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In Brief

Measuring the Information Society – New ITU Study

The International Telecommunication Union (ITU) has prepared an ICT Development Index (IDI) that compares developments in 154 countries over the five year period from 2002–2007. 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. (www.indicators@itu.int).

The most advanced countries in ICT are from Northern Europe. The exception is the Republic of Korea. Sweden tops the new ICT Development Index, followed by the Republic of Korea, Denmark, the Netherlands, Iceland and Norway. They are followed by other mainly high-income countries from Europe, Asia and North America. Western and Northern Europe and North America are the regions with the highest IDI scores, and most countries from these regions are among the top twenty ICT economies. Poor countries, in particular the least developed countries, remain at the lower end of the index with limited access to ICT infrastructure, including fixed and mobile telephony, Internet and broadband.

The Report finds that all countries (except one) have improved their ICT levels during the past five years, but some much more than others. Eastern Europe not only features high relative growth but also one of the highest IDI value gains and can thus be considered as the most dynamic region on ICT developments during this time period. Countries that were driving this process include the Baltic States and Romania. Other economies that have significantly improved their ICT levels are Luxembourg, the United Arab Emirates, Ireland, Macao (China), Japan, Italy and France.

Globally speaking, the most progress has been made on ICT access, which includes fixed and mobile telephone, Internet bandwidth, and households with computers and Internet. In terms of ICT use, which includes the number of Internet users, fixed and mobile broadband, progress has been much slower. In particular broadband, a more recent technology, still has to take off in many countries.

Countries with low ICT levels (and hence low Index rankings) are primarily from the developing world. Given the close relationship between ICT level and GDP, many of the poor countries, in particular from Africa, rank further down in the IDI, with little change since 2002.

Some developing countries, though, have moved up considerably in the Index over the five-year period, including Pakistan, Saudi Arabia, China and Vietnam. This is partly due to high mobile cellular growth, coupled with an increase in Internet users. China (ranked 73 in 2007 is up from 90 in 2002), has made significant progress in increasing the number of fixed telephone lines and mobile subscriptions s well as fixed broadband during the last five years. The recent Government decision to issue IMT-20000/3G licenses by early 2009 and to restructure the market to increase competition in the wired and wireless services, is likely to drive mobile broadband and further increase ICT uptake in other areas as well.

Both developed and developing countries have increased their ICT levels by more than 30% over the five-year period, but developing countries are still lagging behind on ICT access and usage. A comparison of ICT levels and GNI per capital (at purchasing price parity) shows a strong link between income and ICT uptake, with some interesting exceptions. Several of the top ICT countries have higher ICT levels than expected given their income levels. For example, the Republic of Korea is outstanding with much higher-than-expected ICT levels. This illustrates how a strong and targeted ICT policy can drive the development of the information society in countries with relatively lower income levels.

The Report also presents the latest end-2008 figures for key ICT indicators. There has been a clear shift from fixed to mobile cellular telephony by the end of 2008, there were over three times more mobile cellular

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subscribers than fixed telephone lines globally. Two thirds of those are now in the developing world compared with less than half in 2002.

Based on ITU estimates, 23 out of 100 inhabitants globally used the Internet at the end of 2008. But penetration levels in developing countries remain low. Africa with 5% penetration is lagging behind. When it comes to broadband penetration, figures are even lower. Given the rapid spread of IMT 2000/3G mobile cellular networks in many countries, including in the developing world, there is a clear potential for mobile broadband to connect more and more people – and at higher speed.

One of the main objectives of the IDI is to measure the magnitude and evolution of the global digital divide. Based on the concept that the digital divide is "relative" – meaning that it compares ICT developments in one country with those in another country – the Report shows that overall the magnitude of the global divide remains unchanged between 2002 and 2007. Despite significant improvement in the developing world, the gap between the ICT haves and have-nots remains.

