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Documents for the information of the Committee on Statistics on item 6 of the provisional agenda

Note by the secretariat**

Summary

The present paper contains the individual information notes under item 6 of the provisional agenda. The first note, by the Office on Drugs and Crime, contains a discussion on the introduction of the International Classification of Crimes for Statistical Purposes, a framework for compiling data that has been developed to address the problem of lack of consistency in the way crimes are recorded and counted within and across countries. The second note, drafted by the secretariat, presents evidence of the impact of information and communications technology on development. It also documents the region's progress towards the 10 targets agreed upon at the World Summit on the Information Society. The third note discusses the recently held meeting of the Committee of Experts on Global Geospatial Information, as well as that of the related expert group. The fourth note introduces the primary goals, strategic direction and modes of work of the Ulaanbaatar Group on Statistics for Economies Based on Natural Resources, and cites a report on the recent meetings of its Steering Committee. The fifth note is still being drafted. The sixth note introduces World Statistics Day 2015 and describes progress made in preparation for its observance on 20 October 2015.

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** The present note has been issued without formal editing.

Part I

Improving the quality and availability of crime statistics

Note by the United Nations Office on Drugs and Crime

I. Overview

1. With some exceptions, for example in respect of data on intentional homicide, statistics on crime are significantly affected by data quality challenges. In particular, lack of comparability, both within and between countries, and lack of consistency in the way crimes are recorded and counted are well-known challenges that affect crime data (see E/CN.3/2012/3). In addition, data based on administrative records suffer from issues of accuracy because of the high level of underreporting (the so-called "dark figure" of crime).

2. In that context, the International Standard Classification of Crime for Statistical Purposes (ICCS) has been developed to have a positive impact on the comparability and consistency of crime statistics. The International Classification will provide a common classification framework for data from administrative sources and victimization surveys and will therefore facilitate the measurement of the gap between crimes reported to the police and those experienced by the victims.

3. The International Classification also provides a valuable analytical framework at the country level and can also serve as an essential tool for harmonizing the collection and dissemination of data across the different criminal justice institutions (police, prosecution, courts and prisons), across subnational entities, which may adopt different legal frameworks or organizing principles, and across different data sources (administrative records and statistical surveys). By offering a common classification scheme of crime and criminal justice data, ICCS will improve the consistency of national data.

4. The report of the United Nations Office on Drugs and Crime on the process followed to develop ICCS, its main substantive features, the plan to implement ICCS, and an overview of the tools and activities that will support countries in their gradual adoption of ICCS for production and international reporting of crime statistics – was presented to the forty-sixth session of the Statistical Commission (see http://unstats.un.org/unsd/statcom/doc15/2015-7-CrimeStats-Classification-E.pdf).

Part II

Information and communications technology

Note by the secretariat

I. Overview

1. The purpose of this note is to present evidence of the impact of information and communications technology (ICT) on development emerging from statistical measurements available. This involves measuring the regional progress in implementing the outcomes of the World Summit on the Information Society (WSIS).

2. In the Asia and the Pacific region, survey data collected in 2013 from member and associate members of ESCAP, and publicly available data suggest that there has been progress in the past decade towards achieving the WSIS objectives. Larger segments of the population have access to information and communications technology (ICT), in particular mobile phones, and more public institutions are connected online than ever before. However, progress is incomplete, and in some instances the digital divide has actually increased as more advanced countries have surged ahead in implementation of WSIS objectives. Mobile broadband may enable some countries to catch up on Internet connectivity. Further improvements in terms of local content and language diversity would help stimulate investments in connection infrastructure and make ICT more affordable.

3. In this context, ICT will provide ever more opportunities for development, as well challenges. Policymakers, including statisticians, will need to closely track and analyse the contribution of ICT to future sustainable development goals. The future goals should explore inclusive and sustainable connectivity, particularly through broadband, and the factors required for affordable universal access to broadband. In addition, future ICT goals should support the achievement of sustainable development goals, and should reflect lessons drawn from the WSIS implementation experience over the past decade. This includes using existing statistical standards when possible, involving the statistical community in the design of the targets at an early stage and reviewing the targets more frequently than before, to ensure that ICT goals retain their relevance in the face of very rapid technological advances. It also entails considering how ICT can be used as tools to improve statistical collection and analytical capabilities of countries. The role of big data analytics is an emerging area of significant importance.

II. Introduction

4. It is now widely recognized that information and communications technology (ICT) have an important impact on development. In its various forms, ICTs are bringing about fundamental changes to the human life and offering innovative solutions. However, it remains statistically challenging to measure its impact on development. The diverse and rapidly changing nature of ICT poses inherent difficulties in measuring its impact. Furthermore, there are increasing data gaps and disparity in the availability of ICT statistics at the national level, which has become another reflection of the digital divide. More developed countries, which have greater financial and human resources, are able to carry out surveys more regularly and frequently, and usually produce data that is of higher quality.

