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Report of the Partnership on Measuring Information and Communication Technology for Development: information and communications technology statistics

Note by the Secretary-General

In accordance with Economic and Social Council decision [2013/235](#), the Secretary-General has the honour to transmit the report on information and communications technology (ICT) statistics of the Partnership on Measuring Information and Communication Technology for Development. The report presents an overview of recent work done by the Partnership, including revisions to the core list of ICT indicators; the revised *Manual for Measuring ICT Access and Use by Households and Individuals*; new work on measuring gender and ICT, electronic waste and trade in ICT services and ICT-enabled services; and the final assessment of progress made in relation to the targets of the World Summit on the Information Society. The report highlights challenges for statistical offices in enhancing the quality and availability of ICT statistics, including the increasing number of data producers, and discusses the role of national coordination in this regard. The Statistical Commission is requested to express its views on the points for discussion set out in section V of the report.

* [E/CN.3/2014/1](#).



Report of the Partnership on Measuring Information and Communication Technology for Development

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I. Introduction

1. The Partnership on Measuring Information and Communication Technology for Development was launched in 2004 to improve the availability of internationally comparable information and communications technology (ICT) statistics.¹ Since then, ICT statistics has been a regular item on the agenda of the Statistical Commission and the Partnership has reported on progress in its work in 2005, 2007, 2009, 2010 and 2012 (E/CN.3/2005/23, 2007/5, 2009/19, 2010/28 and 2012/12).

2. The Commission considered ICT statistics as an item for discussion at its thirty-eighth session, in 2007, and at its forty-third session, in 2012. At its forty-third session, the Commission, inter alia, noted with satisfaction the progress that had been made in the availability of ICT statistics, but also recognized the work still to be done; agreed with the recommendations contained in the report on approaches to enhance ICT statistics; fully endorsed the revised and extended core list of ICT indicators and asked for its wide circulation so that countries and other agencies could use it as a reference; asked the Partnership to continue reviewing the indicators in light of rapid technological advances and widespread use of ICT; recognized the importance of capacity-building activities, welcomed the activities of some development partners in that area and urged other development partners to provide assistance in that regard; agreed to include ICT statistics in its multi-annual work programme; and requested the Partnership to report on progress made at the forty-fifth session of the Commission, in 2014 (E/2012/24, chap. I, sect. B, decision 43/109).

3. The role of ICTs as a key development enabler is widely recognized. While the ICT sector itself can be a major source of growth, diffusion of ICTs in the economy has been found to facilitate macroeconomic performance and business growth by increasing labour productivity, enlarging enterprises' market reach, reducing costs and favouring innovation.² Access to new technologies is important to ensure full participation by all people in new opportunities related to employment, education, health, governance or peacebuilding, thus accelerating progress towards the achievement of other development goals. There is no doubt that ICTs will continue to permeate all sectors of society and the economy and become increasingly indispensable. However, more than 4 billion people worldwide — mostly those

¹ As at November 2013, members of the Partnership were the International Telecommunication Union (ITU), the Organization for Economic Cooperation and Development (OECD), the United Nations Conference on Trade and Development (UNCTAD), the United Nations Educational, Scientific and Cultural Organization Institute for Statistics (UIS), the Economic Commission for Latin America and the Caribbean (ECLAC), the Economic and Social Commission for Western Asia (ESCWA), the Economic and Social Commission for Asia and the Pacific (ESCAP), the Economic Commission for Africa (ECA), the Department of Economic and Social Affairs of the Secretariat, Eurostat, the United Nations Environment Programme (UNEP) secretariat of the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal, the United Nations University Institute for Sustainability and Peace and the World Bank.

² For example, ICTs represent an average of 3.2 per cent of the gross domestic product (GDP) in Latin America (Argentina, Brazil, Chile and Mexico). For 1995-2008, ICT assets accounted for 14 per cent of GDP growth in Brazil, 7 per cent in Chile and Mexico and 5 per cent in Argentina. For the same period, the contribution of ICT capital to labour productivity growth in the region was between 8 per cent and 13 per cent (ECLAC, "Economía digital para el cambio estructural y la igualdad" (Santiago, March 2013)).

living in rural areas of developing countries — are not yet connected to the Internet. The divide between those who are part of the information society and those who are not is liable to deepen, as the latter are left behind and face little progress.³

4. The year 2015 is imminent. It is the target date for the Millennium Development Goals, as well as for the targets set at the World Summit on the Information Society and by the Broadband Commission for Digital Development. The Partnership is preparing a final quantitative assessment report on the achievement of the Summit targets, for release in 2014, as an input to the post-2015 debate (see sect. II below).

