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

Note by the Secretary-General

In accordance with Economic and Social Council decision 2015/216 and past practices, the Secretary-General has the honour to transmit the report of the Partnership on Measuring Information and Communications Technology for Development on information and communications technology (ICT) statistics. The report presents an overview of recent work done by the Partnership, including revisions to the core list of ICT indicators, progress on the work related to measuring ICT and gender, international trade in ICT services and ICT-enabled services, electronic waste and ICT in education, as well as a proposal of ICT indicators required for monitoring progress made towards the Goals of the 2030 Agenda for Sustainable Development. The report highlights challenges for national statistical offices in producing ICT statistics, discusses new data sources from the ICT sector that could improve data availability and timeliness and makes recommendations to improve their quality and availability. The Statistical Commission is requested to review and comment on the progress made in ICT statistics, review and endorse the recommendations proposed to improve the availability and quality of ICT statistics, recommend that the issue of ICT statistics be discussed again in 2018 and express support for the strengthened work of the Partnership, including taking into account the measurement of ICT as a tool that supports initiatives towards achieving the Goals of the 2030 Agenda.

* E/CN.3/2016/1.



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

I. Introduction

1. The Partnership on Measuring Information and Communications Technology for Development was launched in 2004 to improve the availability of internationally comparable information and communications technology (ICT) statistics.¹ Since that time, 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, 2012, and 2014 ([E/CN.3/2005/23](#); [E/CN.3/2007/5](#); [E/CN.3/2009/19](#); [E/CN.3/2010/28](#); [E/CN.3/2012/12](#); [E/CN.3/2014/8](#)).

2. The Statistical Commission considered ICT statistics as an item for discussion at its thirty-eighth session in 2007, at its forty-third session in 2012 and at its forty-fifth session in 2014. At its forty-fifth session, the Commission recognized that, despite progress in the availability of ICT statistics, work remained to be done (see [E/2014/24](#) and [E/CN.3/2014/35](#)). It also noted the important role of ICT statistics in tracking the global information society and in the debate on the post-2015 development agenda, which has now become the 2030 Agenda for Sustainable Development.²

3. The Partnership has a role to play in helping to measure progress made towards the achievement of the Sustainable Development Goals of the 2030 Agenda. While none of the Goals focuses exclusively on ICTs, several targets make references to ICTs and to technology in general. The 2030 Agenda recognizes that “The spread of information and communication technology and global interconnectedness has great potential to accelerate human progress, to bridge the digital divide and to develop knowledge societies”. The Partnership participated actively in the discussions on the monitoring framework to track the Goals, including by making a proposal of ICT indicators to help to track the Goals and their targets.³ Members of the Partnership have also provided input individually to the Inter-Agency and Expert Group on Sustainable Development Goal Indicators.

¹ As of November 2015, 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 (UNESCO) Institute for Statistics, 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, the Statistical Office of the European Union (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 (UNU) Institute for the Advanced Study of Sustainability, the World Bank and the International Labour Organization.

² General Assembly resolution 70/1.

³ See “Background note prepared by the Partnership on Measuring ICT for Development: joint proposal of ICT indicators for the Sustainable Development Goal (SDG) indicator framework”. Available at www.itu.int/en/ITU-D/Statistics/Documents/intlcoop/partnership/Partnership-Background-note-on-ICT-indicator-proposal-for-Expert-Group.pdf.

4. The work of the Partnership is related closely to the World Summit on the Information Society, which called upon countries and international organizations to develop appropriate indicators and produce official statistics to monitor the information society. The Partnership, through its task groups, took the lead in monitoring progress made towards the achievement of the targets of the World Summit, producing a report in June 2014, which analyses and discusses the achievements related to each target of the Summit.⁴

5. At the 2015 World Summit on the Information Society Forum, members of the Partnership also contributed to raising awareness of how ICTs could contribute to the achievement of the Sustainable Development Goals. Several members provided input to a matrix linking the action lines of the Summit and the Goals launched at the Forum in order to underline the key role of ICTs in promoting sustainable development.⁵

6. The present report, which provides an overview of work done by the Partnership since its last report to the Statistical Commission in 2014 (E/CN.3/2014/8), draws the attention of the Commission to the role of ICT statistics and indicators in monitoring progress towards the achievement of the Goals of the 2030 Agenda.

