

**Economic and Social Commission for Asia and the Pacific**
Committee on Statistics**Seventh session**

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Item 4 (b) of the provisional agenda**

**Seminar on priority issues: embracing big data to modernize
official statistics in Asia and the Pacific****Regional and national efforts to embrace big data for
official statistics in Asia and the Pacific****Note by the secretariat***Summary*

Big data and other non-traditional data sources are an exciting prospect for national statistical offices faced with increasing demand for more statistics of greater timeliness and relevance as has been experienced in the context of the 2030 Agenda for Sustainable Development and the coronavirus disease pandemic. This increasing demand often coincides with declining budgets. Big data and other non-traditional data sources can sometimes offer comparatively inexpensive solutions.

Globally and regionally, activities associated with these data sources continue to grow. The opportunities for member State engagement and involvement are vast.

The present document contains information on the development of global statistical standards and frameworks for big data and other non-traditional data for official statistics. It also contains information on a range of project-driven initiatives that United Nations entities and development partners are implementing, including regional initiatives.

The Committee on Statistics may wish to discuss how regional cooperation may support and strengthen national efforts and priorities for global cooperation.

I. Introduction

1. Asia and the Pacific has two overarching commitments for advancing official statistics for the 2030 Agenda for Sustainable Development: a collective vision and framework for action by the Asia-Pacific statistical community, endorsed by the Committee on Statistics at its fifth session, in 2016, and the Declaration on Navigating Policy with Data to Leave No One Behind, endorsed by the Economic and Social Commission for Asia and the Pacific (ESCAP) at its seventy-fifth session, in 2019.

* Reissued for technical reasons on 20 August 2020.

** ESCAP/CST/2020/L.1.

2. The collective vision and framework for action is focused on strengthening statistical capacity to produce, disseminate and use official statistics, whereas the Declaration on Navigating Policy with Data to Leave No One Behind is focused on strengthening national statistical systems.

3. Globally and regionally, considerable focus has been concentrated on big data and other non-traditional data. This focus can be very specific, such as the use of mobile phone data for mobility statistics and responses to the coronavirus disease (COVID-19) pandemic, or very general, such as the use of big data for the Sustainable Development Goal indicators.

4. Big data and other non-traditional data sources align well with all five action areas of the collective vision and framework for action. They can help to engage users and lead to investment in statistics (action area A), assure quality and instil trust in statistics (action area B), lead to integrated statistics for integrated analysis (action area C), modernize statistical business processes (action area D) and develop requisite skills set (action area E). Moreover, the integration by national statistical systems of data from multiple sources in a coherent and consistent manner for the production of statistical products that support integrated analysis of sustainable development issues is an explicit objective of action area C.

5. Big data and other non-traditional data sources also align well with the Declaration on Navigating Policy with Data to Leave No One Behind, as their use requires strong national statistical systems. In many countries, the national statistical office is only one of multiple producers of statistics in the national statistical system that explore or use these data sources, and the office may be called upon in a quality assurance role.

6. In addition, big data and other non-traditional data sources are very attractive to policymakers and data investors and offer potential for investments in official statistics, national statistical offices and national statistical systems.

7. The present document contains information about global and regional initiatives related to big data and other non-traditional data sources. This information shows that while there is good representation of Asia-Pacific countries in groups leading the development of standards and frameworks and groups implementing concrete projects, small island developing States such as those in the Pacific are less represented. It also shows that country-level engagement does not always involve national statistical offices.

II. Global initiatives

A. Global Working Group on Big Data for Official Statistics

8. At its forty-fifth session, held in 2014, the Statistical Commission created the Global Working Group on Big Data for Official Statistics to investigate the benefits and challenges of big data including the potential for monitoring and reporting on the Sustainable Development Goals. The Global Working Group addresses issues pertaining to methodology, quality, technology, data access, legislation, privacy, management and finance, and provides cost-benefit analyses on the use of big data.

9. The Global Working Group meets once a year on the margins of the International Conference on Big Data for Official Statistics. It consists of 30 countries, including Australia, Bangladesh, China, Georgia, Indonesia,

Pakistan, the Philippines and the Republic of Korea (see annex) and 16 international institutes.¹ It is worth noting that no small island developing States are members.

