues pertaining to the use and misuse of the Internet, Respect for privacy and the protection of personal information and data, Protecting children and young people from abuse and exploitation
- AL C6: International public policy issues pertaining to the Internet and the management of Internet resources, including domain names and addresses

103. The Dedicated Group held two successful meetings in 2009. The third meeting of the Group will be held on Feb 3, 2010.

(b) Innovative multi-stakeholder initiatives

The Global Cyber security Agenda (GCA)

104. As noted in Para 23, in May 2007, ITU Secretary-General launched the GCA: a framework for international cooperation in cyber security. The GCA is made up of seven main strategic goals and builds upon the following five work areas or pillars: (1) Legal Measures; (2) Technical and Procedural Measures; (3) Organizational Structures; (4) Capacity Building; and (5) International Cooperation. It builds on existing national and regional initiatives to avoid duplication of work and encourage collaboration amongst all relevant partners. GCA benefits from the advice of a High-Level Experts Group (HLEG) composed by world-renowned specialists in cybersecurity, representing expertise from across a broad range of backgrounds in policy-making, government, academia and the private sector.

105. In 2008 WSIS stakeholder community during the 2008 WSIS Action Line C5 Facilitation Meeting endorsed GCA as a credible multi-stakeholder global framework for international cooperation in addressing the global challenges in cyber security. Later on the Internet Governance Forum (IGF) has also endorsed the GCA as a model for international cooperation in cyber security.

106. The momentum generated by the GCA and the broad nature of this ITU initiative have resulted in interest from other stakeholders and opportunities for collaboration and cooperation. Specific initiatives already undertaken under GCA umbrella include**:**

- International Multilateral Partnership Against Cyber-Terrorism (IMPACT) & GCA
    - The Government of Malaysia offered to make available the infrastructure of the International Multilateral Partnership Against Cyber-Terrorism (IMPACT) as the home of the GCA. IMPACT is backed by a USD 13 million infrastructure and has agreed to make its state-of-the-art global headquarters in Cyberjaya, Kuala Lumpur, available as one of the physical homes of ITU's Global Cyber security Agenda. IMPACT services were successfully demonstrated during ITU Council 2008 and at the Third IGF meeting in Hyderabad, India with very positive responses from several ITU Member States. IMPACT services are now operational and being implemented in a number of ITU's Member States.
- Child Online Protection Initiative (COP)
    - COP is an international collaborative network based on a multi-stakeholder and multi-sectoral partnership for joint action to promote the online protection of children worldwide, through education and awareness-raising on e-safety, facilitating the development and use of appropriate technologies, including a framework for cooperation among relevant stakeholders in the protection of children online. A year long call for action was launched by ITU Secretary-General on 18 May 2009 to consider the year 2009- 2010 the child online safety year. E*mphasizing* on the commitment of the ITU to connecting the world responsibly to ensure cybersecurity, enable cyberpeace, and protect children online, the ITU's role to facilitate the implementation of WSIS Action Line C5 *"Building confidence and security in the use of ICTs"* and the establishment of the Child Online Protection (COP) as a special initiative within the Global Cyber Security Agenda GCA framework of the ITU.
- Cybersecurity Gateway
    - Gateway is a collaborative platform where civil society, academic institutions, industry, private sector, NGOs, governmental and international organizations can share information resource on national and international cybersecurity related initiatives.

The Connect the World Initiative

107. As noted in Para 66, in 2005, ITU launched the *Connect the World* initiative to help mobilize the financial, human and technical resources needed to implement outcomes of the World Telecommunication Development Conference (WTDC) and the World Summit on the Information Society (WSIS).

108. As part of this effort, ITU is organizing high-level events known as *Connect the World* Summits in each region where Members have expressed an interest. These Summits bring together like-minded stakeholders to work together on concrete actions and projects to expand information and communication (ICT) networks and access as a means of spurring investment, employment and broader social and economic development.

Connect Africa Summit

109. The *Connect Africa Summit*, the first in the series, was held in Kigali, Rwanda in October 2007 and generated the level of financial commitment of more than 55 billion USD to be spent for the development of inclusive information society in Africa. As part of follow-up to *Connect Africa* , several actions by ITU and partners are under implementation. More information on them is available on at the Summit's website. In 2008, ITU launched two new partnerships, among others:

- *Wireless Broadband:* in the spring of 2008, BDT secured US$ 4 million from the Craig and Susan McCaw Foundation and added another US$2.4 million from the ITU ICT Development Fund to start wireless broadband projects. ITU is now working closely with the African Development Bank to build on this foundation to help meet the demand of Member States in the region, and has begun discussions with the Islamic Development Bank. Missions have been organized to a number of countries and concrete implementation is underway;
- *Capacity Building:* ITU is implementing ICT capacity building projects for Spanish and Portuguese speaking countries in Africa, including a centre of excellence, Internet Exchange Points (IXPs) and youth scholarships. The Government of Spain has provided financial support for each of these projects. The Government of Portugal has also assisted by providing financial support for the centre of excellence.

Connect CIS Summit

110. As the second regional event in the series, ITU organized the *Connect CIS Summit* with partners on 26-27 November 2009 in Minsk, Belarus. The Summit gathered some 353 participants from 18 Member States (10 from CIS Region), including five Heads of State (Republic of Armenia, Republic of Belarus, Republic of Kazakhstan, Kyrgyz Republic and Republic of Tajikistan) and Government and one First Deputy Prime Minister. The administrations of 10 countries from the region were represented, including 7 at the Ministerial level. Some 40 leading ICT companies, development banks, international organizations and other stakeholders participated in the Summit. The Presidents (Heads of State) addressed participants of the Summit in a special session entitled, "Leaders Statements and Summit Declaration: Towards a Sustainable Information Society ", in which each President (Head of State) outlined their vision for the Summit and pledged their full support to the Connect CIS Initiative. The Connect CIS Summit concluded with the Connect CIS Declaration.

111. This Summit was organized in partnership with the Regional Commonwealth in the Field of Communications, the Commonwealth of Independent States Executive Committee, the World Bank, the European Bank for Reconstruction and Development, the European Investment Bank, the Islamic Development Bank, the United Nations Economic Commission for Europe and the United Nations Global Alliance for ICT and Development among others.

112. The overall objective of the *Connect CIS Summit* was to mobilize the human, financial and technical resources to support a rapid, region-wide transition to digital infrastructure and services, widely recognized as the engine of future economic growth and social and economic development. Priorities include rolling out broadband Internet, expanding rural connectivity, creating a policy and regulatory environment to support investment and new business models, enhancing ICT training and human capacities and stimulating locally relevant applications and services.

Global Flagship Initiatives

113. In early 2009, BDT launched four global *Connect the World* flagship initiatives. The aim of these initiatives is to build upon and strengthen promising projects that start in one region or with one industry partner, by providing an attractive, open platform and brand that can be promoted to additional partners globally and/or in various regions:

1. *Wireless Broadband Partnership:* high-speed connectivity for developing countries, with extra capacity for public uses, including schools and hospitals. This global flagship initiative builds on the wireless broadband project in Africa mentioned above;
2. *Connecting Villages:* low cost solutions for basic connectivity in rural areas;
3. *Connect a School, Connect a Community:* partnership effort to promote broadband school connectivity to serve both students and the communities in which they live, with a special emphasis on groups with special needs; and,
4. *ITU Academy Partnership:* training and courseware on cutting-edge ICT innovations in areas such as NGN and mobile.

5. *ITU Mobile Health Initiative:* partnership effort to support developing countries making the best use of mobile technologies to assist patients and improve health services. The initiative will facilitate the launch of demonstration projects and provide capacity building to develop simple and cost-effective mobile applications that respond to critical national health priorities.
6. *ITU- IMPACT Collaboration:* to facilitate the deployment of solutions and services to address cyber threats at a global scale, together with ITU Member States and leading global partners from industry and academia.

114. Each of the flagship initiatives outlines clear roles for government, industry and other partners, with ITU playing a neutral brokering and expert role. These initiatives will enhance donor/partner recognition and ITU visibility globally and in the regions, as well as provide greater coherence in partner outreach.

(c) Future Actions

115. The following major ITU WSIS-related events and initiatives are planned for 2010:

- WSIS Forum 2010
- Regional Human Capacity Building Forums
- Regional Development Forums
- Global Symposium for Regulators
- Global Human Capacity Development Symposium
- ITU TELECOM Americas 2010
- World Telecommunication Development Conference
- Plenipotentiary Conference

IV. FINAL CONCLUSIONS

116. As presented above the ITU initiated, facilitated and implemented several activities related to the implementation of the WSIS outcomes. The three ITU sectors, ITU-R, ITU–T, ITU-D, and the General Secretariat played an active role in this process in their respective areas of expertise and brought out the complimentary role between the sectors with reference to WSIS. As the leading UN specialized agency focusing on ICTs, ITU organized several of these activities on its own and in partnership, highlighting and prioritizing the importance of multi- stakeholder collaboration. Participation from the governments, international organizations, civil society and private sector from all over the world was noted in all these efforts, which significantly contributed to the progress towards achievement of the WSIS goals.

COMMISSION ON SCIENCE AND TECHNOLOGY FOR DEVELOPMENT (CTSD)

Thirteenth Session

Geneva, 17 to 21 May 2010

Submissions from entities in the United Nations system and elsewhere on their efforts in 2009 to implement the outcome of the WSIS

Submission by

UNESCO

United Nations Educational, Scientific and Cultural Organization

This submission was prepared as an input to the report of the UN Secretary-General on "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" (to the 13th session of the CSTD), in response to the request by the Economic and Social Council, in its resolution 2006/46, to the UN Secretary-General to inform the Commission on Science and Technology for Development on the implementation of the outcomes of the WSIS as part of his annual reporting to the Commission.

UNITED NATIONS EDUCATIONAL,
SCIENTIFIC AND CULTURAL ORGANIZATION

Highlights of UNESCO's 2009 action as lead facilitator for the World Summit on the Information Society implementation process

Report for the Commission of Science and Technologies for Development

February 2010

Executive summary

1. In 2009, UNESCO increased its resources dedicated to meeting the WSIS goals, this report's highlights selected results achieved by UNESCO and partners.
2. UNESCO has taken action on three levels: Firstly, UNESCO has implemented and facilitated joint activities to meet the internationally-agreed development and particularly the WSIS goals. An important part of the Organization's programme and budget are directly contributing to the WSIS implementation and much of the substantial work towards building inclusive knowledge societies is implemented on this level.
3. Secondly, UNESCO co-organized and co-facilitated with ITU and UNCTAD the WSIS follow-up and implementation through the new WSIS Forum 2009 event (Geneva, 18-22 May 2009). A complete revision of the meeting format re-juvinated interest and created new momentum for this annual WSIS event in Geneva. UNESCO organized high-level sessions and facilitated meetings, within the multistakeholder setting, in the area of the six action lines, for which UNESCO is the lead facilitator: Access to information and knowledge (C3), e-learning (C7), e-science (C7), media (C9), cultural diversity and identity, linguistic diversity and local content (C8), ethical dimensions of the Information Society (C10).
4. UNESCO also contributed to the WSIS follow-up and implementation on regional levels (e.g. with UN GAID in Addis Ababa (1 May) and with ESCWA in Damascus, 16-18 June 09.)
5. Thirdly, UNESCO contributed to the overall multi-stakeholder coordination of facilitators of all Action Lines and to the Internet Governance Forum. UNESCO chaired the United Nations Group on the Information Society (UNGIS, until May 2009) and took the co-lead in two of its three flagship programmes. The organization also developed and launched the open-source based WSIS online community platform (www.wsis-community.org), facilitating the participation in and information-sharing about WSIS processes, activities and initiatives among the broad range of stakeholders.
6. The organization participated actively in the global debate on Internet Governance, including in the Internet Governance Forum (IGF). UNESCO participates in the work of the IGF's Multistakeholder Advisory Group (MAG) and prepared its contribution to the the fourth IGF in Sham El Sheikh in November 09, organizing workshops and round tables on freedom of expression, social networks, and multilingualism. UNESCO is also working with ICANN to provide its linguistic expertise for the implementation of Country Code Internet domain names in non-latin scripts.
7. In 2009, the WSIS follow-up and implementation have found a new daynamic, through the new WSIS Forum format, the WSIS community online platform, but also through enhanced cooperation of the facilitators. Nevertheless, a challenge remains to keep the momentum gained in the two phases of the Summit, particularly in times of economic crisis and depleting budgets. In this challenging environment, UNESCO is all the more committed to assisting countries in bridging not only the digital divide, but also the more complex 'knowledge divides.'

Innovative policies, programs, and projects undertaken by UNESCO and stakeholders - implementation highlights per Action Line:

Access to information and knowledge (C3)

8. In the area of access to information and knowledge, UNESCO and partners have implemented a wide array of activities to harness the potential of ICTs to allow people, anywhere in the world, to access information and knowledge. UNESCO gave particular emphasis to reinforcing the role of archives and libraries (infostructures) and that of educational institutions to create information literate societies.
9. In 2009, the Memory of the World Programme, one of UNESCO's flagship initiatives, has contributed to the protection of, and access to original documentary material and to sensitizing the public and decision-makers to the importance of heritage and memory. Links between the Programme and the newly launched World Digital Library (WDL) (April 09) serve as a framework for national development and possible regional cooperation, including also the provision of diverse and multilingual content on the Internet. WDL now has 56 partners from 35 countries. Another 10 partners in 7 countries are completing the formalities and will join in the next few weeks. Since the launch on April 21, www.wdl.org has had some 7.1 million visitors, accounting for more than 54 million page views.
10. Through a variety of partnerships, UNESCO has been promoting open access and open content policies as well as a diversity of choices through the use of open-source tools, especially for open educational resources and open access to scientific information.

E-Science (C7)

11. In the area of e-science, UNESCO has focused on implementing activities to make scientific information affordable and accessible. A highlight has been the work on access to scientific knowledge, with a special focus on developing countries and on "open access" strategies for e-science. UNESCO's strategy in this domain and related partnerships were further developed in an expert meeting (Paris, Dec. 2009) on UNESCO's Open Suite Strategy.
12. A major obstacle to science education in Africa remains the important lack of qualified and trained science teachers. The African Virtual Campus (AVC) thus aims at enhancing the capacity of Member States in sub-Saharan Africa to train science and technology teachers through e-learning. In addition to the operational AVC centres, set up with multimedia equipment in Benin and Senegal, the network was enlarged through campuses in the Côte d'Ivoire and Cape Verde, to provide training in the production of online modules, e-learning and distance education.

E-learning (C7)

13. E-learning is a cornerstone for building inclusive knowledge societies. Following this view, UNESCO extended its work with partners in the areas of ICTs in Education policy, content and curriculum development, as well as in the use of ICTs for higher-, teacher- and literacy education and for technical and vocational training.

14. In addition, new initiatives were launched, including the development of an Open Education Management Information System (OpenEMIS), Free Open Source Software (FOSS) for people with visual impairment and a series of Open Educational Resources (OER) for teacher education in post-conflict and post-disaster situations. Open and Distance Learning (ODL) materials were developed and used for the in-service training of 3,700 teachers in Africa. In Asia, the institutional capacity of teacher education institutions (TEIs) to use of ICT in teaching and learning was enhanced through the launching of peer coaching programmes in TEIs in 10 countries.
15. UNESCO and the government of Bahrain agreed to develop a state-of the-art Center for Information and Communication Technology for the Arab States. The Center's objective is to serve as a technology hub and to provide the latest computer infrastructure as well as to promote knowledge sharing for policy development and best practices throughout the Arab region.
16. With the growth in the number of mobile phone subscriptions surpassing the 4 billion mark, including a massive deployment in developing countries, UNESCO dedicated an e-learning session of the WSIS Forum in Geneva to m-learning (mobile learning) in May 2009. Discussions based on projects implemented by international organizations, the private sector and civil society went hand in hand with the launch of different projects, including UNESCO's mobile phone based post-literacy programme, aiming to train and retain literate people. In December 2009, UNESCO also hold an expert meeting on the use of mobiles for development and for m-learning, leading the multistakeholder group in a brainstorming about joint future action.

