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**Items for discussion and decision: data in support of the
post-2015 development agenda: emerging issue: the data revolution**

Emerging issue: the data revolution

Report of the Secretary-General

Summary

The present report on the emerging issue of the data revolution, which was prepared in accordance with Economic and Social Council decision 2014/219, highlights the main recommendation of the report of the Independent Expert Advisory Group on a Data Revolution for Sustainable Development, which is available as a background document. The Group was established by the Secretary-General to advise on how to close the data gaps and strengthen national statistical capacities; assess new opportunities linked to innovation, technical progress and the surge of new public and private data providers; and utilize the data revolution for sustainable development. The Commission is invited to express its views on the report of the Independent Expert Advisory Group on a Data Revolution for Sustainable Development and on the proposals for follow-up made by the secretariat of the Group.

* E/CN.3/2015/1.



I. Background

1. In its report entitled “A new global partnership: eradicate poverty and transform economies through sustainable development”, the High-level Panel of Eminent Persons on the Post-2015 Development Agenda called for a “data revolution”.¹ Following that call and in the context of the preparation of the synthesis report requested by States Members of the United Nations ahead of the intergovernmental negotiations leading to the adoption of the post-2015 agenda, the Secretary-General established the Independent Expert Advisory Group on a Data Revolution for Sustainable Development on 29 August 2014. The purpose of the Group was to advise the Secretary-General on how to close the data gaps and strengthen national statistical capacities; assess new opportunities linked to innovation, technical progress and the surge of new public and private data providers; and utilize the data revolution for sustainable development.²

2. The membership of the Independent Expert Advisory Group consisted of 25 experts from civil society, the private sector, academia, governments and international organizations, including five heads of national statistical offices who contributed their perspective and experience as producers of official statistics and informed about the role of official statistics and the already ongoing activities relating to new data sources and other innovations. The Secretary-General appointed two co-chairs: Mr. Enrico Giovannini of Italy and Mr. Robin Li of China.³ Ms. Claire Melamed was appointed Secretary of the Group. The Statistics Division provided substantive and logistical support to the Group.

3. The Independent Expert Advisory Group held its first meeting on 25 and 26 September 2014 in New York. On 26 September, it also held a town hall event and a number of in-depth sessions with members of civil society, academia and the private sector on specific topics relating to the data revolution. In addition, the Co-Chair and the Secretary of the Group gave an informal briefing to Member States on 30 September 2014 in New York and conducted a consultative meeting with United Nations organizations based in Geneva and other international organizations (including the Organization for Economic Cooperation and Development (OECD), Eurostat, the European Environment Agency and others) on 8 October 2014.

4. Through a dedicated website (www.undatarevolution.org), on 26 September 2014, the Group launched an initial broad consultation around four main topics: (a) accessible data (open data, accountability and data literacy); (b) sustainable development goals (measuring progress on new indicators and for all groups); (c) data innovation (big data and new technologies); and (d) data landscape (addressing systemic challenges). The second and final meeting of the Group was held on 16 and 17 October 2014 in New York. The draft report that resulted from that meeting was released for public consultation on the Group’s website from 24 to 27 October. Almost 500 comments were posted publicly on the website and several hundred were submitted privately.

¹ Available from www.post2015hlp.org/the-report/.

² Annex I to the present document sets out the terms of reference for the Independent Expert Advisory Group.

³ Annex II to the present document contains a list of all the members of the Independent Expert Advisory Group.

5. The final report of the Group was issued on 6 November 2014 and is available online from <http://www.undatarevolution.org/report/>. Following the submission of the report to the Secretary-General on that date, the Group also gave a briefing to Member States explaining the main conclusions and recommendations contained therein.

II. Recommendations set out in the report of the Independent Expert Advisory Group on a Data Revolution for Sustainable Development and follow-up actions

6. The Independent Expert Advisory Group delineated a comprehensive set of recommendations in four areas, namely: (a) principles and standards; (b) technology, innovation and analysis; (c) capacity and resources; and (d) leadership and governance. While bringing the issue of data to the forefront, the report calls in particular for investment in statistical capacity-building to allow all countries to participate in the benefits of the data revolution and to provide the data required for the monitoring of the goals and targets of the post-2015 development agenda.