10. With the support of the Statistical Commission, the Global Working Group established and now operates a digital collaborative platform for the statistical community (and its wider stakeholder community) containing data, services, information technology tools and shared methods and algorithms.² The platform serves to develop new data solutions and support new data initiatives, such as the Data for Now initiative³ and the “50 by 2030” initiative⁴ of the Food and Agriculture Organization of the United Nations (FAO) and the World Bank.

11. With regard to the platform, the United Nations signed collaboration agreements with four regional hubs in Brazil, China, Rwanda and the United Arab Emirates. These hubs offer possibilities for hands-on training and project work on the use of big data for official statistics. The regional hub in Hangzhou, China, will give countries in Asia an opportunity to advance work on big data and to initiate and execute innovative data projects, and will serve as a training institute to develop new skills for staff of national statistical offices.⁵

12. The platform is intended to serve the statistical community and can be used to build national capacity as well as for other purposes, such as dissemination. The task team on automatic identification system vessel tracking data recently organized a “data week”, including webinars on selected use cases and online support for data on port traffic and time spent in port available on the platform. Eight member States participated: Bangladesh; China; India; Indonesia; Japan; Mongolia; Philippines; and Republic of Korea. The Government of Cambodia is interested in using the platform for the dissemination of its statistical series and indicators related to the Sustainable Development Goals.

13. Given the increased responsibilities involved in the maintenance of the platform and oversight of the international activities at the regional hubs, the governance of the Global Working Group is now led by an Advisory Board which consists of senior managers representing 15 Global Working Group members. China and Indonesia are represented on the Advisory Board, which meets four times a year.

14. The guidance of the Global Working Group is prepared by task teams such as the task team on Earth observation data, which focuses on applications of satellite data for agriculture statistics and land cover mapping, or the task team on the use of mobile telephone data, which focuses on applications for tourism, migration, dynamic population, commuter and transport statistics. Other task teams work on scanner data for price statistics, on automatic identification system vessel tracking data for trade indicators, on big data for the Sustainable Development Goals, on integrating statistical and geospatial

¹ See E/CN.3/2020/24, annex I.

² <https://marketplace.officialstatistics.org>.

³ www.data4sdgs.org/index.php/initiatives/data-now.

⁴ www.50x2030.org.

⁵ See <https://unstats.un.org/bigdata>.

information, on social media data, on privacy-preserving techniques and on training, competencies and capacity development.⁶

15. Because of the innovative aspects of this work, input from many other stakeholder communities is needed. For example, the task team on mobile telephone data includes members from national statistical offices, including those of Georgia, Indonesia, the Philippines and the Republic of Korea, but also from Pulse Lab Jakarta and the University of Tokyo. The task team is very active in Asia and the Pacific. For example, it worked with the Department of Economic and Social Affairs of the Secretariat and the Statistics Division of ESCAP to organize a well-attended regional workshop on the use of mobile phone data for official statistics with a focus on human mobility, which was hosted by Statistics Indonesia (Badan Pusat Statistik-Indonesia) in June 2019. Workshop participants included representatives of Bangladesh, Cambodia, Georgia, Indonesia, Malaysia, Mongolia, Nepal, the Philippines, Thailand and Viet Nam.⁷ A second regional workshop is expected to be held in 2020, again hosted by Statistics Indonesia (Badan Pusat Statistik-Indonesia).

16. The task team on training, competencies and capacity development recently conducted a global assessment of national statistical offices and their institutional readiness to use big data in official statistics. The survey results indicate that national statistical offices in the Asia-Pacific region are actively engaged in big data projects and acknowledge the fundamental role legal frameworks play in the use of big data in official statistics. The results also indicate that a significant proportion of national statistical offices in the region need improvements in basic information technology infrastructure to facilitate the implementation of big data strategies (for example, onsite data storage capability and computing power, secure cloud infrastructure and skills to access the data).

17. Lastly, the Global Working Group organizes the annual International Conference on Big Data for Official Statistics. The International Conference provides an opportunity for the statistical community to present the latest data solutions and share new methods. The five Conferences held since 2014 delivered many examples of innovative big data projects, useful training materials and the Bogota Declaration⁸ and the Kigali Declaration.⁹ The Sixth International Conference will be held in Seoul from 31 August to 2 September 2020.