Cultural diversity and identity, linguistic diversity and local content (C8)

17. In the area of the promotion of cultural diversity and identity, linguistic diversity and local content in cyberspace, UNESCO's contribution to the implementation is based on the conviction that cultural and linguistic diversity, while stimulating respect for cultural identity, traditions and religions. This is essential to the development of knowledge societies based on a dialogue among cultures.
18. UNESCO's activities focused, for example, on the promotion of cultural diversity and dialogue through the safeguarding of linguistic diversity, the formulation of national language policies, the dissemination of local content, also based on indigenous knowledge. At the country and regional levels, UNESCO concentrated on building capacities and provided policy advice through multistakeholder partnerships, to support the elaboration of regional and national language policies.
19. At the operational level, a number of specific actions carried out through UNESCO Intersectoral Platform for Languages and Multilingualism in cyberspace, education systems, cultural expressions and exchanges, at international, regional and national levels in 2009. Highlightes included the launching of the World Digital Library, the update of the Atlas of Endangered Languages and the update of the World Bibliography of Translation (Index Translationum).
20. In continuation of activities launched in the International Year of Languages (2008), the International Conference on Linguistic Diversity was organized in Bamako (Mali, Jan. 2009) and the study on Measuring Linguistic Diversity on the Internet was updated and

published: *Twelve years of experiences in measuring linguistic diversity on the Internet: balance and perspectives* (Feb. 2009).

21. To contribute to the challenge of a common set of objectives shared at international and multilateral level with regards to language policy, UNESCO will reinforce its monitoring and advocacy activities in this field. In this context, UNESCO started in 2009 the preparation of a synthesis report on the normative tools and principles of relevance to languages. It is also to reinforce a common understanding of languages policy matters, namely through the delivering as one initiative UNESCO contributed (September and March 2009) to the report on multilingualism, including in cyberspace, by the United Nations Secretary-General.

Media (C9)

22. UNESCO convened the fourth facilitation meeting on 19 May 2009 at the WSIS Forum in Geneva, which gathered more than 40 participants. The meeting concentrated on exchanges about community media and community access to information.
23. A significant contribution of UNESCO to the WSIS implementation in the area of media was the use of Media Development Indicators (MDIs) by numerous countries. UNESCO's comprehensive set of Media Development Indicators, endorsed by the Intergovernmental Council of the International Programme for the Development of Communication (IPDC) in 2008, received recognition as a major standard-setting tool by stakeholders and United Nations agencies working on media development and good governance. The MDIs have been translated and published in English, French, Spanish, Russian, Arabic and other languages.
24. In addition, with the support from the IPDC, UNESCO implemented 63 media development partnership projects in developing countries in 2009.
25. In support of training institutions accepting agreed standards for journalism training curricula and in partnership with Rhodes University (South Africa) and Namibia Polytechnic, UNESCO organized two capacity building meetings in journalism training in Africa (March 2008, Grahamstown, South Africa and Windhoek, Namibia in May, 2009) to explore the ways in which the capacities of African journalism schools can be boosted through aid and exchange programmes, partnerships, networking and twinning initiatives on a regional and international level.
26. Presently, 54 journalism training institutions from 44 countries agreed to adapt UNESCO's journalism curricula models which are now available in seven languages.
27. Community multimedia centres (CMCs) worldwide have been further supported and guidelines for gender sensitive reporting and gender equality in media and provided community access to information were developed.
28. On 2 and 3 May 2009, UNESCO held its conference celebrating the World Press Freedom day in Doha, Qatar. The conference focused on how media influences thought and action and its capacity to foster dialogue, understanding and reconciliation. World Press Freedom day was actively celebrated in 70 countries in 2009.
29. UNESCO organized the first International Conference "Broadcast Media and Climate Change", in partnership with the United Nations Environment Programme (Paris, September 2009), brought together national broadcasters from both developing and developed countries, regional broadcasting unions, key international broadcasting associations, scientific organizations and climate-related agencies. The Paris Declaration adopted by broadcasters stressed that "access to relevant information on climate change is vital to sustain a living planet and for the survival of human beings."
30. The 11th UN Inter-agency Round Table on Communication for Development (C4D) (Washington DC, Feb. 2009) was hosted by the World Bank and UNDP, and co-organized

by UNESCO and emphasized the need to institutionally position C4D in the UN system and strengthen monitoring and evaluation of C4D activities.

31. Given the rapid growth of mobile telephony, UNESCO organized an expert meeting on mobile media 17-18 December 2009. This meeting explored the potential of mobile phones and provided recommendations to integrate mobile media into UNESCO's strategy in terms of education, media development, freedom of expression, democracy, good governance, citizens participation, etc.
32. UNESCO supported the Oxford Internet Institute to conduct a global survey of existing Internet regulation frameworks and to provide legal and policy recommendation in order to assist Member States in promoting a free, open and inclusive Internet. The initial research will be completed by the end of January 2010. The global consultation and implementation activities will follow.
33. UNESCO pioneered the development of a universal model of media and information literacy (MIL) with a view to enriching the teacher training curricula. Fostering media literacy as a key component of teacher education, if not in school curricula, remains a critical challenge, and requires strong collaboration of key stakeholders.

Ethical dimensions of the Information Society (C10)

34. Info-ethics is one of the five priorities of UNESCO's Information for All Programme (IFAP). A working group convened by the Chair of the IFAP Council is currently examining a draft Code of Ethics for the Information Society.
35. In 2009, UNESCO, in cooperation with the International Centre for Information Ethics and the Government of South Africa, also organized an Information Ethics and e-Government High Level Executive Seminar followed by a training workshop. The two events were held in Pretoria, South Africa, from 23 to 26 February 2009. This e-government and information ethics initiative in Africa aimed to significantly improve the quantity and quality of government services provided to the public, businesses and the civil society over those provided by traditional methods. Another objective of this initiative was to incorporate greater transparency into the provision of government products and services to the public and businesses. This requires making information on the availability of those services more complete and pro-actively accessible to both the media and the public.
36. During the period covered, UNESCO also followed-up on the declarations and recommendations of the four regional conferences organized and supported on information ethics, developed different initiatives with its members and partners in the area of promotion of freedom of access to official information and support for access to governmental public domain information and encouraged the use of the IFAP publication on the *"Ethical Implications of Emerging Technologies: A Survey"* and the integration of information ethics into mainstream discussions on ethics.

Measuring ICT for Development - UNESCO's Institute for Statistics (UIS)

37. The contribution of UNESCO's Institute for Statistics (UIS) to the WSIS follow-up cuts across several Action Lines and has a particular focus on the development and use of ICT in education (C7), Media (C9) and Information Literacy (C3) indicators.

38. A series of new initiatives were launched in 2009 for the development and use of ICT in education indicators, through meetings in Rabat (Morocco, May 09), Busan (Republic of Korea, July 09) and in Montevideo (Uruguay, December 09). Most importantly, the UIS established an international Working Group on ICT Statistics in education (WISE), comprising national experts representing 25 Member States.
39. A significant accomplishment has been the official submission of an initial core set of ICT in education indicators at the 40th session of the UN Statistical Commission held in New York (USA, Feb. 2009). This deliverable forms part of UIS commitment toward the "Partnership for Measuring ICT for Development" to help monitor goals related to the e-learning Action Line C7 of WSIS.
40. The operationalization of the Media Development Indicators Framework advanced through meetings in New Delhi (India, April 09) and San José (Costa Rica, Nov. 09) and ongoing pre-testing in 5 countries, before the pilot-test in 25 countries in 2010.
41. Peoples' skills or abilities to effectively handle information and generate knowledge are at the heart of the WSIS goals, and can be measured through Information Literacy indicators. An expert meeting in Montreal (Canada, Nov. 09) advised UIS on possible ways to establish cost-effective and sustainable methodologies to measure these skills.
42. A major measurement challenge across the three Action Lines remains the novelty of concepts being standardized for the first time to ensure comparable collection of data and to a larger extent the statistical capacity gaps among countries. Moreover, there seem to be big discrepancies in individual member states policy information needs based on their level of economic development or on their digital readiness, which may conflict to a certain degree with international requirements.

Internet Governance

43. In 2009, UNESCO participated in the fourth Internet Governance Forum (IGF) in Sharm El Sheikh. UNESCO co-organized, chaired, moderated and participated as panelist and from the floor in many IGF sessions on the main themes of the IGF 2009. UNESCO's activities were particularly focused on cultural diversity and multilingualism, privacy, security and openness, and the promotion of freedom of expression against filtering and censorship. Social networks and their governance were also thoroughly discussed in UNESCO workshops.
44. In the round table on multilingualism, UNESCO presented the collaboration with ICANN in the implementation of internationalized domain names. UNESCO and ICANN signed a cooperation agreement in December 2009 to promote linguistic diversity on the Internet.

Final remarks

45. UNESCO highlighted throughout the WSIS process the importance of the "soft" ICT components for an inclusive development of knowledge societies. Beyond important infrastructure and hardware questions, it is crucial to address the capacity building, policy, content and indicator development challenges, to name a few. The indicator and measurement component becomes of growing interest at this point in between the 2005 Tunis commitments and 2015 goals. A major measurement challenge across the Action Lines UNESCO leads is, however, the novelty of concepts being standardized for the first time to ensure comparable collection of data and to a larger extent the statistical capacity gaps among countries. Moreover, there seem to be big discrepancies in individual

member states policy information needs based on their level of economic development or on their digital readiness, which may conflict to a certain degree with international requirements. The cost of measurement is also particularly high for above mentioned “soft” components and even more, if important impact dimensions, e.g. ICT capacity building, is being evaluated.

46. Another challenge remains the representativeness of the mutli-stakeholders team. The WSIS Forum Geneva meetings remained therefore selective, as participants have to generally cover their own participation costs. This challenge can be overcome through the online platform UNESCO developed and launched for the WSIS community in 2009 (www.wsis-community.org). The platform allows for a larger involvement of all stakeholders in the WSIS implementation and it is also being used for the shaping of and follow-up to the WSIS Forum meetings in Geneva.

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Thirteenth Session

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Submission by

UNIDO

United Nations Industrial Development Organization

This submission was prepared as an input to the report of the UN Secretary-General on "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" (to the 13th session of the CSTD), in response to the request by the Economic and Social Council, in its resolution 2006/46, to the UN Secretary-General to inform the Commission on Science and Technology for Development on the implementation of the outcomes of the WSIS as part of his annual reporting to the Commission.

Information for the follow-up to the World Summit on the Information Society Input from UNIDO

A. Executive Summary

The United Nations Industrial Development Organization (UNIDO) is mainstreaming Information and Communication Technology (ICT) as an industrial development enabler throughout its technical assistance services. ICT, as a general purpose technology can enhance productivity and competitiveness as well as accelerate technological innovation.

As the UN agency specifically mandated to promote the development of manufacturing industries, UNIDO focuses its ICT related development assistance on micro, small and medium sized enterprises (MSMEs). In that, UNIDO also develops innovative business models for the base of the economic pyramid and pursues impact oriented business partnership strategies.

As such, and in its continued effort to effectively contribute to the implementation of the outcomes and recommendations of the World Summit on the Information Society (WSIS, 2003-2005) to which UNIDO actively participated, UNIDO has engaged in numerous technical cooperation and global forum activities, as briefly illustrated with the below non-exhaustive overview of recent programmes.

B. Implementation Trends and Experiences

UNIDO established a strategic partnership with Microsoft and Hewlett Packard to bring the knowledge of expertise of leading IT multinationals to the benefit of its constituencies in developing countries. These partnerships constitute an important input into UNIDO's ICT-based technical assistance portfolio and create win-win partnerships for all stakeholders involved. The focus of the partnerships is geared to a large extend towards the transfer of know-how and expertise as well as in-kind contributions rather than financial support

C. Main Achievements and Future Actions

i) Selected Programmes and Projects

a. Business Information Centres (BIC) Programme

UNIDO established the BIC Programme as an impact-oriented, pro-poor initiative that caters to the needs of rural entrepreneurs. It builds on ICT and business development services as a tool to enhance the productive capacity and competitiveness of MSMEs, particularly in rural areas where access to business information is a challenge. The BICs provide ICT-based information, training and Internet access to MSMEs on a commercial basis. Other major benefits for rural entrepreneurs are ICT support, entrepreneurial advice and unprecedented access to new markets, technologies and services. With the support of UNIDO, BICs sign cooperation agreements with institutions that provide information content.

As a pilot project, eight BICs have successfully been launched in rural Uganda. Numerous countries have since requested UNIDO's assistance in replicating and tailoring such centres to their local needs. The programme received the "Africa Investor Award 2007" in the category best SME development initiative.

In 2010, the Uganda Business Information Centre Network Programme will be further expanded.

b. Renewable Energy Powered Business Information Centers (REBICs)

As an integral part of its energy strategy, UNIDO promotes access to clean energy for productive activities, and supports patterns of energy use that mitigate climate change and are environmentally sustainable. UNIDO offers a wide range of technical assistance programmes in the area of private sector development and renewable energy solutions. Based on the significant expertise accumulated in these areas, UNIDO has established a joint initiative to link renewable energy solutions for productive capacities in rural areas.

In 2010 UNIDO plans to implement a model of renewable energy powered business information centres (REBICs) in Uganda by linking UNIDO's business information centre methodology which provides entrepreneurship skill services and ICT training to rural

communities with sustainable and reliable energy solutions. Based on renewable sources of energy such as solar, biomass, wind and small hydropower technologies, UNIDO will offer an innovative solution to provide reliable energy access and productive capacities for SMEs in rural areas.

c. Refurbished Computer and Electronic Waste Programme

In 2008, UNIDO and Microsoft launched the computer refurbishment programme which offers affordable, safe and much-needed computers to consumers at the bottom of the economic pyramid. The refurbished computer program includes responsible take-back solutions of hardware at the end of its useful life. As such the project contains a full life-cycle solution which includes the local disassembly of PCs at the end of their useful life into reusable components, which are either resold, locally recycled or exported back partners in Europe.

The main goal of the programme is to provide entrepreneurs with access to affordable quality hardware, and to take care of the entire life-cycle of used computers in an environmentally safe way.

Based on the refurbished computer centre of excellence and e-waste model which has been successfully piloted in Uganda, it has been expanded to other selected countries. In 2009 computer refurbishment projects have commenced in Tanzania and Trinidad and Tobago.

d. National Business Registry System

The project aims to provide policy and technical advice towards the achievement of nationwide business registration reform. As a result, enterprises will be able to register for business, tax code, statistics and seals through a single-point, using a consolidated form and obtain a unique enterprise ID. National capacities will be developed to simplify the legal framework, processes and procedures and to set up and operate the computerized National Business Registry System (NBRS). NBRS will bring benefits to enterprises and government agencies. For enterprises, it will reduce the cost and time for completion of registration and provide centralized effective and high-quality services related to market entry procedures. For government, it will standardize and centralize business registration data nationwide, hence improving the efficiency of public administration due to the computerization and

simplification of red tape. It will also facilitate enterprise management after business registration reducing data entering error and data loss.

e. Local software initiative

With a three-way partnership between UNIDO, Microsoft and the Government of Uganda, the local software industry initiative for Uganda was launched in September 2007. The objectives are to provide opportunities for ICT graduates to be employed in the information economies, as well as to spur innovative software solutions in local languages tailored to the native needs. Stimulated local software industry can bring new opportunities for innovation, business process outsourcing services, and industrial development.

To this end, it is planned to establish the first local software development centre in East Africa in 2010 to act as a centre of excellence and incubator involving academia, industrial associations, the private sector and relevant public institutions.

f. Youth entrepreneurship and IT training programme

In May 2008, UNIDO and Hewlett-Packard (HP) launched HP's Graduate Entrepreneurship Training through IT (GET-IT) programme in Africa and the Middle East. The GET-IT training programme teaches young un- or underemployed people aged 16 to 25 the basics of entrepreneurship with practical hands-on experience in the use of computer technology. The training programme empowers young people to establish and run their own business or to get employed.

GET IT courses teach young people IT solutions for daily business challenges in the areas of management and operations, finance, marketing, communication and technology management. The GET-IT training is made available through local partner organizations which receive a grant package comprising a classroom set of HP technology, the training curriculum T-tools, materials needed to deliver the courses in local languages and a cash donation.

Since May 2008, the UNIDO-HP partnership programme has set up 33 GET-IT centres in 10 countries, certified 143 GET-IT trainers and trained more than 15,000 students in Africa and the Middle East. The 10 participating countries include Algeria, Egypt, Kenya, Morocco, Nigeria, Saudi Arabia, South Africa, Tunisia, Uganda and United Arab Emirates.