5. As we approach the post-2015 sustainable development agenda, it will be important to take stock of the progress made in ICT development objectives and reflect on the experience over the past decades to better understand the development statistics. This is key to improving our understanding of ICT and development linkages, as well as to enhance the evidence base for improved ICT policy-making.

III. Progress made towards the WSIS targets in Asia and the Pacific

A. World Summit on the Information Society

6. Held in two phases in 2003 (Geneva) and 2005 (Tunis), the World Summit on the Information Society (WSIS) was organized under the aegis of the United Nations as an international initiative to address the growing digital divide.[1] From the outset, it was agreed that the outcome of the WSIS process would be assessed against 10 targets set by the stakeholders. The Partnership on Measuring Information and Communications Technology for Development, directed by the WSIS stakeholders, developed a framework of 49 statistical indicators to measure progress towards the targets.[2] Whenever possible, the indicators were based on existing international statistical standards for measuring information and communications technology (ICT), developed by each specialized agency of the Partnership. The objectives of WSIS are now under final review.

7. In 2013, the Task Group on Measuring the WSIS Targets, established by the Partnership, devised a questionnaire to collect information on the 49 indicators, and requested the United Nations regional commissions to use the questionnaire to gather data from their respective regions. This data collection exercise conducted by ESCAP resulted in the paper entitled "Assessing the outcome of the World Summit on the Information Society in Asia and the Pacific: regional survey and review by the ESCAP secretariat"[3]. The ESCAP secretariat, as a member of the Partnership on Measuring ICT for Development, reached out to 43 countries in the region and received 16 responses, a response rate of 37%. This section provides a brief summary of the findings outlined in that paper, along with an examination of progress towards each target based on available data.

B. Target 1

8. Target 1 evaluates the rural dimension of the digital divide. Mobile telephony service is increasingly available and only a handful of countries retain low coverage rates in rural areas. The rural divide in access to and use of the Internet is much more pronounced in poorer countries, and is therefore worsened by low income. In more developed counties of the region, Internet usage ratios are very high for rural and urban areas (respectively 76.2 and 85.1 per cent in Japan in 2012, for example). In middle-income countries, rural Internet usage rates tend to fluctuate around half of the levels of urban areas (respectively 49.7 and 87.6 per cent in Azerbaijan). In poorer countries the differential in Internet usage between rural and urban areas tends to be

[1] See www.itu.int/wsis/index.html.

[2] The list of the WSIS targets are available at: http://www.itu.int/wsis/docs/geneva/official/poa.html.

[3] The report can be found at: http://www.unescap.org/sites/default/files/ESCAP%20WSIS%20target%20review%20rev%2026%20May_0.pdf.

much higher (respectively 3.8 and 16.1 per cent in Indonesia in 2010). The review, however, identified a trend of rapid progress in Internet use in rural areas, which is in good part owed to mobile broadband. The uptake of mobile broadband began earlier in more developed countries where it has progressed even more quickly. However, a few middle-income countries and members of the Commonwealth of Independent States have also done well in adopting mobile broadband technologies.

C. Target 2

9. Target 2 measures progress in connecting schools. Data from the set of responses received from ESCAP countries of various income levels reveal great disparities in the ratio of learners to computers, especially in least developed and lower income countries. Reported ratios of learners per available computer are very high in Cambodia (>500), Bhutan (79), India (89), Indonesia (136), Nepal (>500) and Sri Lanka (98), limiting effective individual use. On the other extreme, Australia, Japan, the Republic of Korea and Singapore all reported at least one computer for every seven pupils. Similar disparities are observed for Internet access in schools. Poorer countries tend to have fewer schools connected to the Internet, particularly to broadband, which would offer more education services. Rates of primary and secondary schools with Internet access of any type stand at 5 per cent in Bangladesh and Nepal, 6 per cent in Kyrgyzstan and 17 per cent in Sri Lanka.

D. Target 3

10. Target 3 aims to connect all scientific and research centres with ICTs. Connectivity has become essential for scientific research and innovation. The limited data available for ESCAP countries show that public scientific and research centres are nearly all connected to broadband Internet. Connectivity of national research and education networks (NRENs) is also growing in the region, thanks in particular to regional and international initiatives, such as the Trans-Eurasia Information Network (TEIN) and the Central Asian Research and Education Network (CAREN). Through TEIN, research centres of 20 Asia-Pacific countries are linked with research centres across Europe. It allows for high-speed and high-volume exchange of data, and facilitates a wide range of applications to enhance research and education, including e-learning, videoconferences and online research collaboration.