7. In line with the report of the Independent Expert Advisory Group and in response to it, the report of the Friends of the Chair group on broader measures of progress submitted to the Commission⁴ (E/CN.3/2015/2) proposes to establish: (a) an inter-agency expert group on sustainable development goal indicators; (b) a high-level group for partnership, coordination and capacity-building for post-2015 monitoring (high-level group for post-2015 monitoring); and (c) a world forum on sustainable development data. These three mechanisms would be tasked to follow up on the recommendations of the Independent Expert Advisory Group as applicable and as specified in their respective terms of reference.

8. Annex III to the present report provides a summary table of the recommendations contained in the report of the Independent Expert Advisory Group, separated into specific and general recommendations. For each of the specific recommendations, the table also indicates a proposed entity responsible for follow-up.

9. In his synthesis report, the unedited advance version of which was released on 4 December 2014, the Secretary-General refers to the recommendations of the Independent Expert Advisory Group and calls for the world to acquire a new data literacy and for enhanced national and international statistical capacities (including by significantly scaling up support to countries and national statistical offices), rigorous indicators, reliable and timely data sets, new and non-traditional data sources, and broader and systematic disaggregation to reveal inequities to support the implementation of the post-2015 development agenda.⁵ In addition, the

⁴ At its forty-fourth session, in 2013, the Statistical Commission established the Friends of the Chair group on broader measures of progress (decision 44/114) with a mandate to build a work programme to develop broader measures of progress based on a stocktaking exercise of current national, regional and international practices in this field, and to monitor closely the ongoing debate on development frameworks to ensure that a robust statistical measurement approach is incorporated from the outset into preparations for the post-2015 development agenda.

⁵ United Nations, "The road to dignity by 2030: ending poverty, transforming all lives and protecting the planet (Synthesis report of the Secretary-General on the post-2015 agenda)", advance unedited version, New York, 4 December 2014, paras. 140-142.

Secretary-General recommends that a comprehensive programme of action on data be established under the auspices of the Statistical Commission, which would include the building of a global consensus, applicable principles and standards for data, a web of data innovation networks to advance innovation and analysis, a new innovative financing stream to support national data capacities, and a global data partnership to promote leadership and governance.⁶

10. In the coming weeks, the secretariat will engage with all concerned stakeholders on proposed concrete steps for the preparation of such a comprehensive programme of action on data and will provide the Commission with an oral update.

III. Points for discussion

11. The Commission is invited to:

(a) Express its views on the report of the Independent Expert Advisory Group on a Data Revolution for Sustainable Development;

(b) Express its views on the proposals for follow-up referred to in paragraphs 7 and 8 above and on the recommendation by the Secretary-General to establish a comprehensive programme of action on data under the auspices of the Statistical Commission, as outlined in paragraph 9 above.

⁶ Ibid., para. 143.

Annex I

Terms of reference of the Secretary-General's Independent Expert Advisory Group on a Data Revolution for Sustainable Development

Background

1. The Secretary-General's High-level Panel of Eminent Persons on the Post-2015 Development Agenda called for a data revolution in support of sustainable development. Since then, the political momentum around the need for better data to support the development agenda has grown steadily, fuelled by a vibrant and wide-ranging public debate on potential benefits and strategic priorities.
2. Data are a fundamental requirement for governments, international agencies, civil society organizations and the private sector to make evidence-based decisions. They are also a critical driver of accountability, since they allow for the monitoring of the delivery of results and are a powerful enabler of innovation for social impact. In the context of the post-2015 development agenda, it is anticipated that a sustainable flow of high-quality, timely, authoritative and accessible data will be needed for the ongoing measurement of progress towards the new goals and targets at both the national and the global levels. To generate this flow, a data revolution, namely, a transformation of how data are produced and used to drive development, will be critical.
3. It is widely understood that the concept "data revolution" refers to a number of specific, necessary and transformative actions needed to respond to the demands of a complex development agenda. The data revolution necessarily implies a considerable, concerted and sustained investment in national statistical capacity, both technical and institutional, to increase the coverage, quality and frequency of data. National statistical systems must be in the driver's seat for national, regional and global monitoring, supported by the latest innovations in the use of information and communication technologies for collection, analysis and sharing of statistical data. Another facet of the data revolution is data liberation: with the open data movement now well under way, the social value of making data available and accessible is now widely recognized and a considerable body of best practices supported by case studies is now available.
4. At the same time, it is now widely recognized that revolutionizing development practice will require leveraging new, non-traditional — and primarily digital — data sources to satisfy the data needs in new development areas and for timely, detailed and disaggregated data on, inter alia, gender, geography, income and disability to address inequalities. Indeed, in a very real sense, a data revolution is already under way: as people buy and sell goods, search for information online and share their experiences on social networks, they produce vast quantities of digital information in real time. Sensors from satellites to the myriad connected devices of the "Internet of Things" are likewise contributing to what has come to be called "big data". Once adequately anonymized to protect privacy, big data represent an untapped natural resource with potential to support enhanced decision-making in a post-2015 world.
5. Member States are currently discussing many of these issues in ongoing formal processes. The Statistical Commission has taken the lead in discussing various