When dividing the world into four groups of countries based on different ICT levels, a slight decrease of the digital divide can be observed between countries in the "high" ICT group and those in other groups. This could be due to an increase in mobile cellular penetration levels in many countries that are part of the lower ICT groups. On the other hand, results also show that the digital divide between countries with "upper" and those with "medium" ICT levels is increasing slightly. This suggests that as information societies become more mature, ICT levels flatten out. Less mature, but reasonably advanced information societies grow strongly, thereby leaving behind those at the lower end of the scale.

Digital Accessibility Programs Advance

The Global Initiative for Inclusive ICTs, is a flagship advocacy initiative of the United National Global Alliance for ICT and Development (UN-GAID). The organization is involved in a number of significant initiatives that are reported in its monthly G3ict Digital Accessibility World Report. (www.G3ict.org) Published in the report are the results of recent events as well as an agenda of future meetings.

The Asia-Pacific is "leading the path toward mainstreaming ICT accessibility" according to the organization. In August the ITU and UN-ESCAP organized the first Asia-Pacific meeting specifically dedicated to "Mainstreaming ICT Accessibility for Persons with Disabilities." One result of this initiative was to facilitate exchanges of experiences among representatives responsible for implementation of programs of the 62 governments.

During the last 12 months the proposed treaty by the World Blind Union to the World Intellectual Property Rights Organization (WIPO) has made significant inroads with three countries (Brazil, Ecuador and Paraguay) formally putting forth a proposal to WTPO to align WIPO rules with Article 30 of the Convention on the Rights of Persons with Disabilities. As of June 2009 139 countries have signed the convention and 58 have ratified it.

US Cyber-Security Plan Focuses on New War Threat

"Cyberspace is real. And so are the risks that come with it. It's the great irony of our Information Age – the very technologies that empower us to create and to build also empower those who would disrupt and destroy. And this paradox – seen and unseen – is something that we experience every day." So spoke US President Barak Obama when announcing US cybersecurity plans including creation of a new "cyber czar" position. (see www.whitehouse.gov/the_press_office/Remarks-by-the-President-on-Security-National-Cyber-Infrastructure).

The Cybersecurity Coordinator will oversee billions of dollars in funding for development and coordinating defense of the computer networks that operate the global financial system and domestic transportation and commerce, according to the Administration. The official would report directly to the President. News reports indicate that almost in parallel with the creation of a civilian cyber security officer will be the head of military cyber security agencies. As well, the National Security Council, the top level advisory group that coordinates foreign and military policy, is expected to have an important role in future plans and operations.

Obama described the Cybersecurity Coordinator responsibilities on "spyware and malware and spoofing and phising and botnets, as well as other "cyber thieves"

that anyone with access to the Internet confronts. However the coordinator would not monitor private sector networks or Internet traffic. "We will preserve and protect the personal privacy and civil liberties that we cherish as Americans," the president said. US news organizations have reported that in parallel with the President's initiative, Congress is working on a Cybersecurity Act of 2009 that would grant the US Government unprecedented control over the Internet. If adopted the law would give the president unrestricted power to control the Internet by halting Internet traffic and ordering some private networks shut-down in a cybersecurity emergency.

Digital Britain Action Plan Launched

The UK Department for Culture, Media and Sport in June 2009 published the Digital Britain White Paper that presents the Government's strategic vision for ensuring the UK is at the leading edge of the global digital economy. (www.culture.gov.uk) The report "contains actions and recommendations to ensure the first rate digital and communications infrastructure to promote and protect talent and innovation in our creative industries, to modernize TV and radio frameworks, and support local news, and it introduces policies to maximize the social and economic benefits from digital technologies.

The Final Report presents a number of measures to be implemented. These include: (1) A three-year National Plan to improve Digital Participation; (2) Universal Access to today's broadband services by 2012; (3) Next Generation fund for investment in tomorrow's broadband services; (4) Digital radio upgrade by the end of 2015; (5) Mobile spectrum liberalization, enhancing 3G coverage and accelerating Next Generation mobile services; (6) Robust legal and regulatory framework to combat Digital Piracy; (7) a revised digital remit for Channel 4; and (8) consultation on funding options for national, regional and local news.