E. Target 4

11. Target 4 sets the objective to connect all public libraries, archives, museums, cultural centres and post offices in line with the vision to preserve and promote cultural diversity and local knowledge through ICT. Moreover, connected public service institutions, such as libraries and post offices, can provide public Internet access points. Apart from data related to ICT in post offices,[4] very limited data are available for this target. The data collected by the secretariat show varying degrees of connectivity across the region, usually correlated to income level. Post offices are very often connected in developed or upper-middle-income countries while rates of connectivity are very low in poorer countries. The limited data available also reveal that rates of connectivity and digitalization of national archives are usually very low in poorer countries. External assistance would probably be required to accelerate digitization of national archives which constitute major written repositories of cultural heritage.

[4] Post office data are collected and publically disseminated by the Universal Postal Union.

F. Target 5

12. Target 5 sets the objective of connecting health centres and hospitals to improve the performance of health services. Relatively scant data are available for this target, but the data reveal a high level of Internet connections in public hospitals and public health centres, including in the least developed countries (LDCs) of the region. Bhutan, Georgia, Iran (Islamic Republic of), Maldives, Nauru and Thailand reported hospital Internet connection rates of 100 per cent. The little data available also show high levels of computer and Internet use to manage individual patient information.

G. Target 6

13. Target 6 focuses on the use of ICT in Governments. The evidence collected by the ESCAP secretariat, as well as other indicators published regularly in the *E-Government Survey* of the United Nations Department of Economic and Social Affairs[5] show that Governments in Asia and the Pacific are increasingly making use of ICT to deliver services. Use of computers and the Internet by the staff of central Governments is becoming quasi-ubiquitous, including in LDCs. Likewise, most central government organizations are now equipped with a local area network (LAN) and intranet, and it is becoming the norm for government organizations to have a web presence. Nevertheless, the digital divide is still vividly illustrated by gaps in the availability and extent of online services provided by national Governments. According to the 2012 *E-Government Survey*, the Republic of Korea and Singapore obtained the best possible score, alongside the United States of America. In the region, good performers in terms of online services also include (in order of online service index score) Malaysia, Kazakhstan, the Russian Federation, Georgia, Mongolia, India, China and Thailand, which all scored significantly better than the regional average. By contrast, Myanmar, Nauru, Kiribati and Tuvalu exhibited the lowest levels of online services in the region and all Pacific island developing countries scored below the regional average.

H. Target 7

14. Target 7 concerns adapting education and school curricula to ICT. Although limited in its coverage of the region, the data available reveal an important divide regarding the preparedness of teachers to use ICT, with poorer countries usually having very few ICT teachers and low proportions of teachers trained to use ICTs to teach other subjects. For example, all teachers (100 per cent) in Singapore and Hong Kong, China were trained to teach using ICT, while only 2 per cent of teachers in Myanmar were. The data show a smaller, but distinct divide in terms of the availability of computer- and Internet-assisted instruction in schools of the region.

I. Target 8

15. Target 8 aims to promote access to television and radio services. Data show that, compared to a decade ago, Asia-Pacific household access to radio has decreased, while access to television has increased. Possession of a television is still largely correlated to income. Poorer countries still exhibit

[5] *United Nations E-Government Survey 2012: E-Government for the People* (United Nations publication, Sales No. E.12.II.H.2). Available from http://unpan3.un.org/egovkb/Portals/egovkb/documents/un/2012-Survey/unpan048065.pdf .

possession rates below 50 per cent, while rates in high- and middle-income countries are closer to 100 per cent. Progress has been made in household television possession rates with notable increases in Azerbaijan (31.4 per cent), Maldives (25.5 per cent), Bhutan and Viet Nam (+20 per cent).[6] The convergence of ICTs and the development of mobile television and mobile radio enabled by mobile broadband, mean that high-speed broadband access will eventually translate into de facto access to television and radio services. Basic ICT skills will be required to ensure that everyone is able to access television and radio services through mobile devices.

J. Target 9

16. Target 9 aims to facilitate the development of content and the presence of all world languages on the Internet. Data available from a variety of sources for this target show that, although the vast majority of available content on the Internet is in English, the relative share of other major ESCAP languages, particularly of Chinese, Korean and Russian, is growing. Rankings of the most prevalent languages online include Japanese (4), Russian (8) and Korean (9). The diversification of the languages represented online is confirmed by other sources reviewed by ESCAP, including the number and share of Wikipedia articles in various languages. The data generally indicate that the cultural digital divide tends to follow the patterns of the digital divide dictated by income disparities.

K. Target 10

17. Ensuring that more than half the world's inhabitants have personal use of ICTs constitutes target 10. For many ESCAP countries, access to mobile telephony is widespread and, with a few exceptions, this aspect of target 10 has already been met in the region. Approximately one third of ESCAP countries have reached the objective of at least half of the population using the Internet and a few more countries are expected to reach the target by 2015. Despite progress, this component of the target still shows a strong digital divide. Most of the countries that have reached the 50 per cent target of Internet use are either developed or relatively high income. Such successes in increased Internet penetration are usually related to a rapid uptake in mobile broadband. Meanwhile, in 2012, in Afghanistan, Bangladesh, Cambodia, the Democratic People's Republic of Korea, Papua New Guinea, Myanmar, Solomon Islands, Timor-Leste and Turkmenistan, 10 per cent or less of the population used the Internet. Significant gains in access to the Internet, particularly broadband, are needed in poorer countries.