B. Friends of the Chair group on the Fundamental Principles of Official Statistics and Working Group on Open Data

18. The Statistical Commission created, at its fiftieth session, the Friends of the Chair group on the Fundamental Principles of Official Statistics and the Working Group on Open Data.

⁶ See E/CN.3/2020/24.

⁷ ESCAP, “Can mobile phone data be used for official statistics? Asia and the Pacific says yes”, Stats Brief, No. 18 (Bangkok, 2019).

⁸ E/CN.3/2018/8, annex II.

⁹ E/CN.3/2020/24, annex II.

19. There are three Asia-Pacific members of the Friends of the Chair group: Australia; Malaysia; and New Zealand, which serves as the Chair (see annex). No small island developing States are members of the Friends of the Chair group.

20. To supplement the implementation guidelines for the Fundamental Principles of Official Statistics, the Friends of the Chair group produced very useful guidance, in the form of a background document, on the implementation of the Fundamental Principles when using new data sources for the production of official statistics. The document includes examples from countries and organizations and information on mapping the Fundamental Principles against non-conventional and non-traditional data sources.¹⁰

C. United Nations Global Pulse initiative

21. Global Pulse is a United Nations innovation initiative aimed at discovering and mainstreaming applications of big data and artificial intelligence for sustainable development, humanitarian action and peace. It operates through a network of innovation labs including Pulse Lab Jakarta, which was established in 2012 in partnership with the Government of Indonesia.

22. Pulse Lab Jakarta supports collaborative research, prototypes and experiments in analysing digital data. It has worked with member States to pilot the use of big data, real-time analytics and artificial intelligence in combination with traditional data sets, qualitative analyses and human-centred design. These efforts have involved a variety of use cases in developmental domains including humanitarian action, urban dynamics, agri-food systems, official statistics and financial inclusion.

23. Pulse Lab Jakarta has to its credit a range of achievements beyond prototype outputs. It has facilitated operational progress including improvements in operational effectiveness and efficiency due either to the adoption or adaptation of products it has inspired or to an increased understanding of human-centred design issues. For example, Pulse Lab Jakarta developed the Vulnerability Analysis Monitoring Platform for the Impact of Regional Events in South-East Asia in collaboration with the World Food Programme. The Platform provides integrated map-based visualizations that show the extent of drought-affected areas, the impacts on markets and the response strategies implemented by affected populations in Indonesia. It has now been institutionalized as one of the data sources that informs national food security policies. The World Food Programme has promoted the Platform to other Governments in the Asia-Pacific region.

24. Over the course of its existence, Pulse Lab Jakarta has also had an impact on methodology, spawning more than a dozen methodologies and applications of data science and social research. These have been leveraged by several national and local governments, international agencies and institutions of higher education. The progress includes the endorsement and utilization of a number of the Lab's methodologies such as research dives and the incorporation of human-centred design approaches in analytical platforms and

¹⁰ United Nations, "Supplementing the United Nations Fundamental Principles of Official Statistics: mapping and guidance for the United Nations Fundamental Principles of Official Statistics against non-conventional and non-traditional data sources", background document for the fifty-first session of the Statistical Commission (2020). Available at https://unstats.un.org/unsd/statcom/51st-session/documents/BG-Item3q-Supplementing_non-traditional-E.pdf.

policy solutions. It also includes the use of products and initiatives either as templates, case studies or references in the context of the overall body of knowledge on data innovation for development. The Lab's contributions pertain to the adaptation, contextualization and consistent use of already proven methodologies in policy settings. Often, this means bringing methodologies that are commonly used in the private sector into the policy realm. Research dives, for instance, utilize the concept of hackathons, which are traditionally used by software companies, to instead analyse data related to development and humanitarian issues. Similarly, human-centred design is traditionally used by companies to design user-friendly products, but Pulse Lab Jakarta overlays the methodology with systems thinking, political economy analysis and a community-driven approach to produce solutions to development challenges on the ground.