A detailed Actions and Implementation program accompanied the White Paper that presents details on present developments and approaches to achieving the recommended results.

Assessing Reach and Impact of ICT – World Bank Report

The economic impact of mobile, broadband connectivity, and e-Government applications is the focus of a new World Bank Report: Information and Communications for Development 2009 – Extending Reach and Increasing Impact (www.publications.worldbank.org) The book main themes stress: "The critical part of the ever more integrated global economy, where knowledge-based activities have become increasingly important and pervasive, ICT enables people, governments and businesses around the world to acquire and share ideas, expertise and services, helping to create and sustain economic development on an unprecedented basis. Accelerated knowledge transfer and technological diffusion amplify the competitive advantage of the fast-learning economies. As the information requirements for innovation in economic and social activities increase, the importance of ICT for the development agenda will continue to expand."

The report highlights country experiences with different institutional arrangements for e-Government applications and discusses policy options for advancing access to ICT infrastructure and services. It also reviews policy options that encourage the development of IT and IT-enabled services industries in the developing world. The report then analyzes the trends in ICT sector development, drawing on the most recent national data on key indicators that are also presented in the at-a-glance tables for 150 countries. ICT performance measures, on a scale from 1 to 10, are introduced for ready comparison of countries' ICT capacities as well as for benchmarking their progress along three key dimensions of ICT development over time: (1) access to ICT services; (2) affordability of ICT services; and (3) adoption of ICT applications in government and business.

"The mobile platform is emerging as the single most powerful way to extend economic opportunities and key services to millions of people," said Christine Zhen-Wei, World Bank economist and editor of the report. She commented on the economic opportunities offered by ICTs: "ICT provides economic opportunities to both urban and rural populations. One common contribution is that it increases productivity and makes the market work more effectively, although the magnitude of the

impact on economic growth is likely to be different. The fact that virtually all new mobile customers in the coming years will be in developing countries, and more specifically rural areas, means that the ICt platform is reaching population with low levels of income and literacy.

As a result, ICT is becoming the largest distribution platform of providing public and private services to millions of people in rural and poor areas. Market information, financial services, education and health services had largely been unavailable in those areas in the past due to lack of connectivity of any kind. Now the wireless platform is providing NEW economic and social opportunities at all levels for the poor population.

OECD Privacy Guidelines Mark 30th Anniverary

In the mid-1970s a several of the Organization for Economic Cooperation and Development's (OECD) member countries responded to developments in automated data processing by enacting legislation to protect the privacy of individuals in relation to personal data both in domestic information system and cross-border networks. The OECD has 30 member countries. As national initiatives increased there were concerns expressed that disparities in national legislation could hamper the free flow of personal data across national borders. For this reason the OECD information policy secretariat, led by Mr. Hanspeter Gassmann, was instructed by members to develop guidelines that would help to harmonize national privacy legislation and, while upholding human rights, would at the same time prevent interruptions in international flows of data. A working group chaired by Justice Michael Kirby of Australia was established to prepare necessary texts with the support of expert consultants, including Russell Pipe. Consensus was reached on basic principles which could be built into existing national legislation or serve as the basis for legislation in those countries not yet having adopted such measures.

The OECD Council on September 23, 1980, adopted a Recommendation Concerning Guidelines Governing the Protection of Privacy and Transborder Flows of Personal Data. The spirit of the recommendation was a "determination to advance the free flow of information between Member countries and to avoid the creation of unjustified obstacles to the development of economic and social relations among Member countries." (www.oecd.org).

The Recommendation, although non-binding, calls on member countries to take account in their domestic legislation the principles concerning the protection of privacy and individual liberties set forth in the Guidelines. Member countries endeavor to remove or avoid creating, in the name of privacy protection, unjustified obstacles to transborder flows of personal data. Member countries agree as soon as possible to specific procedures of consultation and cooperation for the application of the Guidelines.