L. Overall review conclusions

18. Significant progress has been made towards the WSIS objectives in Asia and the Pacific. Progress has been led by mobile telephony, which is now available to most people in the region, with a few exceptions usually dictated by local circumstances. Progress has also been made, though more unequally, in terms of Internet penetration rates. Public institutions and services are increasingly connected to the web, even in poorer countries of the region. Internet connectivity in more advanced countries has expanded faster than in low-income countries, and there also appears to be a gap in terms of quality and speed of connections. Moreover, there are gaps in the quality and availability of data on WSIS targets and indicators, and in some

[6] For the period 2003-2010 for Azerbaijan and Maldives, 2003-2008 for Bhutan and 2004-2011 for Viet Nam.

cases the data are too weak to judge progress. Nevertheless, the review identified an improvement in cultural diversity and the availability of locally relevant content. Overall, the findings seem to illustrate that the digital divide is now often correlated to income levels in the region.

IV. Measuring international ICT goals for development − methodological issues and lessons learned

19. Beyond the outcome for each of the WSIS targets, the review undertaken by ESCAP also revealed important lessons regarding the methodological approach to setting ICT development targets. This section discusses the lessons learned in terms of setting measurable ICT targets.

A. Responding to diverse capacities to measure ICT

20. When the World Summit on the Information Society was held, there may have been an expectation that progress in statistical capacity to measure ICT would closely follow this fast-changing sector, yet this has not been the case. While there has indeed been some progress in the production of good-quality statistics, thanks to the notable support of the Partnership on Measuring Information and Communications Technology for Development, the availability of ICT statistics across development levels has nevertheless become another reflection of the digital divide. More advanced countries, which have greater financial and human resources, are able to carry out surveys more regularly and frequently, and data are usually of higher quality. Although the response rate of Asia-Pacific LDCs was relatively high (41 per cent), the thoroughness of the responses to the survey varied significantly. The already overstretched statistical systems of LDCs may not be able to meet reporting requirements, and there is a risk that global and regional statistical ICT progress reviews will be biased towards more advanced countries with the capacity to produce higher-quality data, and may not provide an accurate picture of the extent of the digital divide. Capacities of countries with weaker statistical systems need to be taken into consideration when international ICT development objectives are set up. Resources also need to be planned for, to fill the capacity gaps and proceed with good-quality statistical evaluation in LDCs and countries with lower statistical capacity. Over the past decade, the Partnership has gained recognition for its record of ICT statistics capacity-building.

B. Importance of basing objectives on existing or easily measurable indicators

21. Beyond the gap in data availability and quality between richer and poorer countries, a further clear distinction can be made between indicators that are regularly monitored by the international community (such as the Core ICT Indicators), and those indicators that are not monitored by the international community and were designed to measure specific aspects of WSIS targets. For the former group, data are more often available, especially for indicators that have a long track record of collection by international organizations. By contrast, information is rarely available for indicators that were designed to measure specific aspects of WSIS targets. To avoid data gaps and irregularities, existing or easily measurable indicators should form the basis of objectives and the data collection capacities of countries could be supported by the international community.

C. Taking statistical capacity into consideration when defining objectives

22. The WSIS targets had been defined with little consideration of their statistical measurability, and it was challenging to formulate appropriate indicators ex post facto. Therefore, one potential lesson for setting international ICT objectives for the post-2015 development agenda is to consider their statistical measurability right from the conception stage. At an early stage of defining new international sustainable development targets, the technical expertise on measurability and the support of the statistical community should be enlisted. The Partnership could offer some support in this respect, and ESCAP countries should ensure that their diverse capacities to measure ICTs are well reflected in this effort.

V. The role of ICT in support of sustainable development goals beyond 2015

23. This section explores the role of ICT in support of the sustainable development agenda. It considers areas of ICT policy relevant to ESCAP countries and which could constitute components of future sustainable development goals. In this regard, the Committee on Information and Communications Technology, at its fourth session, recommended that the WSIS process and discussions on the sustainable development agenda beyond 2015 be mutually supportive and that any future ICT development targets should draw lessons from the WSIS experience. The WSIS experience demonstrates that one way of mitigating against very low response rates by member countries is to set easily measurable targets. It also suggests that existing metrics should continue to used, where they are relevant. In this regard, ESCAP, as a member of the Partnership on Measuring ICT for Development, is contributing to the ongoing discussions for a framework of statistical indicators for the sustainable development goals beyond 2015.