5. While the future international development goals have not yet been defined, ICTs will continue to play a major role in facilitating access to information, knowledge and key services. As more and more people join the information society and high-speed communication networks become an indispensable infrastructure, the tracking and measurement of ICT developments become even more relevant. Continuous monitoring and measurement of ICT developments will help to identify progress and gaps and will guide policies to ensure equal access to, use and impact of ICTs.

6. In its report to the Secretary-General,⁴ the High-level Panel of Eminent Persons on the Post-2015 Development Agenda has called for, among other things, a data revolution taking advantage of new technology and improved connectivity. ICTs could potentially play a key role in the debate on emerging data issues in the post-2015 development debate. Firstly, the ICT sector in itself represents a new source of data, provided by, for example, Internet and telecommunication companies. Secondly, the spread and use of ICTs allow public and private entities across all economic sectors to produce, store and analyse huge amounts of data. At the same time, however, monitoring access to and use of ICTs by people, public and private entities will be essential to identify the extent to which stakeholders in the ICT sector can be used as an alternative data source. Without ICTs, no ICT-driven data revolution will take place. Official statistics need to pay attention to, and engage constructively in, those discussions.

7. This report presents recent advances in ICT measurement at the international level, carried out by the Partnership and its members, and highlights challenges to improving the availability and quality of official ICT statistics. Given the cross-cutting nature of ICTs and the multitude of data providers, particular attention is paid to the coordination of ICT statistics production and dissemination at the national level. The report makes recommendations for action aimed at improving the availability of ICT statistics for effective policymaking.

³ ITU, *Measuring the Information Society 2013* (Geneva, 2013).

⁴ www.un.org/sg/management/pdf/HLP_P2015_Report.pdf.

II. Recent advances in information and communications technology measurement

A. Core list of indicators, definitions and statistical standards

8. One of the main achievements of the Partnership on Measuring Information and Communication Technology for Development has been the establishment of a core list of ICT indicators (E/CN.3/2007/5, annex II), which was endorsed by the Commission at its thirty-eighth session, in 2007. The Commission endorsed a revised version (E/CN.3/2012/12, annex) at its forty-third session, in 2012. The core list has served as the basis for the collection of internationally comparable ICT statistics worldwide and covers the following areas: ICT infrastructure and access; access and use of ICT by households and individuals; use of ICT by businesses; the ICT sector; trade in ICT goods; ICT in education; and e-government.

9. Its main purpose is to help countries that collect (or are planning to collect) ICT statistics to produce high quality and internationally comparable data. In order to achieve this, the indicators have associated statistical standards and metadata.

10. During the past two years, the Partnership core indicators on access and use of ICT by households and individuals have been revised to reflect major changes in the ICT landscape. In particular, the Internet is now accessed through a multitude of devices, including tablets and similar handheld computers. The impressive spread of mobile broadband networks has brought the Internet to households and people in places where fixed Internet infrastructure is limited, for example, outside major urban areas, in particular in developing countries. In order to capture such changes, a continuous review of existing ICT household indicators and their definitions is required.

11. Within the Partnership, ITU is responsible for collecting, harmonizing and disseminating the core ICT household indicators. Therefore, ITU took the lead in the revision process of this set of indicators. Following a recommendation by the ninth World Telecommunication/ICT Indicators Meeting (WTIM), held in Mauritius in December 2011,⁵ the Expert Group on ICT Household Indicators was set up in early 2012 with a mandate to review and revise the statistical indicators in this area, as well as the corresponding ITU manual.⁶ The Expert Group has been working since May 2012 through an online discussion forum that includes 170 experts from 65 countries. The revisions of the core indicators were finalized during a meeting of the Expert Group held in June 2013 in São Paulo, Brazil.