II. Recent progress in information and communications technology measurement

A. Core list of indicators, definitions and statistical standards

7. One of the main achievements of the Partnership has been the establishment of a core list of ICT indicators, which was endorsed by the Statistical Commission at its thirty-eighth session in 2007: revisions were endorsed at the forty-third and forty-fifth sessions in 2012 and 2014 (see E/CN.3/2007/5, E/CN.3/2012/12 and E/CN.3/2014/8). The core list has served as the basis for the collection of internationally comparable ICT statistics worldwide and currently covers the following areas: ICT infrastructure and access; access to and use of ICT by households and individuals; the use of ICT by businesses, the ICT sector; the trade in ICT goods; ICT in education; e-government; and electronic waste. 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.

8. Within the Partnership, ITU is responsible for the core ICT access and household indicators, and it regularly reviews the definition of the indicators to reflect the evolution of ICT. The Expert Group on Telecommunication/ICT Indicators, which includes 645 members, and the Expert Group on ICT Household Indicators, which includes 410 members, work through online discussion forums

⁴ Available at: www.itu.int/en/ITU-D/Statistics/Pages/publications/wsistargets2014.aspx. The task group is led by ITU and includes the DEN Foundation, the Department for Economic and Social Affairs, ECA, ECLAC, ESCAP, ESCWA, the UNESCO Institute for Statistics, the Institute for the Advanced Study of Sustainability of UNU, the Maaya Network, OECD, UNCTAD, the Universal Postal Union and the World Health Organization.

⁵ See www.itu.int/net4/wsis/sdg.

and report the outcome of their work to the World Telecommunication/ICT Indicators Symposium, most recently held in Hiroshima, Japan, in late 2015. At the most recent Symposium, three new indicators on ICT use in households were presented:⁶

- (a) HH17: proportion of individuals using the Internet, by type of portable device and network used to access the Internet;
- (b) HH18: proportion of individuals who own a mobile phone;
- (c) HH19: proportion of individuals not using the Internet, by type of reason.

9. The Partnership task group produced a technical note on measuring international trade in ICT services and ICT-enabled services as a reference to enable countries to collect comparable official statistics in this area.⁷ The note, developed in close collaboration with the Inter-Agency Task Force on International Trade Statistics, includes two recommendations and four new core indicators. The first recommendation defines a new complementary grouping of ICT services in the Extended Balance of Payments Services Classification (2010), for which statistics can be compiled from existing data sources on international trade in services. The second recommendation offers a taxonomy of ICT-enabled services,⁸ with data to be collected by mode of supply, as defined by the General Agreement on Trade in Services, or, when that is not possible, through business surveys. The following four indicators are proposed to be added to the core list of the Partnership:

- (a) ICT5: imports of ICT services as a proportion of total imports of services;
- (b) ICT6: exports of ICT services as a proportion of total exports of services;
- (c) ICT7: imports of ICT-enabled services as a proportion of total imports of services;
- (d) ICT8: exports of ICT-enabled services as a proportion of total exports of services.

B. Other measurement work by the Partnership since 2014

10. The Partnership task group on gender and ICT continued its work to develop sex-disaggregated ICT indicators.⁹ In May 2014, it published a report entitled

⁶ The final report of the 3rd meeting of the ITU Expert Group on ICT Household Indicators, held in Geneva on 21 and 22 September 2015, in which the indicators were proposed, is available at www.itu.int/en/ITU-D/Statistics/Documents/events/wtis2015/EGH2015-Final-report.pdf.

⁷ The Partnership's task group on ICT and ICT-enabled services is led by UNCTAD and includes ESCWA, ITU, OECD, the Statistics Division of the Department of Economic and Social Affairs of the Secretariat and the World Bank. Research for the note was funded by the Government of Sweden. The note is available at http://unctad.org/en/PublicationsLibrary/tn_unctad_ict4d03_en.pdf.

⁸ ICT-enabled services are defined as "services with outputs that can be supplied remotely over ICT networks".

⁹ The task group on gender and ICT is led by ITU and UNCTAD, and includes ESCAP, ESCWA, ILO, the UNESCO Institute for Statistics, Research ICT Africa, Women in Global Science and Technology and the World Wide Web Foundation.