A. Indicators for the post-2015 sustainable development goals

24. The next generation of sustainable development goals and targets should be more easily measurable, more frequently reviewed and more readily adaptable to rapid technological innovation. The Open Working Group of the General Assembly on Sustainable Development Goals has proposed a set of goals for further consideration before its finalization and adoption in September 2015[7]. The Partnership, in this regard, is developing an indicator framework to monitor the progress of the sustainable development goals, while underlining the importance of ensuring a convergence between the monitoring processes of the sustainable development goals track and the post-WSIS track. As an example, ESCAP and the Partnership have proposed that the proposed sustainable development goal 9, which aims to “Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation” and its target 9.1 to “Develop quality, reliable, sustainable and resilient infrastructure, including regional and trans-border infrastructure, to support economic development and human well-being, with a focus on affordable and equitable access for all”, can be measured by the existing ITU – Broadband Transmission Capacity indicators 7.a (Percentage of population within reach of transmission networks) and 7.b (Percentage of area within reach of

[7] Report of the Open Working Group of the General Assembly on Sustainable Development Goals (A/68/970).

transmission networks). Statistical information that had been collected under these existing indicators over the past years would provide further support for informed evidence-based policymaking.

B. ICT for improved statistics

25. Information and communications technology can also support data collection for sustainable development. Recent advances in data gathering and analysis have facilitated new levels of insight. Emerging technologies have shown promise as a source of information to policy makers, such as the opportunity to produce statistics using big data. Of particular interest is the capacity of big data to augment other more expensive data collection exercises, such as censuses, household survey or traffic studies. By leveraging these technologies, governments obtain higher quality data in a more cost effective way.

26. Telecommunications has been a useful source of information for big data applications, offering insight into population statistics, utilization of roads, and human migration. Particularly in the context of disasters, the ability to quickly access and geolocate mobile phone data can provide very useful insight into the state of transportation infrastructure and enhance early response efforts. In other areas, the changing nature of the data sources involved in big data applications present challenges for national statistical offices, which prefer stable and well-defined data sources with multiple years of time series values available. Because of these issues, at this time, big data has yet to fully prove itself as a long-term, viable source of insight.

27. The Committee on Information and Communications Technology, noting the large disparities in data availability across the Asia-Pacific region, recommended that the secretariat provide increased assistance, in particular to the least developed, landlocked developing and Pacific island developing countries, to strengthen their capacities for evidence-based policymaking. The box below illustrates one example of how information and communications technology can contribute to national collection of statistical data.

Box
ICTs to support Civil Registration and Vital Statistics

Information technology has long been a significant factor in improving process efficiency in government, particularly in statistical applications. Recently, the value of these technologies has been evident in the global push for universal birth registration. As part of a holistic approach to Civil Registration and Vital Statistics, IT can improve data collection, analysis and dissemination, thus empowering better decision making. Registration of births is of particular importance, in order to ensure that children are included in public health and education initiatives. In countries in which births occur outside a hospital or medical center, being able to utilize mobile technologies to enhance data collection is a great benefit. Further, by automating the process of receiving birth certificates and national registration documents, marginalized communities can be better recognized and empowered.

As the ESCAP region progresses towards universal registration as part of the systematic vital statistics program, there are notable cases of success as well as lessons learnt. For example, in Fiji, the registration system is integrated with the Statistics and Health department, allowing integrated use of birth information as it is entered at the time of birth at the health facility. This connection facilitates the extraction of data on vital statistics and provides each citizen to be identified with a birth registration number issued at the time of birth by the Registrar General.

In addition to these positive effects, IT systems must have proper processes and safeguards in place to insure data quality. In Bangladesh, high level prioritization was given to increasing the rate of birth registration. As part of that initiative, starting in 2001, large numbers of births were recorded. Recently, it has become apparent that there may be data quality issues emerging. For example, the number of registered births has exceeded the total population of the country by approximately 11%. While research is underway to determine the nature of the problem and the appropriate course of action, it appears that some individuals have had their births registered multiple times. These circumstances underscore the importance of insuring that IT solutions are deployed with well-considered business processes in order to insure that the resulting data will be correct and actionable.

28. The next generation of ICT development objectives would need to consider the development impact of ICT in a more holistic and qualitative way. This would include measurements on (a) access and usage, especially among vulnerable groups of society; (b) social inclusiveness, especially on standards of living; (c) economic impacts, data safety and security; as well as (d) environmental sustainability.

C. ICT connectivity

29. Access to the Internet, though constantly expanding, has failed to replicate the success of mobile telephony. Progress has been uneven and in many respects, the gap between the most and the least connected ESCAP countries has increased, with richer countries making rapid gains in terms of penetration and availability of ultra-high-speed broadband. The Internet, particularly broadband Internet, has opened many possibilities that did not exist a decade ago. Favourable conditions of access, in terms of both affordability and quality, can enable a range of development applications related to health, education, business development and so on.