12. The Expert Group agreed on the revision of nine (out of 12) core ICT household indicators, the concept of household ICT access, age scope and reference period. The revisions also include four new core indicators covering multichannel television, barriers to household Internet access, ICT skills of individuals and household ICT expenditure. The revised list was endorsed by the eleventh World Telecommunication/ICT Indicators Symposium (WTIS),⁷ held in Mexico City in December 2013, and is reflected in the revised ITU *Manual for Measuring ICT Access and Use by Households and Individuals*, to be released in January 2014.

⁵ See the final report of the ninth WTIM, available at www.itu.int/ITU-D/ict/wtim11/index.html.

⁶ www.itu.int/en/ITU-D/Statistics/Pages/publications/manual2009.aspx.

⁷ As of 2013, the name of the World Telecommunication/ICT Indicators Meeting (WTIM) was changed to World Telecommunication/ICT Indicators Symposium (WTIS).

13. The annex to the present report details the 57 indicators that are included in the most recent version of the Partnership core list of ICT indicators.

B. Monitoring international development goals

14. Since its inception in 2004, shortly after the conclusion of the first phase of the World Summit on the Information Society, the Partnership has played a key role in monitoring progress towards the achievements of the outcomes, goals and targets of the Summit. Its methodological work has contributed significantly towards collecting evidence on ICT developments worldwide, based on internationally comparable statistical indicators. The Partnership's core list of ICT indicators and the indicators developed to measure the Summit targets⁸ cover many aspects of the information society and economy.

15. In 2010, several partners contributed to the preparation of a midterm review of the World Summit on the Information Society targets.⁹ Subsequently, the Partnership launched a new task group¹⁰ which developed a set of indicators to measure the 10 Summit targets. In 2011, it released the publication *Measuring the WSIS Targets*,⁸ which has become the main reference document for the 10-year quantitative review of the implementation of the outcomes of the World Summit on the Information Society.

16. The Partnership, through this task group, is preparing a final 10-year quantitative assessment report of the Summit outcomes. The report will review progress made since 2003 on each of the 10 Summit targets. To this end, a questionnaire was sent to all countries in 2013 to collect national-level data on the indicators identified to measure the targets.¹¹ The report will be part of the 10-year review process and will be presented at a high-level review event, scheduled to be held in April 2014. The report will also include a discussion on the post-2015 agenda, highlight the importance of ICT for development, lessons learned from the Summit monitoring process, and place the Summit targets in the context of the post-2015 development agenda. This will include a discussion of possible goals, targets and indicators for the post-2015 period.

17. In line with the post-2015 agenda discussions related to the Millennium Development Goals, discussions are ongoing on a "World Summit on the Information Society beyond 2015" scenario.¹² This includes the preparation of an outcome document — "Draft WSIS+10 vision for WSIS beyond 2015 under mandates of participating agencies" — which is being developed during an open consultation process until 1 March 2014.

⁸ Partnership on Measuring Information and Communication Technology for Development, *Measuring the WSIS Targets: A Statistical Framework* (Geneva, April 2011).

⁹ ITU, *World Telecommunication/ICT Development Report 2010: Monitoring the WSIS Targets: A mid-term review* (Geneva, 2010). Contributing partners include UIS, the World Health Organization (WHO) and the Department of Economic and Social Affairs.

¹⁰ Members of the Task Group on Measuring the WSIS Targets include ITU (Task Group leader), the Department of Economic and Social Affairs, ECA, ECLAC, the "ENUMERATE" project, ESCAP, ESCWA, the Maaya Network, OECD, UIS, UNCTAD, the United Nations University, the Universal Postal Union and WHO.

¹¹ The questionnaire was sent to countries by ECA, ECLAC, ESCAP, ESCWA, Eurostat, OECD and UNCTAD.

¹² See <http://www.itu.int/wsis/review/mpp/index.html>.

18. Apart from the Summit process and discussions, the topic of ICT development and the collection of related statistical indicators is also part of the discussions on future international development goals post 2015. The role of ICTs is discussed from several angles. Firstly, ICTs have become critical economic infrastructure, similar to water, roads and other transport sectors. Recent developments in broadband networks are particularly fostering the expansion of productive activity in countries. There is an increasing body of evidence and research suggesting that the deployment of telecommunication networks and ICT services contribute to economic growth and create jobs on a large scale.