Case Study: A UNIDO-HP success story

The Ebonyi State Government in Nigeria trained 25 young unemployed Nigerian graduates in agriculture at the Songhai Farm in Benin and partnered with UNIDO and HP to boost the entrepreneurship and IT skills of the graduates. After their training, the Government granted each graduate a microcredit to start individual agricultural enterprises.

With the help of GET-IT, the young entrepreneurs managed to set up and run their own farm businesses. GET-IT equipped them with the management and technology tools needed to improve the efficiency and productivity of their farms.

"Through GET-IT, I have learnt to use the Internet. The Internet is a window to see what others are doing, how your products are being utilized, and how best to modify them, if necessary. We are digital farmers now", comments Jeremiah Oteh, a Songhai graduate who established his feed mill in Ebonyi State.

Through GET-IT, 25 young Ebonyi farmers launched their own website (www.ebonyistatesonghaiyouthfarmers.org) to broaden the market they can address.

g. AfrIPAnet Investment Monitoring Platform

In support of the efforts of African governments to drive industrial development in Africa, promote domestic investment for competitive growth and build partnerships between public and private stakeholders for credible investment policies implementation, UNIDO launched its Regional Programme on Investment Promotion. The Programme received strong support from the African Union Commission (AUC) and was fully endorsed at the 18th Conference of African Ministers of Industry (CAMI) in 2008 as a strategically important and high priority programme.

The objective of the programme is to stimulate a marked increase of foreign investment flows into African productive sectors through better monitoring of investments, more effective management and governance, and more informed decision making by the private investor through better information.

An integral part of the programme is the execution of the fourth African Investor Survey covering foreign and domestic investors in the 20 sub-Saharan African countries. The Investor Survey started in December 2009. Implementation and National Steering Committees, composed of main country stakeholders were established to oversee the survey implementation and to leverage the survey findings for more targeted service interventions and investment policy design based on empirical evidence. A group of enumerators was trained in each country to carry out the data collection during face-to-face interviews with the companies' CEOs.

The UNIDO surveys will be consolidated on a web-based interactive "Investment Monitoring Platform" to which all stakeholders will be given various levels of access. The information will support the stakeholders in the implementation of their respective mandates and interventions. The information and the platform will also support private sector entities in their decision making. In the context of UNIDO's Subcontracting and Partnership Exchange (SPX) Programme, that is also being rolled out, the platform will also serve as a business portal providing companies with a means to make business linkages, identify buyers and suppliers as well as potential joint venture partners. In addition, the capacity building component of the programme will ensure that relevant country-level institutions will be able to use the data from the survey to design effective investment promotion strategies.

h. LABNET (www.labnetwork.org)

Labnet is a web-based portal set up by UNIDO and the World Association of Industrial and Technological Research Organisations (WAITRO) to support the testing laboratories in various fields, such as in environment, metrology, chemical, microbiology, textile, etc., that certify that commodities and products meet the technical requirements and quality standards of importing countries. The partners of Labnet include International Laboratory Accreditation Cooperation (ILAC), International Organization for Standardization (ISO), Bureau International des Poids et Mesures (BIPM), EPTIS and COMAR. Through the Labnet web portal, UNIDO aims to support developing countries in establishing the necessary physical and institutional lab infrastructure and to promote international trade. Labnet provides information on laboratory accreditation, which gives formal recognition to competent laboratories, thus providing a ready means for customers to identify and select reliable testing, measurement and calibration services. Such accredited testing laboratories help local industry to develop products that are compliant with international norms and thus more competitive in global markets.

i. ETRACE (www.etrace-eg.org)

The Egyptian Traceability Centre for Agro-Industrial Exports (Etrace) was established in July 2004 to improve the capability of Egyptian farmers, growers and pack houses along the food value chain to meet European and international food quality, safety and traceability standards. To this aim, Etrace developed the traceability system which meets the international traceability standards, geared by ICT solution to ensure a "one-step-up, one-step-down" tracking mechanism involving all operators in the value chain, from smallholders to international retail chains. The solution was implemented among exporters in order to implement requirements, creating new market opportunities for Egyptian Agro-industrial sector. In turn, the traceability systems allows importers and authorities to trace all the steps taken during the preparation and distribution of food products, particularly in the case of health emergencies that require recall, thus functioning as a risk management system for food safety.

j. Publication: Information society statistics in the Russian Federation: Harmonization with international standards (2007)

This publication, which was prepared by the Institute for Statistical Studies and the Economics of Knowledge, Higher School of Economics (HSE) of the State University, analyses various aspects of the development of internationally comparable statistics on the information society in the leading countries of the world and in the Russian Federation. It describes the main methodological provisions and indicators of Russian and international statistics, and includes new results obtained in the course of the project on the "Development of methodologies for ICT statistics in Russia based on international standards", implemented by HSE with support of the European Commission (EC) and UNIDO's technical assistance.

ii) Future actions and goals

UNIDO plans to further increase the outreach of its ICT-based technical assistance programmes to promote affordable, innovative and relevant solutions to MSMEs in developing countries. To achieve these goals, UNIDO expects to consolidate and strengthen its current partnerships with the private and public sectors in order to address the global challenges arising from the implementation of the WSIS outcomes.

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UPU

Universal Postal Union

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REPORT ON IMPLEMENTATION OF

WORLD SUMMIT ON THE INFORMATION SOCIETY OUTCOMES

BY UNIVERSAL POSTAL UNION (UPU)

Berne, January 2010

Executive Summary

The outcomes of the World Summit on the Information Society (WSIS) recognized the UPU and the worldwide postal network as an important facilitator in the development of the information society, in cooperation with other international organizations active in the field. The postal network with at least 650,000 locations across the globe can play a major role in connecting the unconnected, bringing the information society closer to the people, and increasing e-inclusion in many fields including health, education and government services.

The UPU Nairobi World Postal Strategy (2009-2012) adopted during the 24th UPU Congress in 2008, included the implementation of the outcomes of the World Summit on the Information Society (WSIS) as one of its 18 programmes. Congress Resolution C 28/2008, C 33/2008 and C 38/2008 define specific actions to support the implementation of the programme of work.

At the policy level, in accordance with its role as co-facilitator of Action Line C7, E-Business, the UPU hosted the first postal sector conference on E-commerce during 2008 at which time a declaration was agreed on the commitments of the postal sector in the development of e-commerce in developing and industrialized countries.

At the operational level, the UPU has been carrying out a number of actions that advance the WSIS outcomes, in the areas of e-learning, e-government, e-inclusion, e-infrastructure, e-post, all of which are supporting the reduction of the digital divide across its member countries.

This document provides a summary of the key activities undertaken in 2009 by the UPU in the context of the WSIS outcomes, highlighting innovative initiatives as well as planned activities to ensure the continued implementation of WSIS outcomes.

Innovative policies, programmes and projects which have been undertaken

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In accordance with its mandate, as co-facilitator of Action Line C7: e-Business, the UPU continues to foster international and regional activities and cooperation in the development of e-Business. The UPU organized a 3 day E-Commerce Conference (May 2009, Hong Kong), at which private sector, governments, regulators and postal operators exchanged views on the important elements of the development of cross border e-commerce in developing and industrialized countries.

The UPU continues to encourage the postal sector to utilize UPU international standards, and interconnection technologies developed by its Postal Technology Centre, to develop e-business within the postal sector and bridge the digital divide. The UPU Post*Net network now connects 152 countries for the exchange EDI data about postal movements, indirectly supporting the development of e-commerce in these countries.

In the area of e-inclusion, the UPU continues to expand its International Financial System (IFS) network to enable secure and affordable electronic remittance services via national post offices throughout the world, enabling greater financial inclusion in underserved communities. In 2009, two additional developing countries connected to the network, Lithuania and Vietnam, bringing the total number of countries exchanging remittances electronically to 41.

In terms of Information Society Indicators, the UPU continues to enhance the collection of statistics related to adoption of information and communication technologies (ICT) in the postal sector. In 2009 the UPU found that there were over 3700 post offices around the world providing public internet access points covering rural and underserved communities in urban centre. This number continues to increase as further technical cooperation projects are developed with other international organizations active in the field.

During the WSIS Summit in Tunis in 2005, the Government of the Republic of South Africa, the International Telecommunication Union (ITU) and the UPU signed a Cooperation Agreement to launch concrete projects in selected developing countries to:

(i) reduce the digital divide and enhance access to ICT for rural and underserved communities;
(ii) promote public-private partnerships for content development and dissemination in the areas of governance, health, community based content, learning, education and skill development;
(iii) promote small and very small entrepreneurs (having appropriate qualifications) with support from micro-finance institutions and other organizations for the provision of services to the general public.

The use of National Post Office infrastructure was considered as a possible way of reducing the capital expenditure and operational expenditure. The countries participating in the project are: Tanzania,

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Mozambique, Malawi, Zambia and Rwanda. After some problems with the startup of the project and establishing solid lines of coordination with the stakeholders, 2009 saw some significant progress begin to take shape.

In Tanzania the National Postal Operator (Tanzania Post) is adapting to new technologies and business practices. A major focus is on enhancing its capacity to utilize a new ICT backbone to provide services in rural and remote areas. Tanzania Post is to launch a programme for issuing franchises to small entrepreneurs to provide ICT and postal services.

In Mozambique the government has taken steps to establish, operate and maintain rural internet service providers (ISPs) in four districts, under the funding of the World Bank, and utilizing rural ISPs in post offices serving the surrounding 30-50 sq km area, to ensure greater financial sustainability. In all these locations, post offices will be used as the base for providing telecom services to educational institutions, government offices, hospitals, enterprises and entrepreneur-led telecentres. The Post Office will franchise the service providers on revenue sharing basis. For the other countries progress is expected in 2010.

In the area of e-education, (Action Line C4, C7: E-Learning) at a global level, the UPU uses ICT to disseminate training programmes covering a large number of beneficiaries. Thanks to the UPU's e-learning platform, postal staff, particularly in developing countries, has permanent access to all training courses. Two guides for use by specialists who design and disseminate ICT-based training programmes have been developed by the UPU (a web-based learning guide and a computer-based learning guide).

To date, up to 4000 participants in 130 countries have been connected to one or more programmes. In 2009 the UPU enhanced the range of languages in which the courses are offered, all courses are now available in Spanish as well as French and English. These courses are also available to postal training centres wishing to organize classroom training. In the last four years, the UPU has developed 40 training programmes that can be used for group and distance training. www.upu-trainpost.com/eng/trainpost_index.htm.

In the area of building confidence and security in the use of ICTs (Action Line C5), the UPU has recently concluded the first phase of an ongoing initiative for the development of an Internet domain called .post with which it intends to provide a platform for secure and trusted domestic and cross border postal services, enhancing the possibilities for increased trust in E-commerce transaction in all countries. This phase was concluded with the signing of an agreement between Internet Corporation for Assigned Names and Numbers (ICANN) for the delegated authority to develop, implement and monitor governance rules for .post and manage the attribution of domain names. The UPU is the first UN agency to enter such a contract with ICANN for the authority to oversee a top level domain. The contract is an important contribution to the further development of the Internet, especially in

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underserved areas. It is part of a goal to provide a single interoperable network linking physical and electronic postal services to enhance inclusion of all people around the globe in the information society.

And finally, in relation to Action Line C2, Information and Communication Infrastructure, the UPU embarked on an ambitious project to facilitate access and usage of affordable Radio Frequency Identification (RFID) technology in developing countries. The project entailed working with postal sector members, private sector specialists, and UNDP to develop and deploy the technology, skills and capacity to run an affordable RFID based global monitoring system (GMS) for movement of mail throughout the international network of national postal operators.

Twenty one (21) countries were involved in the project in 2009, Aruba, Chile, Greece, India, Korea (Republic), Malaysia, Mexico, Netherlands Antilles, Norway, Peru, Qatar, Romania, Saudi Arabia, Singapore, Slovakia, Spain, Switzerland, Togo, Tunisia, United Arab Emirates and Venezuela. At the completion of the first phase of the project in 2009, RFID affordability improved from 20.00 USD to 0.30 USD per item. At least 40 additional countries have indicated their willingness to join the project and gain access to the RFID technology within the UPU Global Monitoring System rollout in 2010, which should further increase the reach the RFID based infrastructures in developing countries.

Obstacles and Challenges

The UPU has found that success in these endeavors depends upon the active engagement of a wide range of stakeholders, and very clear communication of the goals and ambitions of the projects, in order to ensure the alignment of the commitments of the stakeholders.

In the case of the UPU which is one of the smaller specialized agencies of the UN, in-kind contributions from institutions in the development community and the private sector are vital to fund these initiatives. The UPU has created a position of Partnership and Resource Mobilization Expert to specifically focus on this issue.

Future actions or initiatives to be taken

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In 2010, as well as continuing most of the actions already outlined, some new activities are expected to be completed. In relation to Action Line C7: E-Business, the UPU will investigate ways to strengthen the postal sector's capabilities to support underserved communities that wish to access domestic and cross border E-commerce marketplaces and E-trade gateways. The UPU is undertaking an in-depth study with governments, and postal operators to review of best practices in the use of ICT to facilitate domestic and international e-commerce, for South-South and South-North transactions, exploiting the reach of the 650,000 office global postal network. The study is expected to explore a number of alternatives and proposals for the best mechanisms that governments and regulators could implement to reduce the barriers to cross border transactions and increase the inclusion of Small and Medium Enterprises via the postal network. The study is already underway and is expected to be completed before the end of 2010.

In relation to Action Line C1 Promotion of ICT for Development, the UPU will be working together with the ITU on the publication a book about the increased deployment and utilization of information and communication technologies (ICT) for the delivery of postal services and reduction of the digital divide, especially in rural areas and underserved areas. This publication, financed by the ITU, will contain a set of good practices for the use of ICTs in the postal sector and provide guidelines for countries that are developing projects of this kind or wish to do so. The publication will also help to promote the role of the postal sector in the development of the WSIS outcomes.

In relation to Action Line C3, Access to Information and Knowledge, the UPU will coordinate new projects in the Asia Pacific region, in cooperation with other international organizations active in the field, to enhance the use of ICT within the postal network and establish telecentres for the use of the general public including school children and small and medium enterprises for accessing internet and related e-commerce services.

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Submission by

WBG

World Bank Group

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Contribution by the World Bank Group to the
"Assessment of the Progress Made in the Implementation of and Follow-up to the Outcomes of the World Summit on the Information Society"

Prepared by the Global ICT Department, The World Bank Group

February 17, 2010

www.worldbank.org/ict
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Executive Summary

- The World Bank Group is the largest multi-lateral financier in the field of ICT in developing countries. Over the past five years, the World Bank Group has provided more than US$3 billion of funding in over 80 countries through its three financing arms; the International Bank for Reconstruction and Development (IBRD, or World Bank), the International Finance Corporation (IFC), and the Multilateral Investment Guarantee Agency (MIGA).

- The Global Information and Communication Technologies Department (GICT) is a joint department of the World Bank (IBRD) and the IFC. Bringing together the World Bank's expertise in policy and regulatory matters and the IFC's experience in private sector investment transactions, GICT serves as the World Bank Group's core department for research, policy, investments and other programs related to ICTs in developing countries, working with governments and private companies to reduce poverty and foster development. (www.worldbank.org/ict)

- GICT's Policy Division, CITPO, has supported reforms in over 85 client governments, with a strong focus on low-income countries (65 out of 85), and provided approximately US$750 million in loans for ICT related projects. This support contributed towards generating US$16billion in private sector investment between 1997 and 2006 in IDA countries alone. CITPO's support is in addition to lending projects in other World Bank sectors - such as health, education, trade, and finance - which have ICT components. It is estimated that US$1 billion to 1.5 billion in lending is provided to these projects annually. Trust funds administered by the IBRD have contributed an additional US$50 million to the ICT sector in the past five years.

- GICT's IFC Division, the private sector arm of the department, provided approximately US$3.2 billion in financing to ICT companies in developing countries, including US$1.8 billion for 84 projects in 32 low-income countries. To date, the IFC has contributed to 225 million new mobile subscribers worldwide. Additionally, through its syndicated loan program, the IFC offers commercial banks and other financial institutions the chance to lend to IFC-financed projects that they might not otherwise consider. These loans have contributed another US$1 billion toward the sector, out of which US$360 million have been committed in low-income countries.

- GICT's *info*Dev division is a multi-agency partnership coordinated and served by an expert Secretariat housed at the World Bank, one of its principal donors and founders. *info*Dev is a mainstreaming agent of ICT through recognized research and toolkits, such as its Telecom Regulatory Handbook, which builds capacity of regulators. Through its incubation network, it has been an enabling agent for 105,000 new MSME entrepreneurs in developing countries.