In September 2010 the 30th anniversary of the Guidelines will be recognized by one or more special events sponsored by OECD.

Indonesia's Roadmap for e-Government

The Indonesian E-Government Roadmap, the Director of E-Government, Henry Abdul Aziz, Ministry of Communication and Information recently stated, is based on the vision "to be the national government that provides best public services through integrated ICT," Other objectives are: to enhance coverage and quality of integrated ICT based public services; and to increase public participation in using ICT based services. (see related article in I-Ways 2009 1st Quarter) The strategies to achieve these goals are: (1) assuring a strong commitment and support for e-Gov from the top leadership; (2) Setting e-Gov implementation priorities based on the needs of citizens and businesses; (3) Conducting periodic evaluations and providing rewards on e-Gov implementation; (4) Developing standards to guarantee an integrated e-Gov implementation; (5) Setting policies, processes and government organizations; and (6) Building the e-Gov basic infrastructure.

The e-Government Execution Plan is to be composed of three phases

Phase I, 2008–2010 focuses on service enhancement, setting national policy, designing new systems and procedures, establishing a central government data center, preparing standard national applications, and improved training standards for ICT staffs.

Phase II, 2010–2012 will focus on connected services, implementation or an organizational design,

adoption of standard operating procedures (SOP), conducting SOP evaluations, establishing local government data centers, and adopting certification system for ICT staff.

Phase III, 2012–2015 continue advancement of e-Governance through utilization of a national network, integrated national standard applications, and continued improvements in human resources.

A number of Flagship Programs and Opportunities have been identified. These are:

Palapa Ring Project – Connecting all 440 districts across Indonesia as core domestic backbone network to increase telecommunications penetration;

National Single Window – Integrating and delivering export and import trade services in a single government website, including customs and excises compliance, shipment of goods, bank transfers and remittance, insurance, licensing, etc.

e-Education – Implementing an education system based on ICT applications and combined with distance e-learning for the levels of junior and senior high schools across Indonesia.

Software Legalization – Promoting legal software use in every government institution, through the use of both proprietary software and open-source software.

e-Procurement –Developing a system to deliver services to public interactively through online mechanisms, (government goods and services procurement).

National Identity Number – Implementing National Identity Number for every citizen since the birth date as a unique identification, social security, government administration, taxation, etc.

e-Budget – Coordinating and streamlining the state budgeting process through a single government website hence generating fair, transparent and accountable process involving the Parliament (DPR) and related government institutions.

In terms of policy and regulation, a number of Acts and Presidential decrees have been issued since 2008. These include the Act on Information and Electronic Transactions (2006); the Freedom of Information Act (2008); Presidential Instruction of 2003 on National Policy and Strategy for e-Government Development, Decree for National Single Window (2008); Presidential Decree on National ICT Council 2006; and MICT Decree on Use of Domain Names.

The National ICT Council is chaired by the President and composed of 11 ministers and 5 representatives of the private sector. Indonesian officials are optimistic they can achieve the objectives of the E-Government Roadmap by 2015 based on progress to date and strong support received from government bodies, enterprises and citizens.

Rural Internet Yields Surprising Results

When United Villages took the Internet to rural India the objective was to "give the people tools from the digital age," according to a recent report (www.scidev.net) The communications group set up Internet terminals in remote villages and watched for a transformation. Almost three years later, technology is indeed enriching rural lives – but not quite how they expected. Rather than paying to send e-mails and surf the web, villagers prefer to e-mail their questions to someone who will do the surfing and return the answers in a PDF file.

United Villages is one of a growing number of groups rolling out "asynchronous" Internet access across the developing world. This is an approach that does not need miles of cables or a constant connection – and so its much cheaper. Asynchronous connections use software to queue data (such as e-mails, web searches and requests for specific downloads) and to ready it for transfer. The data are assembled on a device such as a USB memory stick then carried across mountain passes or down rough tracks that have never seen a cable – to a distant Internet connection. Alternatively, a wireless-enabled computer might simply wait until something arrives to connect to – perhaps a data storage device installed in the daily bus.