“Measuring ICT and gender: an assessment”,¹⁰ which took stock of existing ICT indicators disaggregated by sex, assessed data availability and identified main gaps on the basis of an evaluation of needs and demand for such indicators. It also identified areas covered and potential new areas where sex-disaggregated data are desirable, and where further methodological work is needed, in order to develop relevant indicators to fill the data gaps.

11. One of the gaps concerns ICT employment by gender, and a technical note entitled “Global assessment of sex-disaggregated ICT employment statistics”¹¹ was prepared by ILO and UNCTAD, in consultation with the task group, to examine the availability of these data. The note was discussed during the meeting of the Expert Group on Household ICT indicators in September 2015, highlighting not only the need for a harmonized definition of the ICT specialist occupations to compile data from labour force surveys but also that there is currently no international data collection on this subject.

12. In early 2015, the Partnership task group on measuring e-waste published a paper entitled “E-waste statistics: guidelines on classification, reporting and indicators” following public consultation with countries and experts.¹² The guidelines deal with classifications, reporting and indicators as a reference for countries that already produce e-waste statistics or that plan to do so. On the basis of this methodology, the first edition of *The Global E-Waste Monitor*¹³ presented data for 180 countries, although not for all indicators. In 2015, the Institute for the Advanced Study of Sustainability of UNU began a voluntary e-waste data collection with OECD and the Economic Commission for Europe that is to be used as a learning tool towards a global data collection exercise in 2016. Building on this work, the Institute and ITU are discussing a project to improve data coverage on e-waste to link with the ITU “Connect 2020 Agenda”.¹⁴ The aim in the coming years is to increase the quality and coverage of the current dataset, including by providing statistical training if funding is available.

13. In June 2014, at the Partnership review of the targets of the World Summit on the Information Society,¹⁵ the lack of data to fully assess progress in the targets of the information society was highlighted. It was noted, in particular, that data for the least developed countries were lacking. The review also noted that there is still little knowledge about the impact of ICTs on development, despite the growing evidence of their impact in specific sectors of the economy. Concerning the quantitative review of the World Summit targets, the assessment showed that, while ICT access and use remained unequal, there was extensive growth in ICT networks, services, applications and content.

¹⁰ Available at http://unctad.org/en/PublicationsLibrary/webdtlstict2014d1_en.pdf.

¹¹ Available at http://unctad.org/en/PublicationsLibrary/tn_unctad_ict4d04_en.pdf.

¹² The Partnership task group on measuring e-waste was led by the secretariat of the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal of UNEP and the Institute for the Advanced Study of Sustainability of UNU, and included ECA, ESCAP, ESCWA, Eurostat, ITU, OECD, UNCTAD, and UNU. The guidelines are available at http://i.unu.edu/media/ias.unu.edu-en/project/2238/E-waste-Guidelines_Partnership_2015.pdf.

¹³ Available at <http://i.unu.edu/media/unu.edu/news/52624/UNU-1stGlobal-E-Waste-Monitor-2014-small.pdf>.

¹⁴ See www.itu.int/en/connect2020/Pages/default.aspx.

¹⁵ See <http://www.itu.int/en/ITU-D/Statistics/Pages/publications/wsistargets2014.aspx>.

14. In May 2015, the Qingdao Declaration on ICT in education,¹⁶ the first global declaration of its kind, and an important milestone to support the development of related statistics in the future, was adopted at the International Conference on ICT and Post-2015 Education. The Declaration promotes the use of ICT to achieve the educational targets in the Sustainable Development Goals, highlighting the role of teacher development, open educational resources and learner-centred digital learning ecosystems, thus making the measurement of the ICT skills of teachers and of ICT infrastructure in schools all the more important. It also recommended support for capacity development in data collection, analysis and reporting at the country, regional and global levels. Countries committed themselves to continuing to report accurate and complete data in a timely manner to the UNESCO Institute of Statistics, facilitating its work and advancing its mission to build and maintain a global repository for ICT in education data.