25. Pulse Lab Jakarta has also achieved success with regard to developing data ecosystems in its mandate to support data innovation more broadly, not only in Indonesia but also regionally and globally. This includes work to increase stakeholders' interest and capability in harnessing insights from innovative data analyses and non-traditional data sources; to improve collaboration among stakeholders; and to promote data protection and privacy, both as core organizational principles and within project life cycles. In the course of six years, Pulse Lab Jakarta has gone from utilizing one data source category in its work to more than two dozen. This achievement is due in part to partnerships with the private sector, including with stakeholders involved in mobile networks, ride-hailing and fintech, as well as financial institutions. Through this work, Pulse Lab Jakarta has built a wealth of experience in public-private data partnerships.

26. Global Pulse is exploring the possibility of further expanding its footprint and establishing a new lab in Samoa in partnership with the Government of Samoa. This new lab would be an excellent resource for the Pacific island countries.

D. Data for Now initiative

27. The Data for Now initiative, launched on the margins of the General Assembly in September 2019, is jointly led by the Statistics Division of the Department of Economic and Social Affairs of the Secretariat, the Global Partnership for Sustainable Development Data, the World Bank and the Sustainable Development Solutions Network. It aims to increase the use of robust methods and tools that improve the timeliness, coverage and quality of data on the Sustainable Development Goals. The initiative involves working closely with national statistical offices and all relevant government agencies to make innovative methods for data production and analysis easily accessible in order to support and monitor progress towards the Goals. National statistical offices identify the priority areas in which they most urgently need to address measurement issues, data availability and timeliness. The core team facilitates matches with partners that can offer innovative data solutions to address those priorities.

28. The first technical workshop of the Data for Now initiative was hosted by the National Institute of Statistics of Rwanda in Kigali on 13 and 14 November 2019. The workshop brought together representatives of the national statistical offices of Bangladesh, Colombia, Ghana, Mongolia, Nepal, Paraguay, Rwanda, Senegal and the United Kingdom of Great Britain and Northern Ireland, together with representatives of international agencies, civil society organizations, academia and donors active in the areas of data

innovation and capacity-building. The participants identified solutions relating to data, technology and methods with high potential impact for improving the availability of timely and disaggregated data for the Sustainable Development Goals, defined specific areas of learning and capacity-building to be pursued and established country-specific road maps to attain priority data outcomes in connection with education, human mobility, poverty and land use. It is expected that the various partnerships initiated during the workshop will be consolidated and expanded over the next year, and that countries will achieve concrete results to be showcased at the next United Nations World Data Forum, to be held in October 2020.

29. The Data for Now initiative has three initial partner countries in the Asia-Pacific region: Bangladesh, Mongolia and Nepal. Land use, poverty, education and human mobility were identified as priority themes during extensive consultations and at the inception workshop held in Kigali.¹¹

30. The Global Partnership for Sustainable Development Data has reached out to ESCAP and the Statistical Institute for Asia and the Pacific to collaborate on the Data for Now initiative in Bangladesh, Mongolia and Nepal in the first phase, and potentially in other countries as the initiative expands.

31. The Government of Bangladesh has prioritized poverty estimates, and the Data for Now partners are interested in supporting the production of base-layer data for poverty estimates such as night light data, possibly in collaboration with the WorldPop programme and the Flowminder Foundation. The Government of Nepal has also prioritized poverty estimates, and the World Bank has an active project using satellite data in its poverty practice in Nepal. The Government of Mongolia has prioritized crop yield estimates and is discussing the use of Earth observation data for improving agricultural statistics as part of a programme led by FAO. The Asian Development Bank is engaged in conversations on supporting in-country work and providing technical assistance to Mongolia.

E. Partnership in Statistics for Development in the 21st Century

32. The Partnership in Statistics for Development in the 21st Century envisions a world where data and statistics are produced and used in all countries to advance sustainable development. The Partnership is governed by a Board representing 54 partners, including six countries from Asia and the Pacific (Bhutan, Kyrgyzstan, the Lao People's Democratic Republic, Mongolia, the Philippines and Vanuatu). Two Asia-Pacific developing countries have been members of the Partnership's Executive Committee: the Philippines (2018–2020) and Mongolia (2020–2022).

