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Item 6 of the provisional agenda

Round-table discussion

Use of technology in official statistics: ethical considerations

I. BACKGROUND

1. The speed and frequency at which data are produced and collected, from an increasing number of sources, is responsible for today's data revolution. Much of that data are records generated as by-products of everyday interactions with digital products and services. Private sector companies, including mobile phone carriers, credit card companies and social media networking sites, control and manage enormous data sets, which have come to be known as big data.

2. Current professional ethical standards do not preclude the use of big data sources in the production of official statistics; to the contrary, exploring new data sources is seen as a professional responsibility of official statisticians. However, there are important ethical concerns regarding the use of big data in official statistics, including the protection of personal data and the relationship with big data 'producers'.

3. Global and regional organizations have been paying increased attention to the use of new technologies in enhancing sustainable development, including the incorporation of big data as new data sources to measure progress towards achieving the Sustainable Development Goals (SDGs). At its forty-fifth session held in 2014, the United Nations Statistical Commission established the United Nations Global Working Group on Big Data[1] with several specialized task teams, including one dedicated to big data and the SDGs. Five Arab States[2] are members of the Working Group. Moreover, in 2014, the Secretary-General of the United Nations launched the Global Pulse initiative[3] to harness big data, artificial intelligence and other emerging technologies for sustainable development and humanitarian action. Global Pulse functions as a network of innovation labs undertaking and coordinating research related to big data for development.

[1] https://unstats.un.org/bigdata.

[2] Egypt, Morocco, Oman, Saudi Arabia and United Arab Emirates.

[3] https://www.unglobalpulse.org/blog/all.

4. At the thirtieth ministerial session of the Economic and Social Commission for Western Asia (ESCWA), held in Beirut from 25 to 28 June 2018, member States adopted the Beirut Consensus on Technology for Sustainable Development in the Arab Region, pledging to use new technologies such as geographic information systems (GIS), earth observations, big data and statistics in support of regional and national development strategies.[4]

5. The importance of big data for official statistics has also been recognized by the Arab region's statistical community. At its eleventh session, held in Amman on 4 and 5 February 2015, the ESCWA Statistical Committee discussed the use of big data in official statistics, and recommended that member States make use of the opportunities it provides. However, ethical issues related to big data access and use in official statistics have not yet been addressed at the regional level.

II. TOPICS FOR DISCUSSION

6. The current round table addresses ethical and legal issues facing national statistical offices in the use of big data for official statistics, and the involvement of private sector technology companies in the collection, storage and processing of data, including census data, on behalf of statistical offices (the outsourcing issue).

7. The rise and adoption of open data initiatives presents alternative sets of data sources, which could address the growing needs for information of decision-makers and the public. Those new data sources provide opportunities for official statistical agencies to improve the relevance and efficiency of data production and reduce response burdens. Big data cover a wide range of topics and behaviours, including mobility, consumption, spread of diseases, personal taste and conflict. The private sector is the main generator of such data. International agencies, including the United Nations, the private sector and many national statistical offices in the region and beyond are advocating for the use of big data for official statistics.

8. The ever-growing use of big data presents new ethical and legal challenges that current guidelines and standards followed by national statistical offices may fail to adequately address. In the digital age, Governments and tech companies have much more power than in the past: the ability to monitor or intervene in peoples' lives without their consent. Existing rules and laws are not clear on how that increasing power should be used.

9. There are four main ethical challenges facing statisticians and researchers who use information and communication technologically in their work:[5]

(a) Respect for persons: statisticians should always ensure that they have individuals' informed consent before taking any action;

(b) Managing informational risk: statisticians should not disclose personal information to anyone without data anonymization – even with anonymization, the risk of disclosure is always present;

(c) Privacy: violation of privacy is a harm in itself, but privacy can also be assessed in terms of the harm caused by its violation;

(d) Making decisions with unknown risks: statisticians should avoid making decisions about activities when there is uncertainty about their potential harm on people, such as depression or legal difficulties.

[4] https://www.unescwa.org/sites/www.unescwa.org/files/ministerial_sessions/resolutions/30th_session_beirut_consensus_on_technology_for_sustainable_development_eng.pdf.

[5] Dittrich, D. and others, *The Menlo Report: Ethical Principles Guiding Information and Communication Technology Research* (Washington, D.C., United States Department of Homeland Security, 2011).

10. The Fundamental Principles of Official Statistics, adopted in General Assembly resolution 68/261, prohibit national statistical offices from sharing personal (un-anonymized) data. However, there are numerous cases of human rights abuses where census and registration data were shared with government security agencies during "crises".[6] The standard practice remains that personal data enter national statistical offices and should never leave un-anonymized: the statistics laws in most countries adhere to the principle of never sharing private data. There were cases of sharing personal census data with government agencies for the purpose of population registration, but such practice required special decrees and respondents' consent.

11. Recently, national statistical offices have increasingly been contracting technology companies to help with data collection during censuses. In some cases, data cleaning and tabulation of census records have also been outsourced. Contracted companies and their employees taking up specific tasks in data collection and tabulation presumably have access to personal records of enumerated populations.

12. The involvement of experienced private sector companies in censuses provides many benefits to national statistical offices, including cost saving. However, ethical and legal challenges remain, particularly privacy preservation.

III. GUIDING QUESTIONS

(a) How can national statistical offices ensure that private sector companies involved in data collection for censuses and surveys do not share personal data with third parties or use it themselves for purposes other than those intended?

(b) A national statistical office was given access to data on showers to understand the spread of an infectious disease, without the consent of the persons involved. Should the statistical office use such data for a study on the topic?

(c) A researcher approached a national statistical office to run an experiment on non-response during a recent census. The experiment involves tapping information from field staff using their mobile phones and tablets. Should the statistical office agree to collaborate with the researcher?

(d) A software company offered a statistical office free GIS software and unlimited support in exchange for direct and immediate access to data from an ongoing census of population and housing. Should the statistical office accept the offer?

(e) Should statistics laws in countries be changed to include issues related to big data usage, storage and analysis?

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[6] William Seltzer and Margot Anderson, "Using population data to target vulnerable population subgroups and individuals: issues and incidents", in *Statistical Methods for Human Rights*, Jana Asher, David Banks and Fritz Scheuren, eds. (New York, Springer, 2008), pp. 273-328.