15. In addition, the Institute for Statistics of UNESCO completed its regional data collection activities in 2015 with a comparative analysis of basic e-readiness in schools in sub-Saharan Africa.¹⁷ The exercise highlighted the need for capacity-building in developing countries, given that only 18 out of 45 countries were able to respond to the Institute's surveys covering primary and secondary education. The first global data collection will be released in early 2016. Capacity-building related to the global survey began in November 2015 with a workshop in Central and Eastern Europe, the Caucasus and Central Asia that provided training to statisticians of the Ministries of Education and national statistical offices.¹⁸

III. Information and communications technology statistics to measure progress towards the Goals of the 2030 Agenda for Sustainable Development

16. In 2013, the High-level Panel of Eminent Persons on the Post-2015 Development Agenda recognized an ongoing “data revolution”, referring to: “the transformative actions needed to respond to the demands of a complex development agenda; improvements in how data is produced and used; closing data gaps to prevent discrimination; building capacity and data literacy in ‘small data’ and big data analytics; modernizing systems of data collection; liberating data to promote transparency and accountability; and developing new targets and indicators”.¹⁹

17. In September 2015, the General Assembly adopted the 2030 Agenda for Sustainable Development, with its 17 Goals and 169 targets. The Partnership made a concerted effort to include ICTs in the 2030 Agenda, to contribute to the development of its monitoring framework and to harmonize the inclusion of ICT indicators. The Partnership has highlighted the cross-cutting nature of ICTs and the need to recognize them as a key enabler of development. The role of ICTs in

¹⁶ Available at <http://unesdoc.unesco.org/images/0023/002333/233352E.pdf>.

¹⁷ The Institute had already published reports on the completed regional data collections in Latin America and the Caribbean (2012), the Arab States (2013) and Asia (2014). The report on sub-Saharan Africa was supported by the Korea Education and Research Information Service and the Center of Studies on Information and Communication Technologies of Brazil.

¹⁸ The workshop was a collaboration between the Institute for Statistics and the Institute for Information Technologies in Education of UNESCO, with the participation of OECD.

¹⁹ See www.undatarevolution.org/data-revolution/.

achieving the Sustainable Development Goals has also been noted by the World Summit on the Information Society, the United Nations Group on the Information Society and the Commission on Science and Technology for Development.

18. The World Telecommunication/ICT Indicators Symposium, held in late 2015, pointed to the need for high-quality, timely and disaggregated data to enable policymakers to make the right decisions for sustainable development. The Symposium called upon ITU and Governments to leverage new data sources and the private sector, including big data and the concept of the “Internet of things”, to ensure that relevant information on ICT indicators included in the Sustainable Development Goals are produced and made available.

19. ICTs are increasingly necessary for the delivery of services and will be particularly critical within the context of the 2030 Agenda. Failure to acknowledge the transformative power of ICTs would not only lead to the widening of digital divides but could also aggravate inequalities in all development domains.

20. The Partnership submitted a proposal of ICT indicators to the Expert Group Meeting on the Indicator Framework for the Post-2015 Development Agenda, which was held in New York in February 2015.³ The joint proposal followed a consultative process with its members and in coordination with the various United Nations technical support team clusters. ICT indicators were proposed for Sustainable Development Goals 1, 2, 4, 5, 8-13, 16 and 17, covering more than 30 targets. Most of the proposed indicators are part of the Partnership’s core list of ICT indicators, while others were developed by the Partnership on the basis of sound methodologies and definitions. Most of the proposed indicators have been endorsed by the Commission.

21. Of all the Sustainable Development Goals and targets in the 2030 Agenda agreed in September 2015, only four explicitly mention ICTs: Goal 4 (target 4.b), Goal 5 (target 5.b), Goal 9 (target 9.c) and Goal 17 (target 17.8). They are discussed below. However, the Partnership recognizes that ICT indicators are relevant to other Goals.

Goal 4, target 4.b: By 2020, substantially expand globally the number of scholarships available to developing countries, in particular least developed countries, small island developing States and African countries, for enrolment in higher education, including vocational training and **information and communications technology**, technical, engineering and scientific programmes, in developed countries and other developing countries

22. The UNESCO Institute for Statistics is leading efforts to develop the frameworks and indicators needed to monitor Goal 4 and its related targets. In May 2015, the technical advisory group established by UNESCO proposed a set of indicators to monitor the post-2015 education targets.²⁰ The proposal followed a public consultation between November 2014 and January 2015 that included civil society, academia, development partners, Governments and other stakeholders. Two new indicators resulting from the consultation reflect the availability of ICT infrastructure in schools.

²⁰ See www.uis.unesco.org/Education/Documents/tag-proposed-thematic-indicators-post2015-education-agenda.pdf.