Others choose to work offline, setting their computes to connect overnight or at the weekend when telephone rates are cheaper. Internet access might not be instantaneous, but a USB stick driven off in a cloud of motorcycle dusk, or bumping along in an ox card, can often shift more data than a telephone dial-up connection. And when delayed dial-up the customer avoids the frustration of slow downloads, returning later to waiting data.

Soon after the international non-profit organization Geekcorps first set up small ICT enters in rural Mali in 2006, it had high hopes for its asynchronous Internet connections. In a village in the Koulikoro region of southwest Mali, a lone cybertiji (from the Bambara word for tradesman) once operated a single "desert PC" – a hardy computer specifically designed by Geekcorps for hot climates.

The service offered basic "office" programs and provided scanning, photocopying, digital photography and

access to media such as DVDs and music, along with an e-mail service and requests for web pages. The power source was a single 22 watt solar panel. The connection was made by a USB memory stick taken once or twice a week, by mototigi to, to a telecenter with an Internet connection in distant Quelessebougou.

This was an exciting new scheme to connect the village to the outside world. But it was halted after a year because of poor demand, according to the Geekcorps country director. Perhaps this was predictable, considering that less than a quarter of people living outside the capital can read and write. And it was made clear that Mali people want to connect to the rest of the world but choose to do it by radio and mobile phones.

In another case, Sri Lanka, the Kothmale Community Radio Station has considerable success with its "radio browsing" show, in which presenters search the web for listeners' queries live on air.

Using E-Government to Reinforce Government-Citizen Relationships

A new report comparing the United States and China shows that e-Government can be used to enhance citizens' access to government as much as government's access to citizens. The report, Using E-Government to Reinforce Government-Citizen Relationships, in the Social Science Computer Review by Sage Publishers (http://portal.acm.org). Both China and the US are using e-Government initiatives as vehicles to improve internal efficiencies and provide better services to their citizens. However, in the US, e-Government also represents an opportunity to infuse business principles to the government-citizen relationship (results-oriented government). In the case of China, e-Government represents a means to bring sub-national levels of government under greater scrutiny and control of the central government, as it reinforces monopoly control over government-citizen relationship (transparency with security). Further comparative analysis along three dimensions suggests that although technology can play an important role in fostering the redistribution of power and encouraging interactions between governments and citizens, the notion of government reform carries many different connotations.

Facebook Users Disregard Privacy for Popularity

A survey of 343 Facebook users at the University of Guelph, Canada, ages between 17 and 24 found that "they share and show more about themselves than they might in other social settings. We wanted to find out if different psychological factors are involved in that behavior," observed one of the researchers. (www.privacyjournal.com) The study revealed that the majority of people (76%) are concerned about privacy and information control, yet they will disclose a great deal of personal information on Facebook. This includes details like birthdays, e-mail addresses, hometowns, school and degree majors and intimate photographs. The researchers noted that Facebook creates "norms" regarding what specific information to disclose based on what others have disclosed.

"Revealing too much personal information can be risky from a safety standpoint, a researcher stated, but maintaining too much privacy can be socially limiting. Such is the case with omitting your birth date from you're your profile means people on your friend list will not be able to wish you a happy birthday, another researcher pointed out. The study found the information students were most likely to post was (above 50%) birthday, e-mail, hometown, relationship status, school and program, and personal interests. Less likely to be posted were work experience, university residence, phone number and home address.

Asked how likely they were to post photos on Facebook, ranked on a scale of one to seven, the highest were profile portrait, photo with friends, dressed up formally, traveling, with boyfriend or girlfriend, at parties or a bar and kissing someone. The lowest rankings were doing drugs, being provocative and naked.