- MIGA is a World Bank Group agency that provides political risk insurance to foreign investments in developing countries. Over the past ten years, MIGA has issued 38 guarantee contracts for 21 ICT projects (including 12 in Africa) and close to US$ 1.3 billion, focusing mainly on connectivity. In relative terms, MIGA's ICT portfolio accounted for 6 to 10 percent of its gross exposure and contributed to support about US$6 billion of foreign direct investments over that period.

- This document presents some of the implementation practices, lessons learned and project examples of the World Bank Group's work in ICTs since WSIS 2005. It begins with an Analytical Overview that discusses implementation mechanisms and work areas, lessons learned and outcomes, continues to descriptions of policies, programs and projects of the GICT's Policy Division, IFC and *info*Dev, and concludes with a description of future initiatives and programs.

Analytical Overview

The World Bank provides support and capacity building to developing countries in several instruments, including its ongoing policy dialogue with its client countries, lending projects, and Trust Funds. Below are selected but not exhaustive examples of our support.

The Global ICT Department (GICT) has supported reforms in over 105 client governments, including 68 low-income countries, and provided approximately US$750 million in loans for ICT related projects. This support is in addition to lending projects in other sectors-such as health, education, trade, and finance- which have ICT components. It is estimated that US$1 to $1.5 billion in lending are provided to these projects annually. Trust Funds administered by the World Bank have contributed an additional US$50 million to the ICT sector in the past five years.

GICT's main product lines are:

- Policy advice for the ICT sector, including telecommunications liberalization, privatization, and regulation; Internet services, such as e-connectivity, e-government, and e-commerce; and postal and broadcast services through its Policy division;
- Loans to governments to subsidize private providers of ICT infrastructure to rural households and the urban poor as well as public postal networks, also through its Policy division;
- Investment capital for private provision of ICT infrastructure and services, through its IFC division
- Grants for innovative projects and knowledge sharing on development opportunities offered by ICTs, through *info*Dev.

Below are selected examples of our support.

Broadening and deepening sector and institutional reform: GICT's support has played a significant role in helping to liberalize telecommunications markets, privatize incumbent operators, revamp regulatory frameworks, and build capacity. IDA countries that have implemented deep sector reforms supported by the World Bank have attracted some US$30 billion in investment between 1997 and 2007. The annual revenue generated by the ICT sector in these countries is equivalent to around 4 percent of the GDP of these countries.

When indirect benefits are accounted for, the contribution of the ICT sector to GDP growth has exceeded 10% in ratio in some countries. The World Bank has also helped to broaden the reform agenda beyond the telecommunications sector to the entire ICT sector, including that of e-government applications. It has also continued its limited support to postal sector reform in 15 low-income countries, as part of its earlier policy work in helping operators separate their state-owned postal activities from telecommunications activities.

Increasing access to information infrastructure: In order to increase access to ICT for low-income people, GICT has supported innovative financing mechanisms in the form of public-private partnership (PPPs). PPPs for rural access have included output-based aid (OBA) in Nepal, Nicaragua, Nigeria and Uganda, providing access to more than 3,000 remote localities. Since 2005, PPPs supporting regional connectivity have been recognized as a powerful vehicle to bring down the cost of international bandwidth and improve affordability of high-speed Internet. Examples of such PPPs are the on-going IFC-supported Eastern Africa Submarine System (EASSy) and the Bank's Regional Communications Infrastructure Program (RCIP) in East and Southern Africa (further details below).

Supporting ICT applications: The World Bank has steadily supported the use of ICT across other sectors. In Fiscal Year 07, the active portfolio of ICT components in projects anchored in other sectors (e.g. Education, Health, and Rural Development) was estimated to be worth US$7.7 billion. Despite the large potential contribution of IT to an organization's productivity and the high rewards that it can generate, IT projects have been found to present high risks. ICT components that only support automation and computerization of back office processes can fall short of being transformational. In addition to supporting ICT components across sectors, the Bank is developing since 2006 a portfolio of stand-alone e-Government projects in Ghana, Ethiopia, Kenya, Mongolia, Morocco, OECS, Rwanda, Sri Lanka, Tunisia, Ukraine, and Vietnam. In the IFC, the ICT portfolio is one of the most successful, with high quality ratings. Through investment in IT companies, IFC has supported the use of ICT applications in enhancing public administration efficiency and private sector development (for example, through e-Government in Chile, Russia, Turkey and China), or having significant social development impact (for example, through e-Health in Africa and Latin America, m-banking in South Africa, or Education in Nigeria).

Capacity building: In 2008, the World Bank's Africa Region Human Development Department and GICT jointly initiated the New Economy Skills for Africa Program (NESAP-ICT), which is being implemented in eight African countries with notable progress in Nigeria, Ghana, and Kenya. Building on this effort, a Global ICT Skills Development Initiative is being developed to focus on skills development in partnership with the ICT industry (details below). The World Bank has also stepped up effort to sensitize and build capacity of leaders and practitioners in the area of ICT through the e-development Thematic Group (e-TG) which was created in 2003 (details below). Moreover, in the last 10 years, IFC has invested in 54 IT services companies, all of which have extensive in-house training programs. Some of these companies focus specifically on the education sector. By the end of calendar year 2008, the IFC portfolio of IT Sector comprised 23 companies and had helped to create about 57,000 jobs, of which 16,000 were filled by female employees.

1. Trends and Lessons

The World Bank has noted several important trends in recent years: (i) High-speed Internet has started to play an important role in developing countries to stimulate private sector development and transform local

economies; (ii) Mobile phone networks serve as a new delivery channel for sector applications to reach the poor and under-served, including for health, education, agriculture services, and banking; (iii) Information Technology Enabled Services (ITES) is a growing industry and can be a significant engine of growth and employment generation; (iv) Information and content availability over the Internet at ever-faster speeds is perceived as being essential for inclusion, empowerment and human development; and (v) Convergence of technologies (voice, data and media) are causing disruptions to existing policies and business models and shifts in market structures.

The work of the WBG in the ICT sector in recent years provided important lessons: (i) Availability of infrastructure and its affordability remain an important constraint in many of our client countries; (ii) The availability of relevant skills has been identified as a binding constraint for countries to develop their local IT Industries and support ICT applications at the public and business levels; (iii) Projects involving ICT present high risks at the implementation level and thus require greater checks and balances and an emphasis on monitoring; (iv) Coordination of IT systems across sectors and levels of government can lower overall costs and create greater efficiencies and productivity; (v) Deliberate policies are required to promote inclusion and gender equality around ICT interventions; (vi) IT and ITES industries can help address pressing social challenges by creating employment opportunities for youth and women; and (vii) Leveraging private sector investment through employment of Public-Private Partnerships, for example for the rollout of infrastructure, remains an important component of ICT project design.

Policies, Programs and Projects

2. World Bank (IBRD) Lending Projects

Below is a selection of World Bank Group programs and projects as of WSIS 2005. They do not represent an exhaustive list of our activities since the summit. A full listing of GICT's projects can be found at http://tinyurl.com/ykkxk8w.

Africa: IBRD and IFC Support Infrastructure in Africa: Eastern African Submarine Cable System (EASSy) and Regional Communications Infrastructure Program (RCIP)

http://tinyurl.com/yjxz64l | http://tinyurl.com/yjpl3s4 | http://tinyurl.com/yf99q72
In early 2008, construction began on the Eastern African Submarine Cable Systems (EASSy), a fiber optic cable that will service 21 African countries. The project received an IFC investment of US$32.5 million. It is complemented by US$424 million in World Bank funding, under the Regional Communications Infrastructure Program (RCIP) to connect 13 adjoining countries by terrestrial backbone networks.

EASSy and RCIP will bring reliable and cost-effective broadband services to 25 countries in Africa, fully linking the region into the global communications network and boosting growth and competitiveness. This will help improve the delivery of knowledge and services in areas such as education and health. It is also expected to spur the development of knowledge-based small and medium enterprises. Together, EASSy and RCIP have triggered a race for connectivity in Eastern and Southern Africa with prices set to decrease five-fold or more. The approach is being replicated and adapted in Central and Western Africa, Western Africa, the Caribbean and the Pacific.

Tunisia: Providing Access to Disabled Children through the Tunisia ICT for Development Project

http://tinyurl.com/yj36y7x
A $13 million World Bank loan is helping to develop Tunisia's ICT sector. The project includes support to institutional and sector reforms; improving e-security mechanisms; developing e-government applications such as e-Justice and e-Culture portals; and promoting the participation of the private sector in ICT development. As one component of the loan, the Tunisian e-Disabled project is enabling 8,000 disabled children to access primary education enabled by ICTs. Special education centers across the country are receiving computer laboratories that are equipped with accessible hardware and software such as Braille keyboards, touch-screens, and software with sign language translation. By September 2010, the full disabled school children population, some 15,000 children, will be covered. The project also funds 24 Internet centers across the country (two per Governorate) with accessible hardware and software equipment.

Rwanda: Mainstreaming Applications through e-Rwanda

http://tinyurl.com/yj64cah

Selected World Bank Projects

1. *Kenya. US$157 million for pro-competitive regional communications infrastructure, regional policy harmonization, enabling environment, e-Government applications.*
2. *Vietnam. US$96 million for implementation of the National ICT Strategy, enterprise architecture, e-applications, capacity building.*
3. *Mexico. US$80M for IT-enabled services industry development.*
4. *Romania. US$60 million for developing e-Government, Broadband and Knowledge Economy.*
5. *Sri Lanka. US$53M for developing e-Government, Broadband, IT industry and e-society.*
6. *Organization of Eastern Caribbean States. US$7 million for regional e-Government applications that use economies of scale.*

As part of a US$10 million e-Rwanda e-Government and ICT Applications project, the TRACNet system funded under the project uses cell phones for health workers in the field to gather data about AIDS patient and their drug treatment, receive lab results and report drug shortages. This allows the Ministry of Health to track the medical supplies used by 252 HIV/AIDS clinics throughout the country in real time. The results are striking: 70,000 patients living with HIV and AIDS can now be targeted for treatment against 6,000 patients before the system was introduced. This has pushed the percentage of eligible patients receiving treatment from 10% to over 65% while the percentage of patients initiating late treatment has dropped from 67% to 34%. TRACnet is being extended to deliver lab results for infants with HIV immediately so that they can be rapidly placed on life-saving treatment. Plans to expand the system to monitor other diseases such as TB and malaria could profoundly transform the impact of disease surveillance programs.

Ghana: Innovative Project Design through e-Government PPPs in e-Ghana

http://tinyurl.com/yjbofjc

Among the US$57 million e-Ghana project's outcomes are an innovative project design spearheading a Public-Private Partnership to introduce electronic applications in key revenue agencies. The outcomes also included four key bills passed for Electronic Transactions, Electronic Communications, National Communication and the National Information Technology Agency, the completion of a National Skills set standards, curriculum and accreditation, the completion of the Business Incubation Policy Framework, the launch of an e-Government Public-Private Partnership process to introduce electronic applications in key revenue agencies, the establishment of an IT/ITES industry Association (GASSCOM), and a 50% reduction in bandwidth prices for GASSCOM members.

Morocco: Innovative Project Design through Administrative Reform

http://tinyurl.com/yfylbwk

The World Bank's instruments of "Development Policy Loans" provide untied, direct budgetary support to governments after implementation of policy and institutional reforms aimed at achieving a set of specific development results. As part of an e-Government component, this instrument was first applied in Morocco. The Morocco Public Administration Reform Project provides the equivalent of US$33 million support for improved service delivery and simplified public procedures through e-government policy reform, creation of an e-Government inter-Ministerial body, e-Customs, e-Procurement and e-National Registry applications.

3. IFC: Investment in ICT Private Sector through the International Finance Corporation

http://go.worldbank.org/OXRQY86Q90

IFC provides loans, guarantees, equity and mezzanine financing to private companies across the ICT sector. It provides long-term financing to emerging markets in telecom, broadcast, media, equipment manufacturing, information

IFC Project
WIZZIT Payments (Pty) Limited

Runner up in the 2008 Financial Times Sustainable Banking Awards for the category "Banking at the Bottom of the Pyramid"

Approximately 40% of South Africans do not have access to formal banking services, but 60% of the population owns mobile phones. WIZZIT is a South African enterprise that offers low-cost financial services via mobile phones to people who would otherwise not be able to access them. The company is one of the first independent mobile payment operators in an emerging market. IFC invested US$1,990,000 in WIZZIT.

technology and related markets. The main aims in working with infrastructure service providers, media, manufacturing and IT companies are to:

- Extend access for basic voice and data communications services to unserved or underserved areas, primarily through mobile and fixed-line services;
- Support advanced telephony such as broadband infrastructure and convergent technologies;
- Promote market liberalization and deregulation through support for the privatization of incumbent operators;
- Encourage and support competition and customer choice by working with alternative operators, networks and technologies; and
- Support the manufacturing of telecom equipment in developing countries.

Over the past ten years, IFC invested US$3.2 billion, which are committed in form of senior loans, equities, guarantees, and risk management products. Of that amount, US$1.8 billion are committed in 32 low-income countries (the equivalent of 84 ICT projects that are mainly geared towards extending mobile and data networks). For the same period, IFC helped mobilize over US$1 billion for the account of syndicated banks in form of B loans and guarantees, out of which US$360 million have been committed in low-income countries. Additionally, IFC has been expanding access to ICT by developing and replicating Advisory Services programs, such as Village Phone, which are now being rolled out in multiple countries.

4. *info*Dev : Knowledge Sharing and Support for Incubators

http://www.infodev.org

*info*Dev is a global development financing program among international development agencies, coordinated and served by an expert Secretariat housed in the Global ICT Department (GICT) of the World Bank, one of its key donors and founders. It acts as a neutral convener of dialogue, and as a coordinator of joint action among bilateral and multilateral donors—supporting global sharing of information on ICT for development (ICT4D), and helping to reduce duplication of efforts and investments. *info*Dev sponsors cutting-edge research and analysis to help identify global best practice in the use of ICT4D. It uses the knowledge it gathers to develop workshops, training seminars, toolkits, handbooks, and briefs to support donors, policy makers and others working in the field of ICT4D who are charged with turning knowledge into action. *info*Dev support assists them in setting policies, designing and implementing programs and projects, undertaking monitoring and evaluation, and building

Selected *info*Dev Publications

- Building Broadband Strategies and Policies for Development. January 2010.
- What Role should Governments Play in Broadband Development? A brief report that analyzes the role of Broadband as a economic growth driver. November 2009.
- Mixed-Use Incubator Handbook: An *infoDev* Handbook that aims to provide a useful tool for anyone considering setting up an incubator. November 2009.
- Low Carbon Development: The Role of Local Innovative Capabilities. October 2009.
- Global Trends in Sustainable Energy Investment 2009. Analysis of Trends and Issues in the Financing of Renewable Energy and Energy Efficiency. May 2009.
- Broadband for Africa: Policy for Promoting the Development of Backbone Networks. A report that focuses on the lack of high-capacity backbone networks in Africa. August 2008.
- ICT Regulation Toolkit. July 2008.
- ICT-in-Education Toolkit for Policy Makers, Planners and Practitioners. April 2007.
- Mobile Banking: Knowledge Map and Possible Donor Support Strategies. July 2006.

capacity. In particular, its research has supported efforts to strengthen the capacity of ICT regulators. The ICT Regulatory Handbook is among the most popular reference documents used by regulators; its recent online update, the ICT Regulation Toolkit, is now recording over 550 visits per day. (www.ictregulationtoolkit.org/en/index.html). In 2006, *info*Dev promoted new efforts on ICT in Education with a comprehensive set of knowledge products (toolkit, knowledge map, and surveys of ICT in Education in Africa and the Caribbean).

Since 1995, *info*Dev has funded over 200 projects providing on average US$9.8 million each year in grants, and has arranged for financing and technical assistance to 170 incubators supporting over 10,700 micro, small and medium businesses in 75 countries, enabling 105,000 new entrepreneurs.

MIGA: Supporting the Enabling Environment

The Multilateral Investment Guarantee Agency (MIGA) promotes foreign direct investment by providing political risk insurance (guarantees) to investors and lenders, in addition to helping emerging economies attract private investment. Over the past ten years, MIGA has issued 38 guarantee contracts for 21 ICT projects (including 12 in Africa) and close to US$ 1.3 billion, focusing mainly on connectivity. In relative terms, MIGA's ICT portfolio accounted for 6 to 10 % of its gross exposure and contributed to support about US$6 billion of foreign direct investments over that period.