33. Big data and other non-traditional data sources will be a focus of the Partnerships' five-year strategy for the period 2021–2025. The strategy has three pillars: accelerating innovation, bridging data ecosystems and strengthening statistical capacity.

34. **Accelerating innovation.** In the first pillar of the strategy, the Partnership seeks to accelerate innovation by locating, creating, scaling up and deploying disruptive tools, methodologies and services that make data and

¹¹ Department of Economic and Social Affairs of the Secretariat and others, "Data for Now: inception workshop – summary", December 2019. Available at www.data4sdgs.org/sites/default/files/services_files/Data%20for%20Now_Inception%20workshop_Summary%20report.pdf.

statistical processes faster and more efficient and cost-effective. The Partnership will provide support to help national efforts to fill data gaps by developing and implementing new strategies for data sourcing and engagement; to innovate for greater data use throughout the policy cycle; and to implement sustainable data science projects that can generate new data using available technology.

35. **Bridging data ecosystems.** In the second pillar of the strategy, the Partnership seeks to bridge data ecosystems by bringing together multilateral support, including from private, public and civil society stakeholders, to enhance trust in data, improve data literacy and data use, and expand funding for statistics. It will also provide incentives to link least developed countries to donors and regional institutions.

36. **Strengthening statistical capacity.** In the third pillar of the strategy, the Partnership seeks to strengthen statistical capacity by providing advising and training services and building the technical, institutional and organizational capacity of national statistical offices. For instance, it will work to facilitate national efforts to better coordinate within national statistical systems and the effective engagement of national statistical systems in national, regional and global data ecosystems.

37. The Partnership focuses on low-income and lower-middle-income countries, which in the Asia-Pacific region include Afghanistan, Bangladesh, Bhutan, Cambodia, Kiribati, Kyrgyzstan, the Lao People's Democratic Republic, Mongolia, Myanmar, Nepal, the Philippines, Solomon Islands, Timor-Leste, Tuvalu, Vanuatu and Viet Nam.

III. Regional initiatives

A. Economic and Social Commission for Asia and the Pacific

38. In 2017, the Statistics Division of ESCAP and the Asian Development Bank carried out a regional stocktaking exercise on the readiness of national statistical systems to disaggregate Sustainable Development Goal indicators and use multiple types of data sources. National statistical offices acknowledged that the only way they would be able to meet the disaggregated data requirements of the Goals was to use innovative methods and data sources. Most viewed big data as a promising way to address data gaps for the Goals. However, as of 2017, only a limited number of national statistical offices had big data projects under way.¹²

39. In 2018, the Committee on Statistics at its sixth session recognized the importance of big data and other non-traditional data and adopted the Declaration on Navigating Policy with Data to Leave No One Behind. The Declaration contains nine national commitments, including to strengthen necessary legislative provisions and institutional mechanisms to enable national statistical systems to take full advantage of new, innovative and frontier technologies, to follow national and, where appropriate, international standards of data exchange and to build partnerships with all stakeholders for data sharing, while respecting the Fundamental Principles of Official Statistics.¹³

¹² Eco-Business, "Big data can transform SDG performance: here's how", 25 June 2018.

¹³ See ESCAP/75/4/Add.1.

40. The secretariat's efforts on big data and other non-traditional data are guided by four action areas: knowledge-sharing; outreach; developing in-house technical expertise; and advocacy.

41. Action area 1 is focused on knowledge-sharing, including documenting and providing evidence on existing practices from the Asia-Pacific region, in particular with regard to governance and institutional aspects. To avoid duplication, methodological and technological aspects are referred to the Global Working Group on Big Data for Official Statistics. Action area 2 is focused on outreach, including engaging relevant partners, national statistical offices and national statistical systems by fostering collaboration in Asia and the Pacific. Action area 3 is focused on developing in-house technical expertise in a limited set of areas, in particular with regard to data disaggregation to leave no one behind for the 2030 Agenda. Action area 4 is focused on advocacy, including resource mobilization for capacity development, particularly in the region's least developed countries, landlocked developing countries and small island developing States and in domains of statistics where data gaps are impacting the global 2030 Agenda follow-up and review processes (for example, environment statistics).