aspects of the data revolution that are relevant to official statistics, such as capacity development, modernization of statistical systems, big data, open data and the development of new indicators. In this context, it is also relevant that the General Assembly recently adopted, in January 2014, a resolution on the Fundamental Principles of Official Statistics (resolution 68/261). Within the United Nations system, the Secretary-General's Global Pulse initiative has played a key role in driving innovation around privacy-protecting applications of big data to challenges in public health, food security, poverty and disaster response. Moreover, around the world, efforts to develop the methodologies, technology tools, policies and practices required to safely and responsibly harness big data for development are intensifying, especially within multilateral institutions such as the World Bank, the private sector and certain government agencies.

6. Consequently, there is a need to: (a) support the ongoing intergovernmental deliberations related to the data revolution, building on them and adding value; (b) assert United Nations leadership by effectively connecting the ongoing streams of activities under the heading "data revolution"; and (c) maintain the high visibility of the importance of good data, in order to ensure that sufficient resources are mobilized and effectively used, both at the national and the global levels, to drive change.

Scope of work and key objectives

7. Building on the leadership and recommendations of the High-level Panel of Eminent Persons and the report of the Secretary-General entitled "A life of dignity for all: accelerating progress towards the Millennium Development Goals and advancing the United Nations agenda beyond 2015" (A/68/202 and Corr.1) and in fulfilment of the mandate of the United Nations System Chief Executives Board for Coordination (CEB) at its 2014 spring session, the Secretary-General established the Independent Expert Advisory Group on a Data Revolution for Sustainable Development, with a view to providing political visibility to the issue and informing the post-2015 process. The Group will craft a strategic framework and advise the Secretary-General on what the data revolution for development would mean in practice, how it can be funded and what institutional and governance implications it would possibly entail. Specifically, the Group will suggest measures to close the data gaps and strengthen national statistical capacities. In addition, it will assess the new opportunities linked to innovation, technical progress and the surge of new public and private data providers to support and complement countries' conventional national statistical systems, support the sustainable development agenda and strengthen accountability at the global, regional and national levels.

8. The Group will be requested to provide a report by 31 October 2014, in order to inform the synthesis report of the Secretary-General on the post-2015 agenda, expected later in 2014. This study will provide recommendations on:

(a) A definition of "data revolution" and an illustration of what the data revolution would mean in concrete terms at the national, regional and international levels;

(b) The status of all ongoing initiatives on the post-2015 data revolution and how they can best be connected to achieve maximum synergies;

(c) Means of implementation and funding to fill critical gaps in the production, dissemination and use of statistics, including by reinforcing national capacities in all of these areas and introducing innovation in the use of information and communication technologies;

(d) Opportunities to take advantage of big data, taking into due consideration the need to protect the privacy of individuals, ensure the sustainability of data-sharing by the private sector, strengthen the ecosystem to create an enabling environment for innovation, and support broad public sector adoption of new data sources, technologies and approaches;

(e) A proposed strategy for scaling up successful approaches to increasing the availability and accessibility of data;

(f) Possible outreach and advocacy activities to maintain the high visibility of the recommendations of the Group and to facilitate their implementation.

References and outreach

9. In the discharge of its functions, the Group will take into consideration all ongoing post-2015 efforts, including the relevant work of the Statistical Commission; the report of the Open Working Group on Sustainable Development Goals; the report of the Intergovernmental Committee of Experts on Sustainable Development Financing; the report of the Secretary-General entitled “A life of dignity for all: accelerating progress towards the Millennium Development Goals and advancing the United Nations development agenda beyond 2015”; the report issued by the High-level Panel of Eminent Persons on the Post-2015 Development Agenda; and any relevant ongoing efforts of Member States, the international community, the United Nations System Task Team on the Post-2015 United Nations Development Agenda, the Statistics Division and the Special Adviser on Post-2015 Development Planning.