5. Knowledge Sharing: e-Development Thematic Group

http://www.worldbank.org/edevelopment

The e-Development Thematic Group is a global virtual forum for knowledge sharing, policy dialogue and learning on the use of ICT in development. A global community of practice since 2000 with over 300 World Bank staff and 1,600 external members, and about 185 knowledge sharing and learning events delivered to date, including about 100 multi-country videoconferences, it uses Twitter, Facebook, LinkedIn, videoconferencing, webcasting and webinar tools.

Future Actions or Initiatives

6. Global Transformation Initiative

Following an ICT Leadership Roundtable chaired by Mr. Zoellick in November 2008, the World Bank Group has been working with industry stakeholders to establish the "ICT-enabled Government Transformation Initiative" (GTI). The GTI aims to: (i) support governments in developing countries through knowledge sharing with industry leaders and practitioners about lessons from other experiences, emerging innovations and best practices in this field; and (ii) prepare and implement concrete ICT solutions that have transformational potential. More specifically, the initiative aims to support formulation of 20-30 transformative projects per year that can serve as pilots for large scale replication across countries.

The GTI has two components. The "Peer-to-Peer Networks" will entail the launch of an interactive portal that would include a "moderated" networking platform for government and industry leaders at two levels - top policy makers and operating practitioners; and a mechanism to access experts and company expertise, complemented by a knowledge bank on ICT-enabled government transformation cases and experiences. The practitioners' networks will initially focus on 3 areas: eGovernment, including areas such as eProcurement and

governance; clean ICT/ ICT against climate change; and food security. The WBG will gradually invite the experts in the database to join the practitioners' networks. The "Project Development Facility" (PDF) will provide rapid response technical assistance to prepare up to 20-30 specific projects per year, often under public-private partnership arrangements that may be financed either by the Bank and/or the IFC. The WBG may use the expert pool to find consultants to work on developing particular projects for the PDF.

The expected outcomes of the initiative are the acceleration of ICT-enabled government transformation, connecting practitioners with implementers and experts, showcasing best practice, and providing technical assistance for project design and enabling environment. We hope to support formulation of 20-30 transformative projects per year that can serve as pilots for large scale replication across countries

7. ICT Skills Initiative

Less than 15 percent of the IT / IT-enabled services (ITES) market is currently being exploited. The IT services market has a$325 billion annual potential; the ITES market has a $150 billion annual potential, and is expected to grow to $240 billion by 2012. One job created in the ITES industry leads to the creation of up to 4 more jobs in other sectors. Country size is not a binding constraint as small countries can aim at specific niches. However, one major constraint in developing countries' efforts to reap the benefits of these markets is lack of adequate skilled workforce graduating from their education systems. The aim of the ICT Skills Initiative is to align skills development with industry needs and improve IT education quality. The initiative will foster collaboration between Governments and private sector on competency needs and training standards. ICT skills development programs and institutions within and outside the formal educational system will be fostered; training and job placement programs will be scaled up. A pilot in Nigeria (2009-2010) is expected to be scaled-up to other countries

8. World Bank ICT Strategy

The World Bank is embarking on devising a new ICT Sector Strategy for its work. The objective of the new sector strategy is to guide the Bank in helping clients use ICT for inclusive growth, efficient and transparent governance and service delivery in several critical sectors. Such efforts require strong partnerships across the Bank Group, with key external partners, both public and private, and with civil society and citizens. The new sector strategy will provide broad directions for the Bank Group to address opportunities and challenges presented by ICTs. The new sector strategy will also help shape WBG's business model in ICT. Particular attention is being given to align the ICT Sector Strategy with other Bank Group strategies, including those being prepared in parallel, such as for Climate Change, Environment, Energy, Urban, Education and the Agriculture Action Plan. Consultations with external stakeholders, including multilateral agencies, donors, clients and others, are under preparation. In particular, an online consultation web site and blog are expected to be launched in mid-2010.

Climate Change and ICTs

It is estimated that ICTs contribute about 2-3 percent of total global greenhouse gases (GHG) emissions globally, similar to the amount generated by the aviation industry. ICTs not only impact the level of GHG emitted within the sector, their larger influence lies in their potential to enable energy efficiencies in other sectors, reducing and even in some cases eliminating GHG emissions in a given process or facility. The latter is estimated to deliver carbon savings five times larger than the total emissions from the entire ICT sector in 2020.

ICT also plays a role in the systematic observation of earth phenomena and is being used in meteorology, agriculture, forestry, coastal zone management and disaster prevention and reduction. Several technologies stand out, including computerized weather and climate models, remote sensing technologies, geographic information systems (GIS), sensor networks, wireless and fixed broadband technologies.

World Bank financing of ICT interventions can have a significant impact in abating climate change and preventing disaster in developing countries. The World Bank is currently studying its role in this area.

9. Monitoring and Evaluation

The Plan of Action calls for increased M&E efforts to monitor progress in the use of ICT for development, specifically emphasizing the need to benchmark performance and assess progress towards achieving international development goals, including those set out in the Millennium Declaration.

The ICT Results Agenda at the World Bank has been jointly led by GICT and the Development Economics Data Group. The activities so far include:

1) Update of the World Bank's Country ICT At-a-Glance Tables, which provide about 30 key indicators on the ICT sectors of 150 economies, with sections on economic and social context, ICT sector structure, Sector Efficiency, and ICT sector performance (Access, Usage, Quality, Affordability, Trade and Applications). The ICT AAG tables can be accessed at http://go.worldbank.org/5RZ90VCFH0. Publication of the "Little ICT Data Book," a published version of the ICT AAG tables. The book can be accessed at http://publications.worldbank.org/ecommerce/catalog/product?item_id=8961587.
2) Country ICT performance measures are introduced in 2009 to provide a quick and effective way for policy makers to assess their countries' ICT capacities in comparison with other countries, as well as benchmarking their countries' progress of ICT development over time. The economies have been evaluated and given a score on a scale from 1 to 10, corresponding to the performance quintiles, for each of the dimensions of ICT sector performance: (1) access to ICT services, (2) affordability of ICT services, and (3) adoption of ICT applications in government and business. The measures will be updated annually.
3) A core set of ICT sector indicators identified in the areas of telecommunications, e-government and IT & IT-enabled industry, to be used for performance M&E of all World Bank projects in the sector.
4) A Flagship Report series. The Information and Communication for Development Report (IC4D) has been launched as a regular publication of the World Bank on various topics related to the diffusion and impact of ICT. The two issues of the flagship report IC4D06 and IC4D09 can be accessed at http://www.worldbank.org/ic4d.
5) Statistical Capacity Building for assessment of the socio-economic impact of the ICT sector, and for establishing sectoral M&E frameworks in a number of developing countries, particularly in North Africa and East Asia.

COMMISSION ON SCIENCE AND TECHNOLOGY FOR DEVELOPMENT (CTSD)

Thirteenth Session

Geneva, 17 to 21 May 2010

Submissions from entities in the United Nations system and elsewhere on their efforts in 2009 to implement the outcome of the WSIS

Submission by

WHO

World Health Organization

This submission was prepared as an input to the report of the UN Secretary-General on "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" (to the 13th session of the CSTD), in response to the request by the Economic and Social Council, in its resolution 2006/46, to the UN Secretary-General to inform the Commission on Science and Technology for Development on the implementation of the outcomes of the WSIS as part of his annual reporting to the Commission.

World Health Organization

WHO Contribution to the 2009 UNSG report on the World Summit on the Information Society, to the Commission on Science & Technology for Development

10. eHealth action line (C7)

Priority areas in this World Summit on the Information Society (WSIS) action line include improving health information systems, facilitating access to knowledge and information in health, promoting the adoption of international standards for exchange of health data, and strengthening systems for disaster response and communicable diseases monitoring and alert.

Information and communication are core to effective public health action. Every field mission, country office, ministry, partnership and programme depends on reliable and timely information to do their work. As a basis for health action and advocacy the world over, the role of information gathering, analysis, reporting and dissemination remains fundamental.

The WSIS called for participation of all stakeholders. In the health sector, this includes: governments, multilateral agencies, development partners, health care organizations, academic, research, and public health institutions, standards development organizations, health care workers, entrepreneurs, information and communication technology (ICT) experts from the public and private sectors, citizens, and nongovernmental organizations.

The WSIS action line on health aligns with WHO's eHealth strategy adopted in 2005 by the Fifty-eighth World Health Assembly. Resolution WHA58.28[47] urges Member States to consider drawing up long-term strategic plans for the development and implementation of eHealth services. It calls on governments to form national eHealth bodies to guide policy and strategy development in eHealth including data security, privacy, interoperability, cultural and linguistic issues, infrastructure, funding, monitoring and evaluation. WHO recommends that each Member State establish a national-level body for eHealth, formally supported by the Ministry of Health as a key instrument in implementing the eHealth resolution.

WHO's Global Observatory for eHealth monitors country progress on the Resolution and the WSIS agenda. Established by the World Health Organization in 2005, the Observatory is charged with monitoring, analyzing and reporting developments and trends in eHealth worldwide. Since the first global survey on eHealth (2007) there has been continued country progress in building the foundation policies and strategies for eHealth. Progress has been reported in ICT capacity-building, rates of adoption of eHealth applications and knowledge services for health professionals and students.

[47] *http://www.who.int/gb/ebwha/pdf_files/WHA58/WHA58_28-en.pdf*

Preliminary results of the 2009 survey show the growth in national eHealth strategies and in public-private partnerships supporting eHealth initiatives. A detailed report and country-specific information on the WSIS implementation will be available in 2010, covering areas such as policy, partnerships, infrastructure, funding, capacity building, legal issues and the adoption of established and emerging applications, such as mobile health (www.who.int/GOe/en).

As reported in previous years, a number of WHO's programmes respond to the call for *improving access to the world's health information*, in partnership with the private sector. Chief among them, the Health InterNetwork Access to Research Initiative (HINARI) provides free or low-cost online access to health sciences journals to local, not-for-profit institutions in developing countries. Since its launch in 2002 with 6 major publishers, the numbers of participating publishers and of journals and other full-text resources has grown continuously. Today more than 150 publishers are offering their content in HINARI (www.who.int/hinari/en/). The agriculture and environmental sectors have replicated this successful public-private partnership model, with sister programmes sponsored by the Food and Agriculture Organization (FAO) of the United Nations and the United Nations Environment Programme (UNEP) launching initiatives in the same model (see www.aginternetwork.org/en/, www.oaresciences.org/en/). Similarly, the Global Health Library brings together national and regional initiatives such as the Latin American and Caribbean Virtual Health Libraries, to increase access to information and scientific evidence on health, particularly in developing regions. Through a network of virtual libraries the initiative progressively connects local, national, regional and international flows of information on health (http://www.globalhealthlibrary.net).

As connectivity improves and increasing numbers of individuals use the Internet, eHealth can greatly improve access to *quality health care information* for policymakers, health care workers, patients and their families. Governments are concerned with consumer trust and therefore focusing on policy measures to advance consumer protection and privacy in the online world. There are notable professional and civil society initiatives advocating for inclusiveness and free access to health information in all its forms. However, major challenges remain to achieving this. Examples include ensuring that information is accurate, relevant to diverse cultures, and up-to-date; leveraging the right technologies; and developing sustainable business models to enable equitable, affordable access and outreach to underserved populations.

The special importance of ICTs in *systems for emergency response* was highlighted in 2009 with the advent of the Influenza A (H1N1) global pandemic. Examples such as the timely local reporting of confirmed cases of influenza, the rapid and secure sharing of information at the global level, the use of web-based and mobile technologies alongside

traditional media for public information exchange highlighted the world's reliance on ICT in preparedness and response. It also underscored the crucial need to connect all countries – their research, academic, laboratory and clinical institutions, professionals, communities and citizens – for global health action.

In addition, *public health reporting* is formally addressed through the revised International Health Regulations (IHR), which entered into force in June 2007. The IHR commit all countries to collectively apply agreed rules for preventing and managing public health risks. WHO has designated IHR contact points in each of its 6 Regional Offices and developed additional tools, training materials and guidance to support countries in implementing the IHR. Countries have designated national IHR focal points and are in the process of assessing their existing public health capacities and developing national action plans. The success of the IHR depends on all stakeholders in countries and in WHO. In particular rapid sharing of information based on trust and transparency will be vital to achieving a safer world. (www.who.int/ihr/)

The improvement of *health information systems,* in partnership with countries, international organizations and the private sector is addressed through such partnerships as the Health Metrics Network (HMN) (www.who.int/healthmetrics/). An important milestone for strengthening health information systems was reached when the World Health Assembly in May 2007 called on health information and statistical communities, international organizations, global health initiatives and other stakeholders to “provide strong, sustained support for strengthening health information systems, including use of the standards and guiding principles set out in the Framework of the Health Metrics Network.” During 2009 HMN published the third edition of its Framework and Standards which is increasingly being adopted as a technical guide. Over 60 countries have so far received grants for intensified efforts to strengthen their health information systems with HMN and partner support.

Considerable progress was made in several areas is support of standardization in health information systems including an electronic version of the International Classification of Diseases (ICD), the development of a web-based revision process for ICD-11, an agreement on terminologies (SNOMED-CT (IHTSDO)), and initiation of development of a classification for patient safety and for traditional medicine.

A number of key public goods in health informatics were launched, including the Global Health Observatory, expansion of the OpenMRS network, implementations, and new applications, interoperable systems between OpenMRS and District Health Information System (DHIS), as well as community building of the health informatics sector. A number

of key meetings were organized targeting different health communities in Africa and globally, on eHealth and health informatics standards and use, focusing on clinicians, data managers, policy.

As in previous years, continuing challenges to achieving widespread health information systems include the design, governance, funding, and ability to manage complex ICT deployments. On the technical level, interoperability and standards remain a serious challenge for the sector as conflicting standards, versions and implementations exist, with a clear way forward yet to be agreed. The health sector may have to invest considerable funds to ensure the interoperability that is required for efficient and effective exchange of health data in critical areas. The value of interoperability of electronic health records across organizational boundaries is difficult to dispute. Nor is the difficulty of achieving this, as standards have not yet become widely adopted. Procedures and processes must be developed that provide "rules of the road". There are complex technical issues that surround this work; there are also complex governance, policy and procedural issues that must be addressed.

In any global economic scenario the coming years bring unsettling prospects for ICT in health, as the results of the global economic downturn have made a significant impact on investment in infrastructure, products, and services. More than ever, the strategic use of ICT in health is vital in order to ensure that scarce funds are well spent. Going forward, it will be important to invest in research that can potentially guide eHealth policy and practice in countries and particularly in emerging economies. Given the current fundamental transformation of communications platforms, applications and services in health, it is important to develop a better understanding of the wide-ranging implications of these changes as they affect health systems and services. As the number of stakeholders participating in ICT and eHealth increases, the effects of policies on the overall evolution of the sector are more difficult to assess. Policy makers at national level need to develop shared models and consensus around the pertinent policy problems and possible solutions. In this respect, policy experts in communications, media and health all have an essential contribution to make towards implementing this action line.

WHO as facilitator of this action line recognizes the broad scope of ICT in health and the significant effort still required to meet the WSIS commitments. A priority for the coming years will be addressing common concerns related to the legal and regulatory landscape as well as the improvement of systems for monitoring disaster and emergency response, which requires collaboration between countries, effective and durable public-private partnerships, and investment across sectors.

COMMISSION ON SCIENCE AND TECHNOLOGY FOR DEVELOPMENT (CTSD)

Thirteenth Session

Geneva, 17 to 21 May 2010

Submissions from entities in the United Nations system and elsewhere on their efforts in 2009 to implement the outcome of the WSIS

Submission by

WIPO

World Intellectual Property Organization

This submission was prepared as an input to the report of the UN Secretary-General on "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" (to the 13th session of the CSTD), in response to the request by the Economic and Social Council, in its resolution 2006/46, to the UN Secretary-General to inform the Commission on Science and Technology for Development on the implementation of the outcomes of the WSIS as part of his annual reporting to the Commission.