42. With regard to action area 1, country experiences in the use of scanner, online and administrative data for consumer price indices are currently being documented with support from Australia, Japan and New Zealand.

43. With regard to action area 2, the secretariat and the Statistical Institute for Asia and the Pacific have partnered with the Global Working Group on Big Data for Official Statistics, the Friends of the Chair group on the Fundamental Principles of Official Statistics, the Data Innovation and Capacity Branch of the Statistics Division of the Department for Economic and Social Affairs, the Partnership in Statistics for Development in the 21st Century, the Global Partnership for Sustainable Development Data, Global Pulse and the International Statistical Institute. The secretariat and the Statistical Institute for Asia and the Pacific are members of many task teams of the Global Working Group on Big Data for Official Statistics and the Board of the Partnership in Statistics for Development in the 21st Century.

44. The secretariat and the Statistical Institute for Asia and the Pacific have also partnered with many member States. For example, the Government of the Republic of Korea has hosted the annual training courses on big data for official statistics of the Statistical Institute since 2018, with an emphasis on strengthening the capacity of national statistical offices in the region to incorporate big data into their statistical production process. The Government of Malaysia hosted the sixty-second International Statistical Institute World Statistics Congress, and the Government of Indonesia hosted the regional workshop on the use of mobile phone data for official statistics with a focus on human mobility. Other notable efforts include the well-attended Symposium on Data Science and Official Statistics and a special topic session on Asia-Pacific experiences with big data, which was chaired by Australia and included presentations from China, Nepal, the Philippines and Thailand.

45. With regard to action area 3, ESCAP has developed technical expertise primarily in the area of using satellite data for data disaggregation, with a focus on poverty, urban resilience and disasters. The secretariat participated in the 2018 Conference of the International Association for Official Statistics and presented on the use of spatial data to measure the resilience of urban development. The work, which relied on a combination of ESCAP expertise and country experiences, was also included in the *Asia-Pacific Disaster Report*

2019,¹⁴ specifically in the identification of four distinct hotspots in the region where fragile environments and critical socioeconomic vulnerabilities converge.

46. With regard to action area 4, resource mobilization efforts have been very successful. Resources were mobilized to support the regional workshop on the use of mobile phone data for official statistics with a focus on human mobility and to document institutional and governance arrangements for using scanner, online and administrative data for price statistics. Resources have also been secured to support national efforts to fulfil the commitments contained in the Declaration on Navigating Policy with Data to Leave No One Behind, including the commitment to strengthen necessary legislative provisions and institutional mechanisms to enable national statistical systems to take full advantage of new, innovative and frontier technologies, while respecting the Fundamental Principles of Official Statistics.

47. A project proposal to support the further sharing of knowledge and best practices (action area 1) and for outreach activities (action area 2) has been submitted to several funding sources, but no resources have yet been secured at the time of writing. The aim of the project is to respond to country requests, made in the context of the 2017 stocktaking exercise, for information gathering and sharing opportunities, in particular with regard to governance and institutional issues. If successful, the project will result in financial assistance to enable member States to join global dialogues, including the Sixth International Conference on Big Data for Official Statistics.

B. Economic Commission for Europe

48. The Statistics Division of the Economic Commission for Europe (ECE) is very active in the area of big data, and many ESCAP member States contribute to and share experiences through the Conference of European Statisticians.

49. The ECE big data wiki¹⁵ provides access to many resources on big data, including details of big data projects carried out in 2014 and 2015; links to various papers and resources; a 2013 classification of types of big data; a 2014 paper on how big is big data; competency profiles for big data teams and big data team managers; and a 2013 paper on what big data means for official statistics, available in English, French and Russian.

50. In 2019, the Conference of European Statisticians held a special session on accessing and using new data sources. Many country-level experiences were shared at the special session, including from the Republic of Korea.¹⁶ All related papers and presentations are available on the ECE website and offer many lessons and experiences for countries in Asia and the Pacific.

51. The ECE secretariat also has projects in the areas of machine learning, data integration and data architecture which include the use of big data sources, to which various ESCAP member States contribute.¹⁷

¹⁴ United Nations publication, Sales No. E.19.II.F.12.