10. The Group will arrange dedicated outreach and consultations with key constituencies, including, but not limited to, the International Telecommunication Union (ITU), the World Health Organization (WHO), the International Labour Organization (ILO), the Food and Agriculture Organization of the Secretariat (FAO), the United Nations Environment Programme (UNEP), the United Nations Industrial Development Organization (UNIDO), the United Nations Conference on Trade and Development (UNCTAD) and the Sustainable Development Solutions Network, in addition to governments, business, academics, civil society organizations and the scientific community.

Expected outcomes and next steps

11. Through its report and any follow-up by the end of 2014, the Group is expected to provide a point of reference on the discussion of the data and statistics needed to underpin the new development agenda. The recommendations of the Group will inform the synthesis report of the Secretary-General on the post-2015 agenda and the anticipated subsequent intergovernmental process, including the work of the high-level political forum on sustainable development.

Annex II

List of members of the Secretary-General's Independent Expert Advisory Group on a Data Revolution for Development

Enrico Giovannini (Italy), Co-Chair

Robin Li (China), Co-Chair

T.C.A. Anant (India)

Shaida Badiie (Islamic Republic of Iran)

Carmen Barroso (Brazil)

Robert Chen (United States of America)

Choi Soon-hong (Republic of Korea)

Nicolas de Cordes (France)

Fu Haishan (China)

Johannes Jütting (Germany)

Pali Lehohla (South Africa)

Tim O'Reilly (United States of America)

Sandy Pentland (United States of America)

Rakesh Rajani (United Republic of Tanzania)

Juliana Rotich (Kenya)

Wayne Smith (Canada)

Eduardo Sojo Garza-Aldape (Mexico)

Gabriella Vukovich (Hungary)

Alicia Barcena (Economic Commission for Latin America and the Caribbean)

Robert Kirkpatrick (Global Pulse)

Eva Jespersen (United Nations Development Programme)

Edilberto Loaiza (United Nations Population Fund)

Katell Le Goulven (United Nations Children's Fund)

Thomas Gass (ex officio)

Amina J. Mohammed (ex officio)

Annex III

Summary list of the recommendations contained in the report of the Independent Expert Advisory Group on a Data Revolution for Sustainable Development

Specific recommendations

<i>Action recommended</i>	<i>Suggested/possible entities involved</i>
Capacity and resources	
Develop a proposal on a new funding stream and innovative financing mechanisms to support the data revolution for sustainable development, for discussion at the third International Conference on Financing for Development	High-level group for post-2015 monitoring
Carry out an analysis of the scale of investments needed for the establishment of a modern system to monitor progress towards the sustainable development goals	Multiple partners
Develop a proposal on how to manage and monitor new funding for the data revolution for sustainable development	High-level group for post-2015 monitoring
Develop a proposal on how to leverage the resources and creativity of the private sector, including an examination of suggestions for creating incentives for the private sector to invest	High-level group for post-2015 monitoring
Upgrade national strategies for the development of statistics to improve coordinated and long-term planning	Paris21 and high-level group for post-2015 monitoring
Develop a proposal for a special investment to increase global data literacy	High-level group for post-2015 monitoring, multiple partners
Develop an education programme and promote new learning approaches to improve the data literacy of people, infomediaries and public servants	High-level group for post-2015 monitoring, multiple partners
Governance and leadership	
Embed a commitment to realize the opportunities of the data revolution into the action plan for the sustainable development goals	General Assembly, multiple partners
Establish a global partnership for sustainable development data	High-level group for post-2015 monitoring
Establish a biennial world forum on sustainable development data and associated regional and country-level events and ongoing engagements	Statistical Commission
Establish a global forum of users of sustainable development goal data to ensure feedback loops among data producers, processors and users to improve the usefulness of the data and information produced	Statistics Division
Collect best practices related to public data, such as the Open Government Partnership and the Group of Eight Open Data Charter	Multiple partners