19. Secondly, ICTs are considered to be key development enablers, accelerating the achievement of development goals across sectors.¹³ They contribute to the achievement of social goals through a host of innovative new and improved services, as well as to sustainable development goals and the protection of the environment. ICTs can have a direct impact on raising living standards and improving the quality of life of the poor, and have an indirect impact on poverty alleviation by fostering growth and productivity. They also provide significant social and development opportunities and have a strong transformative potential by opening up new and better communication channels, increasing transparency and fostering inclusion. For example, in the area of education, ICTs are improving access to educational resources for a larger population and providing higher-quality education at lower costs. There are also many examples of how ICTs are playing a major role in the extension of basic services, such as health, education and government services, to rural populations.

20. In the light of the above, the demand for ICT statistics will increase significantly over the next few years. At the same time, major data gaps remain, in particular in developing countries.¹⁴ This concerns, among others, the availability of statistics on ICT use by individuals, businesses, governments, other public sector organizations and the ICT sector itself, as well as data related to online security and cybercrime, gender and youth and cultural and environmental aspects. The growing information society will increasingly require more and better statistics to assess the social, economic and environmental impacts of ICTs. Section III below looks at one of the main challenges countries face in the production of ICT statistics and makes proposals on how it could be addressed.

C. Other recent measurement work by the Partnership

21. While the availability of ICT statistics in general has increased over the past years, data that can be disaggregated by sex are still scarce, in particular in developing countries. In line with the demand for more data on ICT and gender,¹⁵ at

¹³ See United Nations Group on the Information Society, “UNGIS joint statement on the post-2015 development agenda”, available from www.ungis.org.

¹⁴ At the seventh meeting of the Statistical Conference of the Americas of ECLAC, in November 2013, the countries of Latin America and the Caribbean noted the challenges for the generation of ICT statistics that would result from the 10-year review process of the World Summit on the Information Society.

¹⁵ Calls for improved statistics on ICT and gender have been made by the outcome documents of the World Summit on the Information Society, the Broadband Commission for Digital Development, participants at the tenth World Telecommunication/ICT Indicators Meeting in Bangkok (September 2012) and the multi-stakeholder coalition Women in ICT for Development.

the beginning of 2013, the Partnership launched the Task Group on Measuring ICT and Gender.¹⁶ Its objective is to build on previous work and seek to improve the availability of internationally comparable indicators and data on gender and ICT, especially in developing countries.

22. As a first step, the Task Group has produced an assessment report,¹⁷ which takes stock of existing work and available indicators and includes suggestions for revisions of existing indicators and for the development of new indicators relevant to measuring ICT and gender. The report has been subject to consultation with selected country experts during an expert meeting held in conjunction with the eleventh World Telecommunication/ICT Indicators Symposium in Mexico City in December 2013.¹⁸ It was also discussed in a dedicated session during the Symposium organized by the Partnership. As a next step, the Task Group will work towards finalizing the proposed statistical indicators and developing the necessary definitions and other methodological specifications.

23. In recent years, significant international trade has evolved in used personal computers and associated hardware, used electronic equipment and used cellular telephones for purposes such as refurbishment and reuse, removal of usable parts or recovery of raw materials from electrical and electronic waste (e-waste). In response to the request of policy analysts and the industry for the development of indicators related to measuring e-waste, a task group on measuring e-waste was formed under the Partnership. In 2013, the group prepared a first draft framework document for e-waste classification and indicators, which is currently under discussion within the Partnership. Thereafter, it is expected that it will hold consultations with countries and other constituencies to finalize the proposed framework for monitoring e-waste on the basis of internationally defined indicators and to compile reliable data on e-waste as a basis for political decision-making and further action on the environmentally sound management of used and end-of-life ICT equipment.

24. In 2013, the Partnership's Task Group on E-government, led by ECA, developed a manual for measuring e-government, which builds on the *Framework for a set of e-government core indicators* published in 2012 by the Partnership and ECA. Both the manual and the framework that precedes it reflect the importance placed on e-government by the World Summit on the Information Society, and reinforced by the suggestion from the Statistical Commission that the Partnership should extend its core list of ICT indicators to include indicators on ICT use in government.¹⁹ The main objective of the manual is to support the efforts of countries to compile the core e-government indicators defined in the framework. The manual details data sources, data collection and processing methods, and

¹⁶ The Task Group on Measuring ICT and Gender is co-led by ITU and UNCTAD and includes Partnership members (UIS, ESCAP and ESCWA) as well as non-members (the International Labour Organization, LIRNEasia, the Research ICT Africa Network, the Web Foundation and Women in Global Service and Technology).