¹⁵ <https://statswiki.unece.org/display/bigdata>.

¹⁶ See ECE/CES/2019/30.

¹⁷ Information on some of the projects is available at <https://statswiki.unece.org/display/hlgbas>.

C. Association of Southeast Asian Nations

52. In recognition of the potential of big data as a new data source for official statistics, the Community Statistical System Committee of the Association of Southeast Asian Nations (ASEAN) at its ninth session, hosted by the National Statistical Office of Thailand in October 2019, supported the ongoing preparation of a concept paper on the potential use of big data to further enhance official statistics in ASEAN member States.

53. The Community Statistical System Committee noted the increasing use of administrative data sources and big data in the production of official statistics by ASEAN member States. For example, in Indonesia, mobile positioning data is being used to calculate tourism and mobility statistics; administrative data is being combined with traditional multimode data collection for the 2020 population census; and sectoral data quality is being improved to serve as the source of administrative data. In Malaysia, the Census Transformation Programme integrates administrative data from various agencies into the Integrated Population Census System and the statistics, big data and analytics portal (StatsBDA), which comprises modules on the following topics: Trade by Enterprise Characteristics database of the Organization of Economic Cooperation and Development; price intelligence; and public maturity assessment of official statistics and real time business status. In the Philippines, multisource data is being used for Sustainable Development Goal indicator 9.1.1 on the rural access index, which measures the proportion of the rural population who live within 2 km of an all-season road; and administrative data is being used to produce national accounts and statistics on foreign direct investment and international trade in services as well as international merchandise trade statistics and vital statistics. In Singapore, web-based data sources are being used to profile the national Internet economy; prompt forecasting of economic indicators is being carried out using Google Trends; and online price data is being extracted and used in the compilation of the consumer price index.

IV. National initiatives

54. In many countries in the Asia-Pacific region, big data and other non-traditional data sources are being used for the production of official statistics, and experiments with these data sources are being carried out in still more countries. For example, at the sixty-second International Statistical Institute World Statistics Congress, representatives of Thailand and Nepal shared plans for making use of big data while representatives of China and the Philippines shared concrete examples of projects on the use of big data in the production of official statistics, including Sustainable Development Goal indicator 9.1.1.¹⁸ Similarly, at the Symposium on Data Science and Official Statistics, concrete examples of projects on the use of big data and administrative data for official statistics were shared by representatives of Malaysia, the Republic of Korea and the United Kingdom.¹⁹

55. Locating detailed information about projects on the use of big data and other non-traditional data sources for official statistics can be cumbersome. Entry points for national stakeholders seeking such information can include the event (such as the above-mentioned Symposium), data type (such as mobile phone data), statistic (such as consumer price index) and project (such as the

¹⁸ ESCAP, “Big data = big ideas”, Stats Brief, No. 20 (Bangkok, 2019).

¹⁹ Information on the Symposium is available at www.isi2019.org/symposium-on-data-science-and-official-statistics.

Data for Now initiative). National stakeholders seeking information on projects would need to conduct extensive searches and still might not find an example or approach relevant to their situation. The collation of concrete examples could be a favourable area for immediate regional cooperation by the Committee on Statistics.

V. Opportunities for regional action

56. Big data and other non-traditional data sources offer many opportunities for the Asia-Pacific region to achieve the collective vision of enabling and empowering national statistical systems to lead the development of and to deliver innovative, trusted and timely products and services for the urgently needed and evolving statistical requirements of the 2030 Agenda. Globally and regionally, there are many existing opportunities and a growing number of new opportunities for national engagement.

57. As noted above, Asia-Pacific representation in the Global Working Group on Big Data for Official Statistics and its task teams is low. These groups are leading global efforts with regard to statistical standards, frameworks and methodologies for the use of big data for official statistics. Member States could consider joining to ensure that their national circumstances inform the global standards.

58. With regard to projects, the three member States that are initial partner countries for the Data for Now initiative, namely Bangladesh, Mongolia and Nepal, could join the relevant Global Working Group task team to benefit from knowledge and best practices from national statistical offices in other countries. Member States joining projects such as Pulse Lab Jakarta and the initiatives of the Partnership in Statistics for Development in the 21st Century could also join relevant Global Working Group task teams to ensure coherence with global statistical standards under development.