30. It is important, therefore, for countries to continue tracking access to the Internet within the development framework beyond 2015. Statistical indicators measuring access to the Internet should include, inter alia:

a. Current WSIS indicators in terms of access to and use of the internet, with a new focus on broadband;

b. Population covered by 3G (third generation) and 4G (fourth generation) long-term evolution (LTE) services;

c. Affordability of Internet services, possibly as a share of gross national income (GNI),[8] and affordability of Internet-enabled devices;

d. Quality of connections, with potential metrics such as actual download speed and bandwidth latency.

31. Mobile broadband and next generation telephony services (4G LTE) may enable widespread gains in access to the Internet, but open, flexible and competitive markets supported by appropriate regulatory and legal frameworks will be key drivers. It is therefore recommended to foster regulatory frameworks that are conducive to investment and competition in ICT. Useful metrics related to regulatory and legal framework could be easily identified, in consultation with the private sector and statistical experts.

32. Also crucial for Internet uptake is the safety of online data and online transactions. With the increasing importance of e-commerce and e-business, and as citizens, institutions, businesses and administrations are encouraged to use the potential of "cloud computing", challenges may arise related to data privacy, the location of data storage and data protection.

33. Furthermore, mobile broadband and next generation telephony rely on high-capacity fixed infrastructure, notably fibre-optic cable networks, for traffic aggregation and access to international Internet transit hubs. In-depth measurement of infrastructure availability, capacities and remaining gaps will be required. The convergence of mobile telephony and the Internet, increased ICT availability, new ICT uses, such as "big data" or the "Internet of things", and cloud computing will radically increase demand for bandwidth and high-capacity infrastructure. Measurement should facilitate infrastructure deployment that is regionally cohesive and that serves as a conduit through its landmass to Europe. In this regard, the Partnership has agreed to seven new indicators on infrastructure. The ESCAP/ITU maps of the information superhighway can also constitute an important tool in tracking progress on building a cohesive and integrated transmission infrastructure.[9] Other potential indicators to assess the extent to which ICT infrastructure creates the right conditions for ICT for development include the availability of Internet exchange points, and the price of Internet protocol (IP) transit.

D. ICT and social inclusiveness

34. As it can provide information and opportunities beyond what the traditional social structures permit, ICT holds much promise for social inclusiveness.

[8] ITU already produces data regularly on broadband price as a percentage of GNI.

[9] The maps are available from www.itu.int/itu-d/tnd-map-public/.

1. Urban/rural divide

35. Reducing the digital divide between urban and rural areas is the first target of WSIS. In Asia and the Pacific, the urban/rural dimension of the digital divide is more pronounced in poorer countries, yet it is precisely there that ICT can have the most beneficial and transformative impact. Moving beyond 2015, it will remain essential to continue tracking the urban/rural character of the digital divide in order to gradually close it. This will be particularly relevant for broadband Internet access and use, coverage by 3G and 4G signals and for the availability of relevant content in local languages.

2. Gender

36. Although the gender dimension of ICT was included in the Geneva Plan of Action (WSIS), it has yet to be systematically measured. Anecdotal evidence suggests that ICT can alleviate specific forms of gender discrimination and provide women and girls with opportunities from which they would otherwise be excluded. The Partnership is currently developing internationally comparable indicators on the gender dimensions of ICT, and recommendations in light of the proposed Goal 5[10] (Achieve gender equality and empower all women and girls) of the sustainable development goals that aims to enhance the use of enabling technologies, in particular ICTs, to promote women's empowerment. These indicators cover ICT and gender in the following areas:[11]

a. ICT use by households and individuals;

b. ICT and education;

c. Employment;

d. Businesses, small and medium-sized enterprises and entrepreneurship;

e. E-government.

3. Vulnerable groups

37. The next phase of WSIS should also review access to and use of ICT by vulnerable populations with special needs, such as people with disabilities, ethnic and linguistic minorities and illiterate populations. The important impact that ICT can have for such populations in improving their livelihood has been well documented. To be effective, however, it is important that people with little or no formal education can easily use the interface and navigate the content provided. In that respect, intermediated ICT services may be useful in developing countries or areas where illiteracy is prevalent. This can take different forms, such as community access centres that are operated by a facilitator, or mobile help services for people with low literacy.

4. Local content and cultural and linguistic diversity online

38. Although WSIS target 9 makes a valuable contribution towards understanding and quantifying the linguistic and content component of the digital divide, this dimension remains understudied and neglected. This is a

[10] Report of the Open Working Group of the General Assembly on Sustainable Development Goals (A/68/970).

[11] Measuring *ICT and Gender: An Assessment*. United Nations Conference on Trade and Development, 2014. Available from http://unctad.org/en/PublicationsLibrary/webdtlstict2014d1_en.pdf .

major problem as meaningful content is essential if the Internet and ICT are to truly enhance the lives of all and contribute to inclusive development. ICTs, including the Internet and mobile telephony, need to be usable and understandable by all, including speakers of minority languages. Beyond 2015, countries of Asia and the Pacific should consider tracking the development of local content and the diversity of languages online.