23. The UNESCO Institute for Statistics also contributed to the Partnership proposal on ICT indicators, which forwarded indicators disaggregated by sex to measure Goal 4, target 4.1, and targets 4.a and 4.c. The indicators on skills, in particular, are not currently collected globally and would require an effort by national stakeholders and international organizations. The percentage of schools with access to the Internet for pedagogical purposes is part of the accepted indicator to track target 4.a. In addition, the percentage of schools with access to computers for pedagogical purposes is one of the 43 thematic indicators proposed by the technical advisory group to monitor the 2030 Agenda Goals and targets on education. However, target 4.b does not currently have a proposed ICT-specific indicator.

Goal 5, target 5.b: Enhance the use of enabling technology, in particular **information and communications technology**, to promote the empowerment of women

24. Sex-disaggregated statistics on ICT can inform national policies and international goals to improve women's access to and use of ICT. Women can take advantage of ICTs as tools to support gender equality and empowerment, given that they can help to overcome barriers to mobility and provide access to information, business and employment opportunities in the ICT sector or in jobs enabled by ICT.

25. The Partnership proposed six sex-disaggregated indicators to monitor this target, covering ownership of a mobile phone, skills for the use of ICT, students in ICT-related fields, the use of ICT in economic activities and employment in ICT occupations. An indicator on digital inclusion projects aimed at women was also proposed. While the indicator on mobile phone ownership, which is a new core indicator that ITU started collecting in 2015, was the only indicator retained, the Partnership recommends that indicators reflecting the actual use of ICT by women for economic activities be considered as complementary indicators by countries.

Goal 9, target 9.c: Significantly increase access to **information and communications technology** and strive to provide universal and affordable access to the Internet in least developed countries by 2020

26. ITU data, including in its recent *Measuring the Information Society Report 2015*²¹ suggest that access to ICT remains limited and often unaffordable for many people in the world, in particular in the least developed countries, where incomes remain very low and ICT infrastructure has not been expanded to all sectors of the population. To track ICT access and affordability, two indicators are currently under discussion for inclusion in the monitoring framework of the Sustainable Development Goals.

27. The first proposed indicator is the "percentage of the population covered by a mobile cellular network". This indicator can be considered as a minimum requirement for ICT access, given that it provides people with the possibility of subscribing to and using mobile cellular services to communicate. Over the past decade, mobile cellular networks have expanded rapidly and helped to overcome the very basic infrastructure barriers posed when fixed telephone networks, which were often limited to urban and highly populated areas, were the dominant telecommunications infrastructure.

²¹ Available at www.itu.int/en/ITU-D/Statistics/Pages/publications/mis2015.aspx.

28. Higher-speed mobile cellular networks, in particular, provide increasingly fast, reliable and high-quality access to the Internet, which means access to information, content, services and applications. Mobile networks are therefore essential to overcoming infrastructure barriers and helping people, especially in the least developed countries, to join the information society and benefit from the potential of ICTs. The indicator highlights the importance of mobile networks in providing basic and advanced communications services and will help to design targeted policies to overcome any remaining infrastructure barriers and to address the digital divide. Many Governments track this indicator and have set specific targets in terms of the mobile population coverage by technology that operators must achieve.

29. The second proposed indicator under discussion is “broadband Internet prices”. These prices remain particularly high and unaffordable in most least developed countries, and policies must be aimed at bringing prices down if more people are to join the information society. ITU annually tracks the affordability of fixed and mobile broadband prices in most countries of the world.

Goal 17, target 17.8: Fully operationalize the technology bank and science, technology and innovation capacity-building mechanism for least developed countries by 2017 and enhance the use of enabling technology, in particular **information and communications technology**

30. The proportion of individuals using the Internet is the indicator currently proposed to track Goal 17, target 17.8. Internet uptake is a key indicator tracked by policymakers and others to measure the development of the information society, and the growth of Internet content, including user-generated content, provides access to increasing amounts of information and services. The indicator highlights the importance of Internet use as an enabler of development and helps to measure the digital divide, which, if not properly addressed, will aggravate inequalities in all areas of development. The number of Internet users has increased substantially over the past decade and access to the Internet has changed the way people live, communicate, work and do business. However, despite the growth in networks, services and applications, ICT access and use is still far from equally distributed, with Internet penetration in the least developed countries recorded at less than 10 per cent at the end of 2015.