WORLD INTELLECTUAL PROPERTY ORGANIZATION

CONTRIBUTION IN 2009 TO THE IMPLEMENTATION OF THE OUTCOMES OF THE WORLD SUMMIT ON THE INFORMATION SOCIETY

INTRODUCTION

This report has been prepared by the Secretariat of the World Intellectual Property Organization (WIPO) in response to the Economic and Social Council (ECOSOC) resolutions 2006/46, 2007/8, 2008/3 and 2009/7, which request the United Nations Secretary–General 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), based on inputs from relevant United Nations agencies and other entities.

I. SUMMARY

The Internet, the new information and communication technologies and the digital economy present both challenges and opportunities for the international community and the Intellectual Property (IP) system. The World Intellectual Property Organization (WIPO) is fully engaged in the process of adapting the international IP framework to the evolving needs of the Information Society. Using a multi stakeholder approach, WIPO addresses many issues related to the intersection between IP and the digital environment at the international level; among these are the technologies that enable management of IP rights on the Internet, the international framework for copyright limitations and exceptions, emerging tools for documentation and preservation of creative works, the legal and licensing framework of computer software and the role of Internet Intermediaries.

The commitment of WIPO to contribute to the development of an inclusive and development-oriented Information Society is reflected in past and future activities of the Organization. The progress reported in the implementation of the WIPO Development Agenda, which aims at ensuring that development considerations form an integral part of the Organization's work, is an expression of this commitment.

II. ANALYTICAL OVERVIEW

Copyright protects the moral and economic interests of creators through a system of intangible property rights provided in national laws and international treaties. The traditional model of returning value to creators and their business associates is rapidly changing in light of the convergence of digital technology and the distributional power of the Internet. This may work to the disadvantage of the developing world, where creators and users do not have the same access to the Internet, bandwidth and alternate models of obtaining financial rewards as their counterparts in the developed world.

The Geneva Declaration of Principles and Plan of Action of the World Summit on the Information Society (WSIS), encourages the development of a global Information Society, by harnessing the potential of information and communication technologies (ICTs) to promote the Millennium Development Goals. The Geneva Declaration recognizes that "education, knowledge, information and communication are at the core of human progress, endeavor and well-being" (paragraph 8); and it further emphasizes the importance of removing barriers to equitable access to information; of ensuring a rich public domain; of raising awareness of different software models to ensure affordable access to software (paragraphs 25 to 28). In addition, the WSIS Plan of Action outlines goals with direct correlation to IP legislation, including that "Governments should foster a supportive, transparent, pro-competitive and predictable policy, legal and regulatory framework, which provides the appropriate incentives to investment and community development in the Information Society" ("Enabling environment", Action Line C.6).

In the digital environment, technologies for documentation, preservation and registration of creative works are becoming essential tools for a secure, rich and user-friendly digital distribution of knowledge. There is a corresponding need for Governments and stakeholders to better understand the role of copyright in regard to those technological developments. Moreover, the challenge is to meet the expectations of, and involve, a growing number and range of stakeholders in addressing these issues. The gap between technologically developed and others countries remains a significant challenge. There is a need to raise awareness in many countries of the opportunities provided by the copyright system for using and benefiting from the digital environment and thereby, helping to bridge the "Digital Divide". These concerns have been brought to the fore during discussions on the WIPO Development Agenda, which requires a proactive engagement with challenging issues at the intersection of copyright and digital technology. For example, new activities can promote the understanding of problems related to the public domain (e.g. orphan works, the use of rights management technologies, the role of search engines), including the tools needed to identify and access public domain material.

The copyright system in the digital environment is further challenged by the role of new Internet Intermediaries, including Internet service provider, portals, User-Created Content sites and search engines. The landscape has become more fragmented as court decisions worldwide have taken diverging approaches to defining the circumstances under which such intermediaries

bear responsibility for infringing content on their networks. This scenario increases the need for balanced discussion of best practices and tentative solutions at international level.

The evolution of Digital Rights Management (DRM) technologies also deserves mention. Access- and copy- control technologies have met with strong consumer resistance, particularly in the online delivery of music content. But the growing role of search engines illustrates the importance of emerging technologies which enable users to locate and access the content they need, including metadata identifying the creator and providing licensing information where appropriate. Interoperability of these identifiers and metadata is important to ensure that content is accessible for multiple purposes, including to provide access to content by beneficiaries of copyright exceptions, and enable users to find and use content that is in the public domain.

III. DESCRIPTION OF PRESENT AND FUTURE WIPO ACTIVITIES RELATED TO THE WSIS OBJECTIVES

WIPO is engaged in working towards the WSIS objectives and the implementation of the Geneva Plan of Action, as described below.

1. Action Line C3 “Access to information and knowledge”

WIPO works to promote a balanced international IP protection as a means of rewarding creativity, stimulating innovation, and contributing to economic development and access to knowledge in the public interest. WIPO’s Standing Committee on Copyright and Related Rights (SCCR) monitors and reviews developments in international copyright law, and where appropriate develops new approaches to important issues raised by market and technology developments. An example is the current SCCR discussions on limitations and exceptions to copyright, and in particular the need for specific user groups, like visually-impaired persons (VIPs), libraries and archives, and educational institutions, to have access to digital content under reasonable conditions and in accessible formats. The SCCR has formally recognized the importance of addressing, without delay and with appropriate deliberation, the special needs of VIPs and other reading-disabled persons. As an immediate priority, WIPO is facilitating arrangements to promote access by VIPs to works protected by copyright. With the support of partner institutions, WIPO has created a dedicated website[48] as a platform for expressions of support, exchange of views, and dissemination of information to all parties interested in the issue of access to information and cultural content by VIPs and other reading-disabled persons.

[48] http://visionip.org/portal/en/index.html

In recent years, WIPO organized several activities concerning the relationship between IP rights (IPRs) and digital technologies. WIPO has launched a series of seminars on software and IPRs, focusing not only on how software should be protected, but also on the many ways that software contributes to economic development. Following an initial regional seminar in Sri Lanka in May 2007, two seminars were organized in 2008, in Malaysia and Costa Rica respectively. It is worth noting that in the first semester of 2010 the *WIPO Africa Regional Seminar on Intellectual Property, Software, and E-Health: Trends, Issues, Prospects*, is scheduled to be held in Kigali (Rwanda). The objectives of the Conference are on one hand to update on recent developments regarding IPRs and software; and on the other hand, to survey main IPRs issues in relation to E-Health.

WSIS Action Line C3 recommends the development of "policy guidelines for the development and the promotion of public domain information as an important international instrument promoting public access to information" (paragraph 10.a). A main priority for WIPO is to promote the role of IPRs in enhancing wider and more user-friendly distribution of content as a tool for reducing the "Digital Divide". A good example of this priority is the *WIPO Development Agenda*[49]. In October 2007, the WIPO General Assembly approved 45 recommendations aimed specifically at ensuring that development considerations form an integral part of WIPO's work. The adoption of these recommendations marked the culmination of three years of negotiations among Member States. The 45 adopted recommendations are divided into six clusters, namely: A) Technical Assistance and Capacity Building; B) Norm-setting, Flexibilities, Public Policy and Public Domain; C) Technology Transfer, Information and Communication Technology (ICT) and Access to Knowledge; D) Assessments, Evaluation and Impact Studies; E) Institutional Matters Including Mandate and Governance; and F) Others. To carry out this work, the 2007 WIPO General Assembly established a new *Committee on Development and Intellectual Property* (CDIP), with a mandate to develop a work-program for implementation of the adopted recommendations; monitor, assess, discuss and report on the implementation of all recommendations adopted, in coordination with relevant WIPO bodies; and discuss IP and development related issues as agreed by the Committee, as well as those decided by the General Assembly. The CDIP discussed and approved activities to meet the Development Agenda goals in the field of copyright, including the following: activities to promote understanding of problems related to identification of public domain material (e.g. orphan works, use of rights management technologies, the role of search engines); a study on the public domain (Part I- comparative analysis of legislative approaches to defining public domain subject matter; Part II- a survey of tools for identifying and accessing public domain material); and activities on new approaches to copyright licensing (e.g. Creative Commons, Open-Source Software), including co-existence with more traditional commercial or proprietary licensing models. Discussions will continue during the fifth session of the CDIP, to take place in April 2010.

Contributing to on-line access of technological information contained in patents in order to support science, technology and innovation

[49] The recommendations can be found at http://www.wipo.int/edocs/mdocs/mdocs/en/cdip_1/cdip_1_3.doc

Access to state of the art technological information contained in patent documents is a useful tool for innovation and R&D processes, as access to previously published patents and patent applications helps to establish the novelty of a new invention, avoid infringement of others' inventions, and improve the patent drafting process to improve the quality of a patent application. In view of the growing information needs of national industries, R&D community and the business sector of developing countries, the WIPO Global IP Information Services Program provides infrastructure and supporting services to IP Offices and users to take advantage of the information resources generated by IP systems worldwide for supporting science, R&D and innovation, and operates the WIPO Patent Information Services (WPIS)[50] in order to assist Member States in establishing their national industrial property information system.

In 2008 and 2009 cooperation agreements were concluded and projects were started with several Member States and regional intellectual property organizations for the purposes of digitization and dissemination of their national and regional patent data. Also training seminars and workshops on PATENTSCOPE®[51] search service and on patent information were conducted at several national offices and seminars were held at international conferences. Finally, in 2009 two main initiatives in the area of patent information were launched: the Access to Research for Development and Innovation (aRDi)[52] program and the Technology and Innovation Support Centres (TISCs).

The aRDi program is coordinated by WIPO together with its partners in the publishing industry with the aim to increase the availability of scientific and technical publications and information in developing countries in line with the objectives of WIPO's Development Agenda. By improving access to scholarly literature from diverse fields of S&T, the aRDi program seeks to reinforce the capacity of developing countries to participate in the knowledge economy, and support researchers in developing countries in creating and developing new solutions to technical challenges faced on a local and global level. Currently, through the aRDi program, 12 publishers provide access to over 50 journals for 107 developing countries.

Technology and Innovation Support Centres (TICS) are intended to provide the local research and business community with expert assistance in finding technological information. They should provide resources such as online access to patent databases and to scientific and technical journals, as well as assistance in searching these vast and complex collections of tens of millions of documents. Assisting IP offices in developing countries and LDCs to establish TISCs is a new WIPO program building upon the successful experience of similar centers in developed countries. The role of the TISCs will be to act as a central point of expertise for patent and technology information in the relevant country. The TISCs will be supported by WIPO through training programs, seminars, and access to the databases as described above.

Enhancing on-line access to information concerning IP laws, regulations and treaties:

[50] For further information see at http://www.wipo.int/patentscope/en/data/developing_countries.html
[51] For Further information see at http://www.wipo.int/pctdb/en/
[52] For further information see at http://www.wipo.int/ardi/en/

The WIPO Collection of Laws for Electronic Access (CLEA)[53], a database that provides access to IP legislation from a wide range of countries and regions as well as to treaties on IP, is undergoing a major updating of its content and enhancement of its on-line search facility.

2. Action Line C4 "Capacity Building"

WIPO is working to enhance the availability and access to IP related capacity-building contents and programs available on the Internet. Demand for Distance Leaning Courses in the area of intellectual property continued to increase in 2008. Five new advanced courses were launched on-line in 2008: Patents (DL301); Trademarks, Industrial Designs and Geographical Indications (DL302); Arbitration and Mediation Procedure under the WIPO Rules (DL317); Patent Information Search (DL318), and Basics of Patent Drafting (DL320). These new courses provide participants with more systematic, in-depth knowledge and practical skills in the fields of patents, trademarks, industrial designs, geographical indications and arbitration and mediation. On-line courses registered 27,000 students in 2008, compared to 25,500 in 2007.

3. Action Line C5 "Building confidence and security in the use of ICTs"

One of the main objectives of the WIPO Arbitration and Mediation Center is to enhance the legal framework for the protection of IP in the Internet Domain Name System. The Center strives to provide leadership in the development of dispute settlement solutions to tensions arising from the unauthorized use of IP on the Internet. Using its daily experience with domain name disputes, the Center continued to liaise with stakeholders in the Internet Domain Name System, including IP right holders, "Internet Corporation for Assigned Names and Numbers" (ICANN) and registries of newly approved "generic top-level domains" (gTLDs), and will create and implement dispute resolution policies for such domains. This concerns in particular mechanisms for the protection of trademark and other IP rights at the first level in the introduction and operation of further new gTLDs. In 2008 and 2009 the Center continued to liaise with the administrators of country-code Top-Level Domains (ccTLDs) in different regions, and created and implemented dispute resolution policies for such domains, thus expanding the basis for WIPO case administration in such domains.

4. Action Line C7 "ICT applications: benefits in all aspects of life" paragraph 15: E-Government"

WIPO's support regarding IP registration related issues and e-governmental available services.

In order to enhance the efficiency of IP registration related activities and improve e-services provided by IP institutions (e.g. national IP offices) to their stakeholders, WIPO carried out the following in 2008:

a) In the field of the IP International Registration activities a new online facility for electronic payments regarding the international trademark and design registrations and modifications has been made available. Payments can now be made by either credit card or current account transfer, and internal processing has therefore become almost entirely automatic.

b) Support to the automatization of IP Institutions for its modernization in the Information Society. In 2008, WIPO provided modernization services to IP institutions[54] from 45 countries, across all regions, of which 16 were LDCs, 25 were developing countries and four were countries in economic transition. In addition, two regional IP

[53] For further information see at http://www.wipo.int/clea/en/

[54] IP institutions include IP offices and collective management societies (CMOs).

institutions in Africa, namely ARIPO and OAPI, were assisted in their modernization projects. The Program's work also included three regional workshops focusing on key automation topics, training and sharing of national experiences and best practices. Countries assisted included both new ones where modernization projects were initiated as well as those where modernization projects were already in progress but in different stages of implementation. In order to meet the expected results and to address the challenges faced in assisting IP institutions with diverse levels of development, infrastructure, skills and resources the Program's assistance covered a comprehensive set of modernization services. These included: technical advice and guidance; needs assessment; simplification of business processes; provision of standard automation components customized to specific national requirements; establishment of national IP databases; extensive training of IP institutions staff and knowledge transfer to their technical focal points; progress monitoring and post-deployment impact evaluations; and e-communication with WIPO Treaties. Training related activities accounted for 50% of the Program's work and were critical in achieving the desired results. For example, an external evaluation was undertaken of the automation assistance provided by the Program to the Kenya IP Institute. The report stated that automation had made a significant positive impact and brought several benefits to the institution including: administration efficiency; reduction in backlog due to faster processing of IP applications; enhanced integrity of searches; savings in cost and time for publication of official gazettes and notices; and access to databases. The report also identified challenges and made recommendations for further improvements.

5. Action Line C8. "Cultural Diversity and identity, linguistic diversity and local content"

In 2008 WIPO approached another crucial issue at the intersection of digital technologies and copyright, holding an *International Workshop on Digital Preservation*[55]. In the digital economy, information and creative materials are increasingly created in digital form and analog materials are being transferred to digital formats. Unlike analog materials, digital works do not 'self preserve' if stored in a stable environment. As digital works tend to degrade quickly and without warning, their preservation requires that multiple copies of a work are made, in different formats and in different storage locations, over the course of its "lifetime". Digital preservation can, therefore, raise a number of copyright issues, and the workshop aimed at contributing to the debate among stakeholders and policy makers on how to develop and improve policies and practices that support digital preservation of copyrighted content.

The *International Conference on Intellectual Property and Cultural Heritage in the Digital World*[56], jointly organized in 2009 by WIPO and the Ministry of Culture of Spain, covered a number of topics on the nexus between IP and cultural heritage institutions (CHIs), such as museums, libraries and archives, and on their role in the dissemination and promotion of culture in the digital environment. The Conference focused on the dual role of CHIs as users/licensees of IP, on the one hand, and as creators/owners/managers of IP, on the other. CHIs are users of IP either directly or as facilitators of use by the public in areas such as digital preservation and access and

[55] The presentations of the workshop can be found at http://www.wipo.int/meetings/en/2008/cr_wk_ge/

[56] http://www.wipo.int/meetings/en/details.jsp?meeting_id=19502

use under limitations and exceptions in the digital environment. Whereas museums were once concerned with using IP owned by others, they are now also faced with the responsibility of managing their own IP as right owners, (for example, of their collections and related digital contents) and mediating between users and original right owners. The speakers outlined the crucial roles played by IPRs in this context. On one hand, IPRs can provide the legal basis for building safe and robust tools for preservation of national cultural heritage. On the other hand, IPRs are instrumental for delivering new services and capitalizing on emerging business models in the cultural heritage sector.