¹⁷ Partnership on Measuring Information and Communication Technology for Development, "Stocktaking and Assessment on Measuring ICT and Gender" (2013), available at www.itu.int/en/ITU-D/Statistics/Documents/events/wtis2013/001_E_doc.pdf.

¹⁸ See www.itu.int/en/ITU-D/Statistics/Pages/events/wtis2013/default.aspx.

¹⁹ E/2007/24, chap. I, sect. B, decision 38/104.

dissemination schemas for the core indicators. A useful feature is an annex containing a number of examples of country e-government surveys.²⁰

25. Also in 2013, the Partnership launched the Task Group on ICT services and ICT-enabled services,²¹ which will seek to develop a methodological framework to measure international trade in these services, as well as the trade-related core indicators that could be agreed upon internationally. A stocktaking exercise began at the end of 2013 to evaluate data gaps in measuring international trade in ICT services and in ICT-enabled services, paying particular attention to developing countries. The resulting report will cover existing definitions and data collections and highlight the information needs of policymakers for improved statistical data. This report lays the ground for a consultation process and larger study in 2014 to assess the feasibility of developing statistical indicators.

III. Enhancing the production of information and communications technology statistics and the role of national coordination²²

26. The report of the Partnership to the forty-third session of the Commission (E/CN.3/2012/12) highlighted a number of statistical challenges and made recommendations on how they could be addressed. These included, among others, the need for ICT statistics to be incorporated in statistical work programmes at country and regional levels, especially in developing countries; for the continuous development of new indicators, standards and definitions in view of the rapid changes in technologies, services and devices; and for more capacity-building to speed up the production of core indicators for many developing countries. In that context, donor support was considered essential.

27. One particular challenge that was highlighted in the report is linked to the cross-cutting nature of ICTs, which permeate all sectors of society. As a result, statistical data collection and dissemination is often fragmented. In view of the variety of existing ICT data sources, the coordination among national statistical agencies and other stakeholders within countries is crucial to improving the availability and quality of official ICT statistics. The Partnership and its members

²⁰ Currently, the manual is in the process of editing, translation and printing for wider dissemination.

²¹ The Task Group on ICT services and ICT-enabled services is led by UNCTAD and includes the Partnership members ESCWA, ITU and OECD. The World Trade Organization is a non-Partnership member, and the Task Group remains open to other members, especially organizations that are part of the Interagency Task Force on Statistics of International Trade in Services or have an interest from a value-added, employment or trade perspective. Other stakeholders, such as interested Member States, private sector organizations and independent experts, will be invited to contribute to the consultation process.

²² Parts of this section are based on chapter 2 of the *ITU Manual for Measuring ICT Access and Use by Households and Individuals*, 2014 edition (to be released in January 2014).

have addressed the issue of national coordination in their technical assistance and training courses, statistical manuals and regional and global ICT statistics events.²³

28. In September 2012, delegates attending the tenth World Telecommunication/ICT Indicators Meeting in Bangkok recommended that countries put in place a coordination mechanism which brings together national stakeholders to discuss issues related to the collection, dissemination and analysis of ICT statistics. Participants agreed that the national statistical office should play an active role in coordinating the collection and dissemination of ICT statistics and indicators. They also emphasized the need to include ICT statistics in the national strategy for the development of statistics. Similarly, data collection should be part of any national ICT strategy.

29. Coordination may take place among producers of ICT statistics, between producers and users and between producers and data providers who are the source of primary information. It should cover the phases of planning, producing and disseminating ICT statistics. Lack of coordination could result in published data that may be inaccurate or inconsistent, potentially leading to wrong policy decisions. Other benefits of coordination include reduction of the overall response burden for data providers, avoidance of duplication of effort and more efficient use of resources. Coordination also helps to identify existing data gaps, to harmonize objectives and priorities between the different stakeholders and to improve monitoring and evaluation of the ICT statistical production process.