39. The increase in relevant local content is likely to boost demand for access to the Internet in Asia and the Pacific. This in turn should attract further investments in infrastructure and services that are affordable to all. In that way, the expansion of local and linguistically diverse content can enable improved affordability and availability of the Internet.

5. E-government

40. Related to the importance of providing content to all segments of the population is the provision of online government services and information. The international community is relatively well equipped with tools to measure e-government, although with the rapid evolution of technology and its increasing availability, some of the existing indicators should be updated. This rapid evolution shifts the question from whether e-government services are available to their accessibility and relevance to all population groups. Although government services are increasingly available online, important gaps remain across Asia and the Pacific.

41. It will therefore be necessary to update and expand the tracking of e-government services beyond 2015. For some Asia-Pacific countries, early warning systems and ICT-enabled disaster prevention and management services are striking illustrations of the power of ICT for public service. In addition, ICT can contribute to building valuable data sets for a large range of socioeconomic applications. Big data may open new avenues for providing information that is more timely and cheaper to produce. ICT can also accelerate the development of thorough and reliable civil registration and vital statistics systems (see box 1), helping to register life events such as birth, marriage and cause of death. Such information is essential for well-designed and targeted social and health policies.

6. Usage and education

42. The way people use ICT, particularly broadband Internet, ultimately determines the outcome of technology on well-being. There is anecdotal evidence in developed countries that less-educated people spend comparatively more time using ICT in ways that do not enhance welfare.[12] It is therefore important to track the ways various populations across countries are using ICT to better understand actual patterns of use, and when necessary, offer incentives for appropriate use. A potential illustration is the growing use of social media and their impact on the way people socialize and interact. The welfare of children and teenagers online, including the prevention of bullying, abuse or other criminal activities, suggests the need for in-depth socioeconomic study and tracking at the international level of usage trends and impacts.

43. Moreover, ICT offers a major potential to enhance the pedagogic experience and outcomes for millions of learners across the world.

[12] Available from www.nytimes.com/2012/05/30/us/new-digital-divide-seen-in-wasting-time-online.html?pagewanted=all&_r=0, accessed 28 May 2014.

Developing ICT skills through education is essential not only to encourage better use of ICT, but also to boost competitiveness and productivity at the individual and national levels. Therefore, it is important to continue reviewing WSIS indicators related to ICT and education in the future.

E. Measuring ICT for shared prosperity

44. ICT can accelerate economic progress and poverty reduction, and the ICT era has yielded resounding success in terms of developing thriving information economies, including in some ESCAP countries. These benefits, however, are not uniformly distributed across the region. Better measurements of the information economy beyond 2015 could lead to a better understanding of best practices and the economic impact of ICT, and could be used to ensure that ICT contributes to shared prosperity.

45. The production of ICT goods and services now accounts for a sizeable share of investments, employment and GDP in developing countries. Core ICT Indicators have already been developed to measure aspects of the information economy.[13] Such indicators could be further tracked to assess the contribution of ICT to growth and development.

46. Information technology (IT) and ICT-enabled services have become major export sectors and sources of revenue for a number of ESCAP economies. Countries such as India, the Philippines and Singapore have developed internationally competitive IT and ICT-enabled industries. NASSCOM, the Indian IT Business Process Management (BPM) Industry Association, estimated that in 2014, India will export $52 billion of IT services and IT-BPM revenue will reach $118 billion. Furthermore, IT-BPM is the largest private sector employer in India, employing an estimated 3.1 million people and accounting for 8.1 per cent of GDP.[14] The United Nations Conference on Trade and Development (UNCTAD) is currently developing a set of statistical indicators to measure trade in IT and ICT-enabled services. This should provide the international community with ways to track the extent to which IT and ICT-enabled services contribute to development.

47. For the post-2015 development agenda, the international community and particularly ESCAP countries should seek to monitor the extent to which ICTs are contributing to economic growth and shared prosperity.

F. Measuring the environmental sustainability of ICT

48. Innovation in ICT has created both opportunities for and threats to sustainable development. For example, Internet traffic, ICT appliances and data centres now represent a major share of energy needs of developed countries. The Digital Power Group estimated that the use of ICT around the world consumed about 10 per cent of electricity generated globally in 2013, "equal to all the electric generation of Japan and Germany combined – as much electricity as was used for global illumination in 1985".[15] Although

[13] The Core ICT Indicators cover many areas, including the share of the ICT sector in total employment and in total value added, as well as indicators on trade in ICT goods.

[14] See http://www.nasscom.in/indian-itbpo-industry, accessed 19 May 2014.