31. The proportion of individuals using the Internet is an established indicator and part of the Partnership’s core list of indicators, which has been endorsed by the Statistical Commission, most recently in 2014. It is also included in the ICT Development Index of ITU and is thus considered a key metric for international comparisons of the developments of ICT worldwide. In February 2015, the Partnership proposed an additional indicator on business use of the Internet for this Goal, which is collected by UNCTAD.

32. It should be noted that Sustainable Development Goal 17, target 17.11 is aimed at significantly increasing the exports of developing countries, in particular with a view to doubling, by 2020, the share of global exports by the least developed countries. The Partnership has proposed that an indicator to monitor the evolution of developing country exports by partner groups and key sectors consider ICT services and ICT-enabled services as key sectors. The new indicators in this area developed by the Partnership are listed earlier in the present report. A complementary indicator on the development of international e-commerce could also be developed in future.

IV. Conclusions and recommendations

33. The 2030 Agenda for Sustainable Development recognizes that “the spread of information and communications technology and global interconnectedness has great potential to accelerate human progress, to bridge the digital divide and to develop knowledge societies”. Several Sustainable Development Goal targets make reference to ICTs and technology, highlighting the need to include specific ICT indicators in the monitoring framework. At the time of the final discussions on the indicators framework, in November 2015, the Inter-Agency and Expert Group on Sustainable Development Goal Indicators retained eight ICT indicators proposed by the Partnership, covering Goals 1, 4, 5, 9 and 17. Details of the ICT indicators that the Partnership proposed as relevant to monitoring the Goals of the 2030 Agenda will be provided in a forthcoming background document.

34. The need for official ICT statistics will become even more pressing as the 2030 Agenda is implemented. To leverage ICT as a key enabler of development, a multi-stakeholder approach will be essential, and this would also apply to the production of indicators to monitor relevant developments. Statistical offices will have to ensure that reliable and policy-relevant data are available to support the right decisions by policymakers, regulatory authorities on telecommunications and the private sector. These stakeholders are also the sources of data.

35. In this sense, the future will require that national statistical systems consider the role of big data from the private sector, including telecommunication operators, Internet and social media service providers and satellite companies. Issues of data access, data protection, privacy and security will have to be addressed, as will protocols for data-sharing between private sources and national statisticians.²² The Internet has also resulted in the emergence of non-traditional sources of data, such as connected devices and mobile applications. New capacities and skills will be needed by national statistical offices in order to mine these new data sources.

36. The dynamic nature of technology necessitates the regular revision of related indicators. The Partnership should continue to review and update its list of ICT indicators, cooperate in developing new indicators and related methodology and contribute to the statistical development of countries by offering capacity-building assistance.

37. The implementation of the overall framework will require considerable effort on the part of national statistical offices and international organizations, mobilizing the resources needed to reinforce national capacity and coordinating at the international level.

38. One of the recommendations is on national coordination, given that the production of ICT statistics requires close cooperation and coordination between key stakeholders involved in the production and use of ICT statistics. Stakeholders include the ministries in charge of ICTs, the regulatory authorities and the national statistical offices, as well as the private sector. National statistical offices, in particular, need to take advantage of new data sources, including big data, or data produced machine-to-machine or by the “Internet of things” to ensure that relevant information on ICT indicators included in the Sustainable Development Goals are

²² The World Telecommunication/ICT Indicators Symposium considered these issues in December 2015. See www.itu.int/en/ITU-D/Statistics/Pages/events/wtis2015/default.aspx.

produced and made available. To that end, national statistical offices are encouraged to work with new data providers, including the private sector.

39. The Partnership recommends that development partners expand their support to technical assistance, in particular financing the production (data collection) of baseline ICT statistics, including training of national statisticians and other producers and users of official ICT statistics.

V. Points for discussion by the Statistical Commission

40. **The Statistical Commission is invited to:**

- (a) **Review and comment on the progress made in ICT statistics;**
 - (b) **Review and endorse the recommendations proposed to improve the availability and quality of ICT statistics;**
 - (c) **Recommend that the issue of ICT statistics be discussed again in 2018 in order to review progress in the status of official ICT statistics and their integration into the monitoring framework of the 2030 Agenda for Sustainable Development;**
 - (d) **Express support for the continued work of the Partnership on Measuring Information and Communications Technology for Development, including taking into account the measurement of ICT as tools that support progress towards the achievement of the Goals of the 2030 Agenda.**
-