ICTs as tools to support the IP management of intangible cultural heritage and traditional cultural expressions (TCE):

With WIPO's support, national or community processes made an active use of IP guidelines, best practices and manuals, and tailored ICT services, for digitizing and disseminating intangible cultural heritage and traditional cultural expressions. WIPO's expertise, informational materials and practical guidelines related to IP management during the digitization of cultural heritage provided specialized guidance, support and training in national projects on cultural heritage digitization in more than five countries. WIPO's hands-on training program, offered in partnership with external institutions, on cultural documentation and IP management was launched, and WIPO received many requests from communities and museums/archives to be included in the program.

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Submission by

Council of Europe

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Follow-up and implementation of the

World Summit on the Information Society

Council of Europe reply to UNCTAD letter of 2 Dec 2009 Ref 2467

Executive summary

Building on the 2008 reply, the Council of Europe continued to make considerable efforts in 2009 to follow-up the WSIS process by actively contributing to and participating in the Internet Governance Forum (IGF) and in developing regional initiatives namely the European Dialogue on Internet Governance (EuroDIG).

In May 2009, the Council of Europe participated in WSIS action line on the ethical dimensions of the information society (C10).

Overall, the Council of Europe welcomes WSIS follow-up which facilitates discussion and cooperation with regard to the protection and promotion of its core values on and through the Internet, namely human rights, the rule of law and democracy. With regard to Action Lines on the Media (C9) and on the ethical dimensions of the information society (C10), the Council of Europe would be willing to consider playing a more active role where necessary and practicable.

With regard to the Action Line "Building confidence and security" (C5) the Council of Europe continued its global efforts against cybercrime in line with the Budapest Convention on Cybercrime. Shortcomings include the lack of resources to support developing countries to meet this challenge. The continued discussion on the preparation of an additional international treaty on cybercrime also diluted efforts. Nevertheless, a global trend towards stronger cybercrime legislation is now well underway in more than 100 countries using the Budapest Convention as a guideline.

With regard to Action Line "The role of public governance authorities and all stakeholders in the promotion of ICTs for development" (C1), in particular its Sub-group on "e-participation", the Council of Europe has organised a major conference on e-democracy in October 2008 (Forum for the Future of Democracy, Madrid). Moreover, its major institutional bodies (Committee of Ministers,

Parliamentary Assembly, Congress of Local and Regional authorities) have adopted comprehensive political texts on e-democracy/e-participation. The Council of Europe Secretariat was represented at the May 2009 meeting on Action Lines C1/C7/C11, reporting on progress made in the field of e-participation in Europe and elsewhere as well as on the opportunities and risks of e-democracy.

The Council of Europe, the UN Economic Commission for Europe and the Association for Progressive Communications have drafted "A Code of Good Practice on information, participation and transparency in Internet Governance". The draft is based on the WSIS principles and on existing arrangements in Internet Governance institutions and uses the Aarhus Convention as a benchmark where appropriate. It is the result of consultations with internet governance stakeholders during the IGF process since 2006 and of a comparative assessment of existing information and participation arrangements in a number of internet governance institutions. It is expected that the draft Code will be finalised for the IGF in 2010.

Analytical overview of trends and experience in implementation

A clash in the timing of the WSIS action line May 2009 meetings on the media (C9) and on the ethical dimensions of the information society (C10) did not permit the Organisation to be represented in both events. However, it should be noted that the Council of Europe addressed, in its own intergovernmental work, community media in 2009, in particular by granting observer status to the Community Media Forum Europe (CMFE) in the Steering Committee on Media and New Communication Services (CDMC). It would therefore be important to share this work with the Action Line on the media (C9) because they feature as areas in the sub-themes to the Action Line.

As regards WSIS Action Line on the ethical dimensions of the information society (C10), there were a range of public policy frameworks[57] and actions[58] adopted during the 1st Council of Europe Conference of Ministers in charge of the Media and New Communication Services (Reykjavik, 28 and 29 May 2009) which set out the themes for future Council of Europe work on protecting human rights in the Information Society. Moreover, a Committee of Ministers Recommendation was adopted in July 2009 on protecting children against harmful content thereby

[57] i.e. political declarations an resolutions including on Towards a new notion of media, Internet governance and critical Internet resources, and Developments in anti-terrorism legislation in Council of Europe member states and their impact on freedom of expression and information.

[58] Action Plan sub-divided into categories entitled: I. Towards a new notion of media and its consequences, II. Public service, and III. The individual and the media and media-like mass-communication services.

complementing seven other Committee of Ministers' Recommendations and two sets of human rights guidelines for key non-state Internet actors, namely online games providers and European Internet Service Providers. These policy baselines have a direct and indirect impact on the ethical dimensions of the information society that could be usefully shared and disseminated via the Action Line platforms.

With regard to Action Line C5, major efforts are underway in all regions of the world to strengthen cybercrime legislation, and many countries adopted new legislation in the course of 2009. The Council of Europe has been supporting reform measures in the Caribbean, Latin America, Africa and Asia in addition to Europe. This global trend since 2006 is a remarkable achievement. With cybercrime being transnational crime, harmonization of legislation is needed and is possible as long as countries use the Budapest Convention on Cybercrime as a guideline. The continued discussion on additional instruments at the level of the United Nations have not been very helpful in this respect. It is also noted that there is a particular need to support countries in Africa in their efforts against cybercrime. However, due to lack of resources it has so far not been possible to provide more than basic support.

Apart from cybercrime legislation in the narrow sense, many countries are particularly interested in legislation related to the sexual exploitation of children as well as the protection of personal data. The Council of Europe treaties CETS 201 on the Protection of children against sexual exploitation and abuse, and convention CETS 108 on data protection are used as reference standards.

Furthermore, the Council of Europe helped develop and promote concepts for the sustainable training of law enforcement, prosecutors and judges, to facilitate cooperation between law enforcement and Internet service providers and to make international cooperation more efficient. A global Octopus Conference on cooperation against cybercrime was organized in Strasbourg in March 2009.

With regard to Action Line "The role of public governance authorities and all stakeholders in the promotion of ICTs for development" (C1), in particular its Sub-group on "e-participation", the work by the Council of Europe has shown that e-democracy/e, as an additional channel of democratic participation, can contribute to the transparency, accountability and responsiveness of democratic institutions; facilitate democratic engagement and deliberation; increase the accessibility and inclusiveness of the democratic process. As to the challenges, e-democracy stakeholders need to facilitate accessibility, use and inclusion; ensure that the contributions of individuals are taken into consideration in decision-making processes; seek the involvement of all interested parties to avoid the risks of a social divide; harness the potential of the constantly evolving social networking tools; and manage the risks linked to the presentation of inappropriate and illegal content.

Innovative policies, programmes and projects undertaken

Multi-stakeholder dialogue in the Council of Europe was strengthened in 2009, in particular through intergovernmental discussions on new architectures of participation in its Steering Committee on Media and New Communication Services (CDMC) and through in-house training for colleagues on Internet governance which was organised and developed with the Diplo Foundation.

The dynamic of multi-stakeholder dialogue also led the Council of Europe to step-up attention to gender equality in intergovernmental work on the media and new communication services, in engaging with European youth organisations and in fostering dialogue with key non-state actors including Facebook and Google.

With the Council of Europe's support and secretariat assistance, the 2nd European Dialogue on Internet Governance (www.eurodig.org) was held in Geneva on 14 and 15 September 2010. This event, hosted by the European Broadcasting Union and co-organised by OFCOM Switzerland, brought together over 200 participants from a wide range of stakeholder groups in four plenaries and six workshops to discuss inter alia access to choice and content in services, cybercrime and cyber-security, media literacy, personal and professional privacy, and social networks and media. "Messages from Geneva" were elaborated and disseminated after the event based on discussions in EuroDIG from which tacit consensus (much of which concerns the Organisation's core values and work) resulted on the following:

- human rights and the rule of law were considered to be fundamental issues in internet governance with attention given to how best to implement and consolidate existing human rights standards in this context;

- the public value of the Internet as an infrastructure on which citizens increasingly rely for their social, economic and political development was highlighted as well as Governments' key responsibilities in guaranteeing their citizen's rights and freedoms online;

- the Internet and internet services should be accessible to all and be stable and well-functioning. All regulation should be people-centred and use innovative approaches, taking into account the respective roles of all stakeholders;

- more media education to empower users was considered essential, and national government initiatives to increase media education need to be implemented. Here, it was stressed that the Council of Europe should take a leadership role.

The Council of Europe's contributions to and participation in the 2009 IGF was significant as a result of the 7 workshops and 1 open forum it organised and co-organised[59] as well as the participation of its Secretariat in main sessions and the Secretariat and experts in over 13 workshops organised by others.

Overall, the discussions and results of EuroDIG and IGF are indirectly contributing to the implementation of several Action Lines and could be usefully shared and disseminated through them.

As regards supporting media freedom (Acton Line 9) Council of Europe also organised over ninety capacity activities in member states to promote Article 10 of the European Convention on Human Rights, many as part of Joint Programmes co-financed with the European Commission. The activities focused mainly on legislative assistance to member states and on capacity building in the media field in Albania, Bosnia and Herzegovina, Moldova, Montenegro, Serbia, the South Caucasus and Ukraine.

Regarding Action Line C5 global support was provided through the global Project on Cybercrime. Phase 1 ended in February 2009 and was followed by Phase 2 which not only focuses on the strengthening of legislation, but also on data protection, the protection of children, criminal money flows on the internet, the training of judges and efficient international cooperation. Innovations in 2009 include the preparation and adoption of concept for the training of judges in cybercrime matters, the promotion of guidelines on law enforcement – ISP cooperation and the launching of a typology study on criminal money flows on the internet which is aimed to bridge the anti-money laundering and anti-cybercrime worlds.

Regarding Action Line C1/sub-theme e-participation, the Council of Europe's major institutional bodies (Committee of Ministers, Parliamentary Assembly, Congress of Local and Regional authorities) have adopted comprehensive political texts on e_democracy/e-participation.

[59] The Council of Europe organised and co-organised seven workshops at the 2009 IGF: The Global Path for ensuring online child protection and safety, with ECPAT and the Dynamic Coalition on Child Online Safety; Medicines on the net – risks and benefits: The challenges of becoming literate to foster participatory cultures with the Dynamic coalition on media education, Cyber Peace Initiative, UNDP Egypt's ICT Trust Fund; The privacy and security implications of cloud computing, with EPIC and the French Ministry of Foreign Affairs; Developing comprehensive cybercrime legislation; Code of good practice on participation, access to information and transparency in Internet governance, Version 1.0 with the Association for Progressive Communications and the UN Economic Commission for Europe; Implementing the WSIS Principles: A Development Agenda for Internet Governance with Association for Progressive Communications; Centre for International Governance, Graduate Institute for International Studies; Council of Europe; Diplo Foundation. The Council of Europe also organised an Open Forum on freedom of expression and access to information, and international cooperation in connection with critical internet resources.

Recommendation (2009) 1 on e-democracy (adopted by the Committee of Ministers in February 2009) provides European governments and other stakeholders with a comprehensive set of principles and guidelines concerning e-democracy. It is accompanied by a series of practical tools (e.g. A Set of generic tools; Roadmap and checklist for the introduction of e-democracy; Guide to the evaluation of e-democracy; Glossary of technical terms, to be found at www.coe.int/democracy).

The Parliamentary Assembly also adopted a Recommendation on e-democracy (Rec 1860) in January 2009.

The Congress of Local and Regional Authorities of the Council of Europe adopted the following Recommendations in the field of e-democracy/e-participation:

- "Electronic tools: a response to the needs of local authorities" (Recommendation 248 (2008)),

- "Electronic democracy and deliberative consultation on urban projects" (Recommendation 249 (2008)),

- "E-democracy: opportunities and risks for local authorities" (Recommendation 274 (2009)).

Future actions and initiatives to be taken regarding implementation

In 2010, Council of Europe standard setting work which ties in with WSIS targets will focus on protecting human rights in the new media landscape (social networks, search engines, net neutrality, public service media governance, and certain human rights aspects of critical internet resources).

The Council of Europe will also be providing secretariat support for the 3rd EuroDIG, including the fostering of national IGF initiatives, and it will be actively contributing throughout the year to the IGF process and event in cooperation with other European and national institutions and organisations.

Combating gender stereotypes in the media will also be one of the themes of the 7th Council of Europe Conference of Minister responsible for Equality between women and men (24-25 May 2010 in Baku, Azerbaijan).

With regard to Action Line C5, a major global effort is required to provide in particular developing countries with support in the strengthening of their capacities against cybercrime based on existing instruments.

The Council of Europe will organize its global Octopus Interface Conference on cybercrime from 23-25 March 2010. The conference will, among other things, discuss challenges such as security and privacy in the context of cloud computing, the protection of children and the training of judges, but also possibilities to enhance technical assistance (see www.coe.int/cybercrime).

With regard to Action Line C1/sub-theme e-participation, the Council of Europe will organise in 2011 the first in a series of bi-annual meetings for reviewing developments in e-democracy/e-participation and the application of the Committee of Ministers' Recommendation on e-democracy of February 2009.

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Submission by

ICC-BASIS

International Chamber of Commerce-Business Action to Support the Information Society

This submission was prepared as an input to the report of the UN Secretary-General on "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" (to the 13th session of the CSTD), in response to the request by the Economic and Social Council, in its resolution 2006/46, to the UN Secretary-General to inform the Commission on Science and Technology for Development on the implementation of the outcomes of the WSIS as part of his annual reporting to the Commission.

International Chamber of Commerce
The world business organization

An ICC initiative
BASIS
Business Action to Support the Information Society

ICC BASIS contribution to WSIS assessment report and the CSTD 13th session, May 2010

ICC and members of its BASIS initiative, Business Action to Support the Information Society are pleased to submit this report to the UN Commission on Science and Technology for Development (CSTD) as a contribution to the CSTD's report for 2010 and the thirteenth session of the Commission in May 2010.

ICC launched the BASIS initiative in 2006 to serve as a vehicle to bring business expertise, experience and priorities to the post-WSIS processes, including the Internet Governance Forum (IGF), WSIS follow-up and implementation. ICC and BASIS members have been active contributors to the IGF, WSIS action lines, and the CSTD follow-up each year. ICC/BASIS member companies and associations, from across sectors and geographies, run activities, partnerships and initiatives that further the WSIS goals, and implement the actions outlined by the summits in Geneva and Tunis.

ICC as the voice of global business works with its members to develop consensus built policy recommendations and practice tools that provide useful guidance to policymakers, businesses and users on a range of Internet and information and communication technology issues. ICC's Commission on E-Business, IT and Telecoms (EBITT) has produced substantive policy recommendations and practice guidelines on issues ranging from data protection and privacy, security and authentication, to data retention and voice over Internet protocol. New work is underway on issues such as cloud computing.

All of the ICC EBITT Commission work products are available at:
http://www.iccwbo.org/policy/ebitt/ .

Businesses around the world contribute each day to building a more inclusive, people-centred information society. Business is very proud of the vital role that it plays in making the information society more inclusive and expanding its content. In the past year business has added

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more than 200 million Internet subscribers and 500 million mobile subscribers --- opening the doors of opportunity.

Many companies and business associations are involved in daily activities, partnerships and initiatives that maximize ICTs to address issues that impact peoples' lives including education, health and reducing emissions. Business is the major investor in the infrastructure that brings the benefits of ICTs to more people. Companies of varying sizes have produced new innovations this year in applications, services and products that benefit users of ICTs and the Internet and reduce costs.

Given the nature of businesses' contributions it is a challenge to capture all that business does everyday that is in fact implementing the WSIS goals and making them a reality. Thus, we have included a set of links to companies' reports and websites that demonstrate the range of contributions, innovations, programmes, projects and commitments that business has undertaken this past year. See pages 3 and 4 of this contribution. This list of links is not exhaustive however the substantive information contained in the reports is representative of the productive business initiatives and activities underway.