[15] The Cloud begins with Coal, Big Data, Big Networks, Big Infrastructure and Big Power: An overview of the electricity used by the global digital ecosystem. Mark P. Mills, August 2013. Available from http://www.tech-pundit.com/wp-content/uploads/2013/07/Cloud_Begins_With_Coal.pdf?c761ac.

there has been significant progress in reducing the energy intensity of the ICT sector, the speed of the sector's growth means that impact of its consumption of energy should not be underestimated. ICT also consumes a wide variety of rare minerals and natural resources. E-waste, and in particular its unauthorized export to developing countries, is a growing concern as processing such waste may cause environmental and health damage if not carried out properly. The Partnership on Measuring Information and Communications Technology for Development is currently developing a set of indicators to measure e-waste and illegal trade in e-waste. The carbon footprint and production of e-waste in the ICT sector ought to be regularly tracked at the international level in the future, so that corrective measures can be taken to improve the sustainability of the sector.

49. At the same time, ICT enables the development of so-called smarter energy and transport systems and can be a boon to environmental sustainability. Intelligent transport systems, for example, can improve traffic fluidity while reducing the carbon footprint of transport and the impact of air pollution on health, a major issue in Asia and the Pacific. ICT-enabled intelligent transport systems also reduce commuting and freight transportation times. The international community should consider statistical indicators to review progress made in exploiting the potential of ICT to enhance sustainability.

VI. Conclusions

50. ICT provides ever more opportunities for and challenges to sustainable development. As the international community moves towards the sustainable development goals beyond 2015 and in order to enhance evidence-based policymaking, the collection of data and the tracking of ICT indicators must be scaled up and strengthened. The Committee on Statistics may wish to provide advice on the formulation of ICT development indicators and standards targeted at measuring the impact of ICT on development in the context of the post-2015 development agenda. A framework that would consider the development impact of ICT in a more holistic and qualitative way, leading to a better understanding of the contribution of ICT to achieving development goals is needed.

Part III

Global geospatial information management

Note by the United Nations Statistics Division

I. Overview

1. The United Nations Committee of Experts on Global Geospatial Information (UN-GGIM) convened its fourth session in New York, 6-8 August 2014. The full report and proceedings are available on the UN-GGIM website: http://ggim.un.org/ggim_committee.html.

2. On the margins of the fourth session of UN-GGIM, the Expert Group on the Integration of Statistical and Geospatial Information, established by the Statistical Commission and UN-GGIM in 2013, convened a Global Forum on the Integration of Statistical and Geospatial Information as a means to continue the global consultation and communication on the development of a global statistical-geospatial framework. The report and proceedings of the Global Forum are available on the UN-GGIM website: http://ggim.un.org/Global%20Forum.html.

3. The Expert Group on the Integration of Statistical and Geospatial Information presented a progress report to the forty-sixth session of the Statistical Commission (see http://unstats.un.org/unsd/statcom/doc15/2015-37-GeoInfo-E.pdf). The report provides information on the recent activities of the Expert Group carried out since the forty-fifth session of the Statistical Commission. It summarizes the major outcomes of the Global Forum on the Integration of Statistical and Geospatial Information, held in New York, 4-5August 2014, in conjunction with the fourth session of UN-GGIM, and the main findings of the International Workshop on Integrating Geospatial and Statistical Information, held in Beijing, 9-12 June 2014.

4. The report also presents information on a consultative meeting of the Expert Group with regard to the review of its work programme and the preparation and formulation of plans for future progress.

Part IV

Economies based on natural resources

Note by the Ulaanbaatar City Group

I. Overview

1. The primary goals of the Ulaanbaatar Group are to develop methodological and practical guidelines on statistical measurements for economies based on natural resources. The Group makes recommendations by establishing best practices in respect of concepts and methods to track mining industry activities and investments in mining; to accurately measure the mining industry's contribution to the economy; and to assess the impacts of mining on other social and economic sectors within the framework of the System of National Accounts. In addition, the Group aims to collaborate with countries that have economies based on natural resources and to develop practical recommendations on measuring the impacts of mining on the environment and on ensuring the comprehensiveness, reliability, accuracy, timeliness and comparability of relevant statistical data.

2. The Ulaanbaatar Group provided a summary of the second and third meetings of the steering committee of the Ulaanbaatar Group and an update on the programme of work of the Group.

Part V

Importance of increased investments in national statistical systems

Note by Paris 21

1. This note is forthcoming.

Part VI

World Statistics Day 2015

Note by the United Nations Statistical Division

I. Overview

1. The United Nations Statistical Commission proposed at its forty-fifth session to celebrate the second World Statistics Day on 20 October 2015.

2. Progress made in the preparations for the 2015 observance of the Day including: adoption of a resolution on the Day by the General Assembly; finalization of the slogan for the Day by the Bureau of the Commission; and development of a logo and a suitable communications platform for the Day is provided in the report of the secretariat of the Commission in consultation with the Bureau and which was presented to the forty-sixth session of the Statistical Commission (see http://unstats.un.org/unsd/statcom/doc15/2015-28-WSD-E-Rev.pdf).