30. Since survey-based ICT statistics are still recent in many developing countries, the initiative to produce ICT data often originates from a demand by policymakers, such as ICT ministries and telecommunications regulatory authorities. Policymakers responsible for ICT policy are usually the most influential data users, although users from business, the non-profit sector and academia may also have important input and their experience should be taken into consideration. The cross-cutting nature of ICTs requires the involvement of line ministries dealing with culture and education, health, economics and agriculture, who may include ICT-related questions in their surveys or obtain data from administrative records. Identifying the different users and their needs is a fundamental step in planning the data collection.

31. In a national context, three main groups of stakeholders are involved in the ICT statistics system:

(a) Data producers, especially national statistical offices, but in some countries also telecommunications regulatory authorities, sector ministries and non-official sources such as private companies, universities and research centres;

²³ The issue of national coordination has been addressed in the UNCTAD and ITU training courses and manuals, the tenth World Telecommunication/ICT Indicators Meeting in 2012, a side event of the ESCAP Statistical Commission meeting in 2012 and the eleventh World Telecommunication/ICT Indicators Symposium, in 2013. ECLAC, as technical secretariat of the Plan of Action for the Information and Knowledge Society in Latin America and the Caribbean and the ICT working group of the Statistical Conference of the Americas of ECLAC, has supported the creation of an indicators commission within the framework of the Plan of Action, involving national statistical offices and ICT ministries of Latin America and the Caribbean, in order to encourage national coordination at the regional and country levels.

(b) Data users, including policymakers, especially sector ministries and regulatory authorities, and others such as international organizations, private businesses and academia, media and the general public;

(c) Data providers/respondents, for example individuals from sampled households or businesses.

32. The distribution of activities in ICT data collection is generally related to the access to data providers and the responsibilities of the involved institutions. Indicators on ICT infrastructure, prices and subscriptions are often provided by national telecommunication regulatory authorities, which have access to administrative data from operators. Statistics compiled from survey data from businesses and households are usually produced by national statistical offices, but in some countries they have also been produced by other institutions such as national telecommunication regulatory authorities, ministries for ICT or other entities charged with this task. Data on the access and use of ICT in education or health facilities may be collected by ministries of education or health.

33. In some countries, ICT data collection has been initiated by government institutions other than national statistical offices, for instance, ministries or other governmental agencies that promote ICT uptake and regulatory agencies. While these institutions may have technical expertise on the subject matter, their possibilities for implementing a household or business survey based on sound methodology are limited. In addition, there is uncertainty regarding the sustainability of data collection if conducted by the regulator or ministry, as it is not usually included in their regular programme of work and often done just to gauge the size of the market at one point in time.

34. It is therefore recommended that ICT statistics be collected by national statistical offices or in consultation with them. The expertise available in ministries and other agencies should be taken into account when designing the data collection instruments. In particular, the decision on inclusion of ICT topics, the adaptation of international recommendations to national standards (such as the type of Internet connection available in the country) and the analysis of the results should be carried out in close collaboration with specialized agencies.

35. Among the institutional challenges to producing ICT statistics and indicators, the most relevant is the set-up of coordination mechanisms between relevant institutions, including national statistical offices, national telecommunication regulatory authorities and ministries responsible for ICT policies. Possible approaches include inter-institutional commissions or working groups, multi-annual programming mechanisms and mechanisms for consultation with users.

National statistical commission

36. In many countries, a national statistical commission provides a forum to discuss major needs in ICT statistics (among other issues) and the distribution of tasks among different producers of statistics. For this, a subject-matter working group could be established, to discuss the detailed methodological aspects of ICT statistics. The working group should include representatives of the national statistical office, the ministry responsible for ICT, the national telecommunication regulatory authority and, possibly, researchers and experts in ICT issues. The national commission should ensure that an appropriate legal framework enables the implementation of ICT statistics and their consideration as official data and ensures their funding. It should also review the multi-annual programming of surveys, to

accommodate ICT questions in planned surveys when possible, or provide for the implementation of specific ICT surveys.