59. National statistical offices could reach out directly to the many partners involved in big data and other non-traditional data sources, be they United Nations entities such as ESCAP and the Statistical Institute for Asia and the Pacific or development partners such as the Global Partnership for Sustainable Development Data. Reaching out to other national statistical offices that are using these data sources in the production of official statistics, for example in Australia, Indonesia, Japan and New Zealand, could also be useful. Big data projects, knowledge-sharing forums and training courses are all available to member States seeking assistance.

60. The use of big data and other non-traditional data sources for official statistics is a new and exciting area of work. Because it is still emerging, however, it could pose a risk to the reputation of national statistical offices. The Friends of the Chair group on the Fundamental Principles of Official Statistics and professional organizations such as the International Association for Official Statistics are aware of this risk, and guidance on the topic is emerging. The Friends of the Chair group guidance on mapping the Fundamental Principles against non-conventional and non-traditional data sources²⁰ is a particularly useful source. An article on rules of engagement for

²⁰ United Nations, “Supplementing the United Nations Fundamental Principles of Official Statistics”.

big data²¹ also offers some guidance. Member States could refer to these guides when deciding whether to use big data and other non-traditional data in the production of their official statistics.

VI. Issues for consideration by the Committee

61. The Committee may wish to discuss how regional collaboration on big data and other non-traditional data sources may best support and strengthen national efforts and how big data may feature in its future work.

62. The Committee may also wish to consider and express its view on each of the opportunities for regional action to support national, regional and global efforts, as outlined in section V of the present document.

²¹ Siu-Ming Tam and Gemma Van Halderen, “The five V’s, seven virtues and ten rules of big data engagement for official statistics”, *Statistical Journal of the International Association for Official Statistics (IAOS)*, vol. 36, No. 2 (June 2020), pp. 423-433.

Annex

Country representation in selected global groups working on big data and other non-traditional data sources

Country/ entity	<i>Global Working Group on Big Data for Official Statistics</i>										<i>Statistical Commission Friends of the Chair group on the Fundamental Principles of Official Statistics and Working Group on Open Data</i>	<i>Data for Now initiative</i>	
	<i>Bureau</i>	<i>Advisory Board</i>	<i>Task team on satellite imagery and geospatial data</i>	<i>Task team on scanner data</i>	<i>Task team on agriculture</i>	<i>Task team on big data and Sustainable Development Goals</i>	<i>Task team on access and partnerships</i>	<i>Task team on mobile phone data</i>	<i>Committee on Global Platform for Data, Services and Applications</i>	<i>Task team on training, competencies and capacity development</i>			<i>Task team on social media</i>
Australia			Chair	Member					Member			Member	
Bangladesh													Initial partner country
China		Member					Member						
Georgia								Member					
Indonesia	Member	Member						Member					
Malaysia												Member	
Mongolia													Initial partner country
Nepal													Initial partner country
Netherlands	Member	Member											
New Zealand				Member								Chair	
Philippines								Member		Member	Member		
Republic of Korea								Member					

Country/ entity	Global Working Group on Big Data for Official Statistics										Statistical Commission Friends of the Chair group on the Fundamental Principles of Official Statistics and Working Group on Open Data	Data for Now initiative
	Bureau	Advisory Board	Task team on satellite imagery and geospatial data	Task team on scanner data	Task team on agriculture	Task team on big data and Sustainable Development Goals	Task team on access and partnerships	Task team on mobile phone data	Committee on Global Platform for Data, Services and Applications	Task team on training, competencies and capacity development		
United Kingdom of Great Britain and Northern Ireland	Chair	Member										
Regional United Nations entities		ESCAP	ESCAP	ESCAP	ESCAP	ESCAP	ESCAP	Pulse Lab Jakarta	Statistical Institute for Asia and the Pacific	ESCAP	ESCAP	United Nations Development Programme Regional Bureau for Asia and the Pacific

Abbreviation: ESCAP, Economic and Social Commission for Asia and the Pacific.