Obstacles to future implementation of WSIS goals

ICC BASIS members believe that informed policy and decision-making is the best way to ensure that obstacles to further investment, innovation, and creativity which will allow for the implementation of WSIS goals are removed. Constructive exchange among governments, business, civil society and technical experts on Internet and ICT policy at national, regional and international levels leads to informed policy and decision-making by all. Thus, we have actively contributed to and participated in the Internet Governance Forum (IGF) and strongly support its continuation with its founding multistakeholder principles intact. It is the only place where all stakeholders gather on an equal footing, and can focus their time on substantive discussion on important policy issues, exchange best and effective practices and share challenges and experiences. The fact that it is not a decision-making or negotiation setting allows for frank and open discussions which cannot take place elsewhere or among the range of participants it attracts from across stakeholder groups.

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We call on all governments and stakeholders to support the continuity of the IGF as part of future implementation of the WSIS goals, and to implement the spirit of multistakeholder dialogue on these issues at national and regional levels to ensure there are fewer policy, legal and regulatory obstacles to realizing the WSIS goals and implementing the outcomes.

Compilation of websites and relevant reports from companies

Cisco Systems

2009 Cisco Corporate Social Responsibility Report

http://www.cisco.com/web/about/ac227/csr2009/index.html

Deutsche Telekom

Corporate Responsibility (CR) 2009 Report
http://cr-bericht.telekom.de/cr/backstage_09/documentpool/DTAG_CR-Report09_en.pdf

Reports on specific Corporate Social Responsibility initiatives
http://crreport.telekom.de/cr/backstage_09/documentpool/en/verantwortungsbereiche/gesellschaft/bildungsengagement/bildungsengagement.pdf
http://crreport.telekom.de/cr/backstage_09/documentpool/en/verantwortungsbereiche/gesellschaft/foerderung-sozialer-projekte/foerderung_sozialer_projekte.pdf

SMART 2020 Global
http://www.gesi.org/ReportsPublications/tabid/60/Default.aspx

SMART 2020 German Addendum (in German) and a power-point presentation with the main results
http://www.gesi.org/LinkClick.aspx?fileticket=X7m82qhz%2f6o%3d&tabid=130
http://www.gesi.org/LinkClick.aspx?fileticket=1IbdA9yT5Sg%3d&tabid=130

Ericsson AB

Sustainability and CR report 2008
http://www.ericsson.com/ericsson/corporate_responsibility/index.shtml

Case studies:
http://www.ericsson.com/campaign/sustainable_mobile_communications/#archive?id=5

Intel

CR Report 2008

http://www.intel.com/intel/corpresponsibility/index.htm?iid=gg_about+intel_gcr

Nokia Siemens Networks

CR Report 2008:

http://www.nokiasiemensnetworks.com/about-us/corporate-responsibility

Internet for the next billion:

http://www.nokiasiemensnetworks.com/insight/internet-next-billion

3G for emerging markets:

http://www.nokiasiemensnetworks.com/insight/3g-emerging-markets

Success stories

Tanzania

http://www.nokiasiemensnetworks.com/solutioneering/customer-successes/success-stories/vodacom-tanzania-capturing-east-african-market-solutions-from-nsn

China

http://www.nokiasiemensnetworks.com/Jilin_MCC

Mexico

http://www.nokiasiemensnetworks.com/press/press-releases/telcel-brings-mexicos-wireless-internet-to-life-with-high-speed-urban-network

Philippines

http://www.nokiasiemensnetworks.com/solutioneering/customer-successes/success-stories/lift-a-brand-the-smart-way-with-nokia-siemens-networks

Kuwait

http://www.nokiasiemensnetworks.com/sites/default/files/Zain_Kuwait_charging.pdf

Thailand

http://www.nokiasiemensnetworks.com/solutioneering/customer-successes/success-stories/ais-boosts-3g-competence-and-improves-training-budget-utilization

Unite micro Website:

http://unite.nokiasiemensnetworks.com/

Connectivity Scorecard:

http://www.connectivityscorecard.org/?utm_source=nsn-inter&utm_medium=banner&utm_content=related&utm_campaign=csmicro

Broadband study:

http://www.connectivityscorecard.org/broadband/

SAP's sustainability report

http://www.sap.com/community/ebook/2009_Sustainability_eBook/en/Index.html

Tata Consultancy Services

Corporate Sustainability and Corporate Responsibility Index Report
http://www.tcs.com/about/corp_responsibility/Pages/default.aspx

http://www.tcs.com/about/corp_responsibility/Documents/TCS_Corporate_Sustainability_Report_2007_08_Published_09_2009.pdf

International Chamber of Commerce
The world business organization

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Business Action to Support the Information Society

About the International Chamber of Commerce (ICC)

The International Chamber of Commerce is the largest, most representative business organization in the world. Its thousands of member companies in over 120 countries have interests spanning every sector of private enterprise.

A world network of national committees keeps the ICC International Secretariat in Paris informed about national and regional business priorities. More than 2000 experts drawn from ICC's member companies feed their knowledge and experience into crafting the ICC stance on specific business issues.

The United Nations, the World Trade Organization, and many other intergovernmental bodies, both international and regional, are kept in touch with the views of international business through ICC.
For more information please visit: www.iccwbo.org

About BASIS

ICC created BASIS to raise awareness among the public, governments, civil society, intergovernmental organizations and technical community of what business requires to continue contributing to the development of the Information Society. It serves as the voice of business in the global dialogue on the Information Society, following two World Summits on the Information Society (WSIS) held in Geneva (2003) and Tunis (2005).

To promote the environment in which business around the world will continue to thrive as an innovator of information and communication technologies, BASIS participates in UN-linked forums set up to continue the dialogue, such as the Internet Governance Forum (IGF) and the WSIS follow up and implementation processes, and the UN Global Alliance for ICTs and development (GAID).

To help shape the agenda and participate in these global discussions, BASIS relies on the policies developed in the ICC Commission on E-business, IT and Telecoms as the foundation for its efforts.
BASIS builds on the activities and network of the Coordinating Committee of Business Interlocutors (CCBI), which ICC formed to coordinate participation by world business in the processes leading up to and at WSIS.

BASIS members include business organizations such as the TechAmerica, World Information Technology and Services Alliance (WITSA), Africa Investor, Global Information Infrastructure Commission (GIIC), Japan Business Federation (Nippon Keidanren), and the Association for Competitive Technology (ACT) as well as several ICC national committees and companies from across sectors and geographies.

For further information regarding BASIS, the founding partners, members and activities, visit: www.iccwbo.org/basis

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Submission by

ISOC

The Internet Society

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SUMMARY OF ACIVITIES UNDERTAKEN BY THE INTERNET SOCIETY RELATED TO IMPLEMENTATION OF THE TARGETS, RECOMMENDATIONS AND COMMITMENTS OF THE WORLD SUMMIT ON THE INFORMATION SOCIETY

INTRODUCTION

The Internet Society (ISOC) is a nonprofit organization founded in 1992 to provide leadership in Internet related standards, education, and policy. With offices in Washington D.C., USA, and Geneva, Switzerland, it is dedicated to ensuring the open development, evolution and use of the Internet for the benefit of people throughout the world.

The Internet Society provides leadership in addressing issues that confront the future of the Internet, and is the organizational home for the groups responsible for Internet infrastructure standards, including the Internet Engineering Task Force (IETF) and the Internet Architecture Board (IAB).

The Internet Society acts as a global clearinghouse for Internet information and capacity building and as a facilitator and coordinator of Internet-related initiatives around the world. For over 15 years ISOC has run international network training programs for developing countries and these have played a vital role in setting up the Internet connections and networks in virtually every country connecting to the Internet during this time.

The Internet Society has more than 80 organizational members and more than 28,000 individual members in over 80 chapters around the world. ISOC has regional bureaus to better serve the regional Internet community. The Latin American and Caribbean bureau is located in Buenos Aires, Argentina, the African bureau in Addis Ababa, Ethiopia, the European Bureau in Brussels, Belgium, and the South and Southeast Asian bureau in Suva, Fiji, and the North American bureau is located in Reston, Virginia, USA.

Through its sponsored events, developing-country training workshops, tutorials, public policy, and regional and local chapters, the Internet Society serves the needs of the growing global Internet community. From commerce to education to social issues, our goal is to enhance the availability and utility of the Internet on the widest possible scale.

The Internet Society was accredited to the WSIS during the first phase and participated actively in the entire preparatory process and in the Geneva and Tunis Summits themselves. Since the Tunis Summit, the Internet Society has been actively involved in support of implementing the targets, recommendations, and commitments of the WSIS

as they pertain to the Internet, and to Internet Governance. This brief report provides a summary'activities,ofISOCand the lessons learned from our experience.

INTERNET GOVERNANCE

The Internet Society recognizes the Internet Governance Forum as one of the most active and successful outcomes of the WSIS. As an organization ISOC has contributed financially to the operation of the IGF each year, has participated in the Advisory Group to the UN Secretary General, and assisted Advisory Group members from developing countries to participate. ISOC has organized informational workshops at the IGF and worked with all other stakeholders to make the IGF a success. One of our largest commitments has been to establish an ISOC IGF Ambassador program that brings qualified participants to the IGF from around the world and from all stakeholder groups to learn and to teach about Internet governance. The 2009 Ambassadors, for example, came from seventeen developing countries and three developed countries, and were from governments, academic institutions, businesses, and civil society. ISOC believes the value of the IGF is its ability to bring together people who might not otherwise meet. The IGF inspires people to work effectively in support of people-centered development – a key goal of the WSIS. It feeds work in communities, in countries, in all regions and at the global level. For these reasons, ISOC supports the continuation of the IGF in its present form, and we urge all stakeholders to join us in making voluntary financial contributions to the UN Trust Fund in support of the Secretariat. Please refer to our website for further information about our involvement with the Internet Governance Forum (see http://www.isoc.org/isoc/conferences/wsis/IGF.shtml).

WSIS ACTION LINES

The Internet Society also works with all other stakeholders in ways that contribute to the implementation of several of the WSIS Action Lines, such as the following.

C.1: The role of public governance authorities and all stakeholders in the promotion of ICTs for development, *and* C.11: International and regional cooperation

The Internet Society is active in public policy discussions related to the Internet at the global, regional'sactivitiesandnationalarebasedlevelsupon.ISOCourfundamental belief that the Internet is for everyone. We envision a future in which people in all parts of the world can use the Internet to improve their quality of life, because standards, technologies, business practices, and government policies sustain an open and universally accessible platform for innovation, creativity, and economic opportunity.

The WSIS has contributed greatly to awareness of the importance of the multistakeholder approach in achieving good public governance. In pursuing our public policy objectives, ISOC operates collaboratively and inclusively, working with governments, national and international organizations, civil society, the private sector and other parties to reach decisions about the Internet that conform to our core values. Since the WSIS, ISOC has expanded collaboration with intergovernmental organizations, including such examples as the Organization for Economic Cooperation and Development (OECD), the African Union, APEC, the Organization of American

States/Inter-American Telecommunication Commission, and with national governments to promote the expansion of the Internet around the world (see http://www.isoc.org/pubpolpillar/community/).

One concrete example of expanded international cooperation's**decision**theto OECD invite ISOC to work with other Internet organizations, and with the civil society to contribute to the 2008 Ministerial meeting on the Information Economy. Since then, the OECD has welcomed the Internet Technical Advisory Committee (ITAC) and the Civil Society Information Society Advisory Council (CSISAC) as advisory bodies to the OECD Information, Computer and Communication Policy Committee (ICCP). The OECD had not taken a similar step since 1962, when the Business and Industry Advisory Committee (BIAC) was invited. These new advisory bodies now provide information and expert advice to assist and improve the public policy process addressing a wide range of topics, such as information security and privacy, critical infrastructures (such as IPv6), Internet economy and innovation issues. This is one highly visible instance that demonstrates the benefits to all stakeholders that come about from enhanced cooperation among them.

C2. Information and communication infrastructure

As the organizational home for the groups responsible for Internet infrastructure standards, including the Internet Engineering Task Force (IETF) and the Internet Architecture Board (IAB), the Internet Engineering Steering Group (IESG), and the Internet Research Task Force (IRTF), the Internet Society is deeply involved in the development of Internet standards and technology. These are the standards setting and research arms of the Internet community. These are open organizations, relying on transparent, bottom- up processes to build consensus. Thousands of people from around the world participate in the process and the standards they develop are free and accessible to everyone. ISOC also works with other technical organizations, such as the International Telecommunication Union (ITU) and the World Wide Web Consortium (W3C) to support and enhance existing standards efforts, promote coordination between them, to identify gaps and ways to fill them, and to maximize the usability of open standards. The WSIS has recognized the vital role played by open standards in the development of ICTs, and our work with all interested stakeholders forms a second major contribution that ISOC has played in implementing the WSIS commitments.

C4. Capacity building

The Internet Society devotes significant resources to initiatives aimed at development and particularly capacity building. These efforts focus on technical capacity building, select infrastructure enhancement projects, and enabling access for underserved communities.

For the Internet to grow and be sustainable, network operators need the technical capacity necessary to build, maintain, and protect networks, as well as make informed choices about new infrastructure implementations and methodologies. With Internet technology changing rapidly, capacity building needs to be an ongoing process and local information-sharing mechanisms must be in place to sustain knowledge transfer beyond classroom'technicaltrainingscapacity.ISOC building program aims to tr ain network

operators on basic and advanced internetworking skills and techniques, to build regional and functional operator communities that can maximize knowledge, experience, skills transfer, and problem solving, and to foster technical leadership within communities that sustain and advance local capacity and more fully participate in regional and global Internet technical and governance forums.

At the same time, ISOC works to build capacity by engaging in targeted regional and local projects that improve Internet infrastructure. For example, ISOC has undertaken a comprehensive project in Africa to improve the functioning of Internet Exchange Points (IXPs) on the continent and help launch them in countries where they have not yet been established. The work encompasses a range of activities, from technical training, operational and implementation guidance, assistance with local stakeholder coordination efforts, and information for policymakers and regulators about the role of IXPs and related interconnection issues. ISOC also works with local communities and technical experts across the globe on practical projects that bring Internet connectivity to communities and institutions lacking sufficient access. Recent projects include working with two NGO partners and local technologists in Bénin and Nepal to expand university campus networks, bringing access to semi-urban areas of Lahore, Pakistan through the creative use of wireless technology, establishing a community Internet centre in Armenia, and working to connect a remote community in Bolivia, among others. These projects take advantage'sownmembership,ofthediversity of expertise within ISOC including our world-wide network of Chapters, and encourages them to work with other stakeholders in their local communities. ISOC Community Grants program is specifically aimed at this purpose. <See http://www.isoc.org/isoc/chapters/projects/ and http://isoc.org/wp/newsletter/?p=1502> Together, these programs support vital community -based, capacity building and ICT4D innovation work in developing countries around the world.

The Internet Society is a major founding partner in two regional ICT4D grants programs. In the Asia Pacific region, the Information Society Innovation Fund (ISIF Asia) was founded by ISOC, the International Development Research Centre (IDRC), and the Asia Pacific Network Information Centre (APNIC) with the support of the dot- Asia organization. This program works to stimulate creative solutions to ICT development needs in the Asia Pacific region, placing particular emphasis on the role of the Internet in social and economic development in the region, working towards the effective development of the Information Society in that region. <see www.isif.asia and http://isoc.org/wp/newsletter/?p=1468> And in Latin America, the FRIDA program (Regional Fund for Digital Innovation in the Americas), provides small grants to support formation and development of local capacities; innovations for improving productivity and employment; electronic government and social fairness; network security; wireless communication and networks; and the development of appropriate public policies and regulation – all of which are priorities within the WSIS framework. <See www.programafrida.net>

CONCLUSION

The foregoing is only a partial list'activitiesoftheInternetrelatedSocietyto implementation of the targets, recommendations and commitments of the WSIS, but it is

indicative of the breadth of our involvement with the WSIS process. In addition to the work done by ISOC staff, we know that our extensive network of Chapters, corporate and individual members are also deeply engaged in a vast number of activities that contribute to the development of the information society.

From the perspective of a not-for-profit organization such as ISOC, there can be no doubt that the innovations and openness that the WSIS brought to all the organizations and stakeholders involved has continued into the implementation phase. We welcome the opportunity to be a part of this effort, and look forward to continuing to work with others to contribute.

For further information, please contact:

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About the Internet Society

The Internet Society (ISOC) is a non-profit organization founded in 1992 to provide leadership in Internet related standards, education, and policy. ISOC is the organizational home of the Internet Engineering Task Force (IETF), the Internet's premier technical standards body. With offices in Washington, D.C., and Geneva, Switzerland, it is dedicated to ensuring the open development, evolution, and use of the Internet for the benefit of people throughout the world. For more information see http://InternetSociety.org