Inter-institutional task force

37. When a national statistical commission does not exist or is not operational (for administrative or other reasons), an inter-institutional task force or working group may play the role, at a more technical level, of a forum to discuss implementation details for ICT statistics. This task force may be attached to the national statistical office, or if this institution does not have the main responsibility for producing ICT statistics, to a high-level administrative unit in the government, such as the ministry responsible for ICT or the presidential office.

Multi-annual programme

38. Most national statistical systems are governed by a multi-annual programme for the production and dissemination of official statistics, inserted in a broader national statistical development plan. Such a programme should include and describe the implementation arrangements for ICT statistics. The range of statistical operations should cover the different domains, such as ICT infrastructure statistics, surveys to businesses and households, etc. An example of multi-annual programming of ICT statistics is that of the Philippines.

39. In addition to multi-stakeholder mechanisms, bilateral agreements could be arranged between producers and users (e.g. between the national statistical office and the ministry for ICT) for detailed implementation aspects of the survey, including the funding of operations. Different costing items could be taken in charge by different actors. For instance, data collection may be undertaken and supervised by the national statistical office under external funding, while questionnaire design, testing and sample design can be directly provided by the national statistical office.

40. In some countries (for example, Morocco and Spain), a national observatory for the information society has been established. This type of entity collects data from different sources, prepares specific publications — such as sector reports — and disseminates the data by means of a centralized website. The arrangements for such an observatory may include the participation of users and producers in its governing or advisory bodies. Other examples include the Centre of Studies on Information and Communication Technologies of Brazil, which holds regular consultation meetings with data users before planning and designing an ICT survey.

41. At a side event on ICT statistics held on 14 December 2012 during the third session of the ESCAP Committee on Statistics, the issue of national coordination was described as a major challenge by several delegations. The adoption of an appropriate legal framework was a pre-condition for data sharing and coordination across stakeholders. The absence of such a framework can in some cases paralyze coordination and hence the attempt to produce ICT data. The event identified the following best practices related to national coordination of ICT statistics: coordination mechanisms among agencies, for example, the establishment of a national inter-agency committee on ICT statistics; partnership between the public and private sectors; and inclusion of ICT statistics in national strategies for the development of statistics or master plans.²⁴

²⁴ For the report on the side event, see www.unescap.org/stat/cst/3/side-event/report-side-event-ICT.pdf.

42. There is no one-size-fits-all model for national coordination of ICT statistics. Each country will have to adapt the process to the specific national and local circumstances. The feedback received by Partnership members from countries in this regard not only highlights the need for national coordination but also shows that coordination is often a new task when it comes to ICT statistics. In view of the benefits for ICT data production and dissemination, and the successful examples and best practices from countries, it is strongly recommended that national coordination, involving all relevant actors, be strengthened. National statistical offices should take an active role in coordinating the collection and dissemination of ICT statistics. The Partnership and its members can facilitate the discussions at the national level and provide a forum for sharing experiences among countries.

IV. Conclusions and recommendations

43. ICT statistics will continue to play a key role in view of the growth of the global information society and its impact on other sectors. As a new source of data that is increasingly being used by public and private entities across all economic sectors, ICTs also play a key role in the debate on emerging data issues in the post-2015 development debate. The international statistical community and national statistical offices should engage actively in these discussions.

44. Given the important role of ICTs for development and for achieving international development goals, there is a need for data to identify different aspects of the digital divide and those who are left out of the information society. This will require a continuous and improved effort by the national and international statistical community to increase the availability of ICT statistics, in particular in developing countries with large rural populations.

45. The revision of ICT indicators remains critical. The Partnership should therefore continue to regularly review and update the core list of ICT indicators, as well as develop new indicators where necessary. There is, for example, a need for more data on ICT and gender equality, trade in ICT services and ICT-enabled services, e-waste, e-skills, ICT-related occupations and e-health.

46. In order to improve the availability of ICT statistics, the present report has focused on the role of national coordination to the successful production of ICT statistics and provided a number of suggestions on how to strengthen the national coordination of ICT statistics. In particular, it recommends that coordination of data collection at the national level be enhanced by setting up institutional coordination mechanisms between relevant institutions, including national statistical offices, telecommunication regulatory authorities and ministries responsible for ICT policies, including line ministries.