<i>Action recommended</i>	<i>Suggested/possible entities involved</i>
Share knowledge on the monitoring of sustainable development goals and encourage good practices such as open data and harmonization	Inter-agency expert group on sustainable development goal indicators
Develop common legal frameworks around rights to data and information and redress for abuses of data	General Assembly
Broker some key global public-private partnerships with private companies and civil society organizations for data-sharing	Multiple partners, high-level group for post-2015 monitoring
Principles and standards	
Develop a comprehensive strategy and a road map towards a new global consensus on data	High-level group for post-2015 monitoring
Agree on and promote the adoption of specific principles related to the data revolution	General Assembly, multiple partners
Accelerate the development and adoption of legal, technical, geospatial and statistical standards, including standards on openness and exchange of data and metadata, standards for anonymization of personal data, standards and enforcement mechanisms for data security, integrity, documentation, preservation and access	Multiple partners, high-level group for post-2015 monitoring
Technology, innovation and analysis	
Foster the establishment of a network of data innovation networks for sustainable development	World forum on sustainable development data, multiple partners
Leverage emerging data sources for the monitoring of sustainable development goals through a “sustainable development goal data lab” to mobilize key public, private and civil society data providers, academics and stakeholders to identify available and missing data and indicators, as well as opportunities for benefiting from new methods, analytical tools and technologies to improve the coverage, timeliness and availability of indicators in each of the sustainable development goal areas	Inter-agency expert group on sustainable development goal indicators, high-level group for post-2015 monitoring, world forum on sustainable development data, multiple partners
Identify areas for the development of common infrastructures to exploit the data revolution for sustainable development	High-level group for post-2015 monitoring, inter-agency expert group on sustainable development goal indicators
Develop a “world statistics cloud” to store data and metadata produced by different institutions but according to common standards, rules and specifications	Statistics Division, multiple partners
Fill research gaps on the relationships among data, incentives and behaviour	Multiple partners
Engage research centres, innovators and governments in the development of publicly available data analytics tools and algorithms to better capture and evaluate long-term trends affecting sustainable development	Statistics Division, high-level group for post-2015 monitoring, multiple partners
Create incentives through initiatives such as prizes and data challenges	Multiple partners

<i>Action recommended</i>	<i>Suggested/possible entities involved</i>
Develop and implement a sustainable development goal analysis and visualization platform	Statistics Division, multiple partners
Develop and implement a dashboard on “the state of the world”	Statistics Division, multiple partners

General recommendations

Action recommended

Capacity and resources

Carry out technical and financial investments to modernize statistical systems

Build capacity for continuous data innovation

Provide resources to countries and regions where statistical or technical capacity is weak

Develop infrastructures and implement standards to continuously improve and maintain data quality and usability

Finance analytical research in forward-looking and experimental subjects

Support countries in their capacity-building efforts

Strengthen the data and statistical literacy (numeracy) of citizens, the media and other intermediaries

Develop data literacy

Help communities and individuals to generate and use data

Provide leadership in education, outreach and capacity-building efforts

Carry out large and continuing investments in innovation at all levels, but especially in those institutions that are currently lagging behind

Increase access to broadband, literacy (including adult literacy) and the use of information and communications technology in schools worldwide

Engage non-official data producers in a cooperative effort to speed up the production, dissemination and use of data

Governance and leadership

Create systems that foster incentives without creating unacceptable inequalities

Manage the international system that can transfer finance and technical expertise

Empower public institutions, including statistical offices, protecting their independence

Put in place regulatory frameworks to ensure robust data privacy and data protection

Promote the release of open data by all data producers

Keep data open and usable by all

Enforce common standards for data collection, production, anonymization, sharing and use

Action recommended

Maintain a system of quality control and audit for all systems and all data producers and users

Share data and the methods used to process them, according to globally, regionally or nationally brokered agreements and norms

Publish data, geospatial information and statistics in open formats and with open terms of use, following global common principles and technical standards

Raise awareness of publicly available data

Report on own activities using common global standards for integrating data on its economic, environmental and human rights activities and impacts

Cooperate with the public sector, according to agreed and sustainable business models, in the production of statistical data for the monitoring of sustainable development goals and other public purposes

Hold governments and companies accountable, using evidence on the impact of their actions

Provide feedback to data producers

Report fairly on the statistical and scientific evidence available on relevant dimensions of sustainable development

Make demographic and scientific data as open as possible for public and private use in sustainable development

Provide feedback and independent advice and expertise to support accountability and more effective decision-making

Implement new standards, once agreed

Streamline capacity-building initiatives and reduce duplicated efforts, mobilizing new resources

Principles and standards

Set and enforce legal frameworks to guarantee data privacy and security of data for individuals, and ensure its quality and independence

Adopt frameworks for safe and responsible use

Set principles and standards to guide collective actions within a global community and according to common norms

Technology, innovation and analysis

Modernize own statistical production processes by, for example, incorporating new data sources, including administrative data, and providing data that is human- and machine-readable and compatible with geospatial information systems

Collaborate with other institutions and sectors to adopt new technologies and implement new methods of work

Manage and curate data and information created by others

Foster an evidence-based public discourse using advanced visualization technologies to better communicate key data to people

Carry out analyses based on data from multiple sources providing long-term perspectives, knowledge and data resources to guide sustainable development at the global, regional, national and local scales