V. Points for discussion by the Commission

47. **The Commission is invited to:**

- (a) **Review and comment on the progress made on ICT statistics;**
- (b) **Endorse the revised core list of ICT indicators on household ICT access and individual ICT use contained in the annex to the present report;**

- (c) **Review and endorse the recommendations proposed to improve ICT statistics;**
- (d) **Encourage countries to increase national coordination in the area of ICT statistics;**
- (e) **Express support for the continued work of the Partnership on Measuring Information and Communications Technology for Development.**

Annex

Revised core list of information and communications technology indicators of the Partnership on Measuring Information and Communication Technology for Development^a

A1	Fixed telephone subscriptions per 100 inhabitants
A2	Mobile cellular telephone subscriptions per 100 inhabitants
A3	Fixed Internet subscriptions per 100 inhabitants
A4	Fixed broadband Internet subscriptions per 100 inhabitants
A5	Mobile broadband subscriptions per 100 inhabitants
A6	International Internet bandwidth per inhabitant (bits/second/inhabitant)
A7	Percentage of the population covered by a mobile cellular telephone network
A8	Fixed broadband Internet access prices
A9	Mobile cellular telephone prepaid prices
A10	Percentage of localities with public Internet access centres
HH1	Proportion of households with a radio
HH2	Proportion of households with a TV
HH3	Proportion of households with telephone
HH4	Proportion of households with a computer
HH5	Proportion of individuals using a computer
HH6	Proportion of households with Internet
HH7	Proportion of individuals using the Internet
HH8	Proportion of individuals using the Internet, by location
HH9	Proportion of individuals using the Internet, by type of activity
HH10	Proportion of individuals using a mobile cellular telephone
HH11	Proportion of households with Internet, by type of service
HH12	Proportion of individuals using the Internet, by frequency
HH13	Proportion of households with multichannel television, by type

^a Indicators A1 to A10 are under discussion by the ITU Expert Group on Telecommunication/ICT Indicators. A revised version is expected to be agreed upon during an Expert Group meeting to be held in Mexico City on 2 and 3 December 2013. The proposed revisions are as follows: delete indicators A3 and A10, present indicator A4 broken down by speed tiers, change indicator A5 to wireless-broadband subscriptions per 100 inhabitants, modify indicator A7 to percentage of the population covered by at least a 3G mobile network, and add two new indicators: mobile broadband Internet prices and television broadcasting subscriptions.

HH14	Barriers to household Internet access
HH15	Individuals with ICT skills, by type of skills
HH16	Household expenditure on ICT
B1	Proportion of businesses using computers
B2	Proportion of persons employed routinely using computers
B3	Proportion of businesses using the Internet
B4	Proportion of persons employed routinely using the Internet
B5	Proportion of businesses with a web presence
B6	Proportion of businesses with an intranet
B7	Proportion of businesses receiving orders over the Internet
B8	Proportion of businesses placing orders over the Internet
B9	Proportion of businesses using the Internet by type of access
B10	Proportion of businesses with a local area network
B11	Proportion of businesses with an extranet
B12	Proportion of businesses using the Internet by type of activity
ICT1	Proportion of total business sector workforce involved in the ICT sector
ICT2	ICT sector share of gross value added
ICT3	ICT goods imports as a percentage of total imports
ICT4	ICT goods exports as a percentage of total exports
ED1	Proportion of schools with a radio used for educational purposes
ED2	Proportion of schools with a television used for educational purposes
ED3	Proportion of schools with a telephone communication facility
ED4	Learners-to-computer ratio in schools with computer-assisted instruction
ED5	Proportion of schools with Internet access by type of access
ED6	Proportion of learners who have access to the Internet at school
ED7	Proportion of learners enrolled at the post-secondary level in ICT-related fields
ED8	Proportion of ICT-qualified teachers in schools
EG1	Proportion of persons employed in central Government organizations routinely using computers
EG2	Proportion of persons employed in central Government organizations routinely using the Internet
EG3	Proportion of central Government organizations with a local area network

- EG4 Proportion of central Government organizations with an intranet
 - EG5 Proportion of central Government organizations with Internet access, by type of access
 - EG6 Proportion of central Government organizations with a web presence
 - EG7 Selected Internet-based online services available to citizens, by level of sophistication of service
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