



Economic and Social Council

Distr.: General
13 December 2022

Original: English

Statistical Commission

Fifty-fourth session

28 February–3 March 2023

Item 3 (k) of the provisional agenda*

**Items for discussion and decision: statistical
capacity development**

Statistical capacity development

Report of the Secretary-General

Summary

The present report, which was prepared in accordance with Economic and Social Council decision 2022/324 and past practices, provides an overview of the recent activities undertaken by the Statistics Division of the Department of Economic and Social Affairs of the Secretariat in support of the efforts of countries to strengthen their national statistical capacity and to better respond to new data challenges in the context of the 2030 Agenda for Sustainable Development. The report also provides information on collaborative efforts for synchronizing initiatives and leveraging partnerships and coordination in the area of statistical capacity development, as well as on emerging strategic frameworks. The report also indicates changes to the planned programme due to the impact of the coronavirus disease (COVID-19) pandemic. The Statistical Commission is invited to express its view on the work carried out and the proposals on coordination outlined in the report.

* E/CN.3/2023/1.



I. Introduction

1. The adoption of the 2030 Agenda for Sustainable Development brought increased attention to the need to strengthen the statistical capacity of developing countries to measure, monitor and report on the Sustainable Development Goals, including the associated targets and indicators. In the 2030 Agenda, Member States are explicitly requested to enhance their capacity development support to developing countries with the purpose of increasing significantly the availability of high-quality, timely and reliable data disaggregated by income, gender, age, race, ethnicity, migratory status, disability, geographical location and other characteristics relevant in national contexts.

2. The global indicator framework for monitoring the Goals presents a tremendous challenge to producers of official statistics. Countries must fulfil the new data demands arising from the 2030 Agenda, including defining national targets and indicators, in order to implement it. Countries need to develop and adapt their national statistical systems to respond to those demands and put in place streamlined processes to ensure the timely production of official statistics.

3. In addition to the new challenges created by the 2030 Agenda, many countries still face considerable problems in the production of other key statistics not explicitly covered by the global indicator framework, with some of those problems being exacerbated by the ongoing coronavirus disease (COVID-19) pandemic. Capacity development planning also needs to target these areas and situations.

4. The Cape Town Global Action Plan for Sustainable Development Data, launched during the first United Nations World Data Forum in January 2017, identified the gaps in national statistics programmes and statistical coordination in response to the 2030 Agenda. The Action Plan thus serves as a road map for the capacity development efforts of the Statistics Division of the Department of Economic and Social Affairs of the Secretariat and other international, regional and national agencies involved in the production of official statistics. Section II provides the survey results of the Action Plan of February 2022 and a review of the impact that the COVID-19 pandemic has had on statistical capacity development.

5. Section III provides an overview of the capacity development activities undertaken by the Division to strengthen national statistical systems, especially in the monitoring of the Sustainable Development Goals, as well as in specific substantive areas such as social and demographic statistics, environment and energy statistics, and environmental-economic accounting and economic statistics, and in the cross-domain areas of big data and data science, and geospatial information management.

II. Cape Town Global Action Plan and the impact of the coronavirus disease (COVID-19) pandemic on capacity development activities

A. Monitoring of the state of statistical operations during the pandemic

6. Since May 2020, the Division, in partnership with the World Bank and in coordination with the regional commissions, has regularly surveyed national statistical offices on the impact that the COVID-19 pandemic has had on the operations of their institutes and the adjustments they have had to make in the collection, processing and dissemination of data. After the first survey conducted in May 2020, additional surveys were conducted in July and October 2020 and from April to May 2021. Issues addressed in the surveys included office closures and the

disruptions to data collection caused by the pandemic (May 2020), the extent to which restrictions and disruptions had receded or become more widespread (July 2020) and how the national statistical offices were adapting to their new circumstances, such as by implementing new surveys, developing new protocols for face-to-face data collection, investing in the modernization of their information technology infrastructure and building new partnerships (October 2020).

7. The fourth survey (April–May 2021), in addition to a general monitoring of the status of statistical operations during the global pandemic, was focused on how national statistical offices continued to adapt to their new circumstances one year after the onset of the COVID-19 pandemic. The survey included sections focused on the technological challenges, funding and costs of statistical operations and the issues related to the collection of data on population groups of interest.

8. In May 2021, 69 per cent of national statistical offices participating in the survey indicated that at least some of their staff members had been instructed to work from home, a slight increase with respect to responses to the October 2020 survey. According to the survey, since July 2020, the share of national statistical offices that had not instructed their staff to work from home had remained stable, amounting to approximately one third of the offices. Moreover, differences remained between regions and income levels in the prevalence of staff members working from home. While 94 per cent of the national statistical offices in Europe and Northern America reported to have instructed at least some of their staff to work from home, less than half of the offices in sub-Saharan Africa reported that their staff members were working from home in May 2021. The prevalence of remote work for national statistical office staff also was highly correlated with the level of income of the country, reflecting differences in access to information and communications technology and the equipment and infrastructure necessary for the staff to work effectively from home.

9. Most national statistical offices indicated that census and survey programmes were still the most affected statistical operations as of May 2021. Forty-five per cent of offices reported that census operations were still the most affected, with the figure reaching 57 per cent in upper middle-income countries. Surveys were identified as the most affected operation by 25 per cent of respondents, with an additional 27 per cent listing them as the second most affected. The impact on surveys was the strongest in low- and lower-middle income countries where these percentages were 32 per cent and 29 per cent, respectively. The negative impacts on the operations of national statistical offices were possibly related to changes in funding from Governments or other sources. Forty-eight per cent of offices reported a decrease in government funding. National statistical offices in sub-Saharan Africa more often reported a decrease in funding from these sources. In addition, 4 in 10 offices reported that data collection costs have increased since the beginning of the pandemic.

B. Survey on the implementation of the Cape Town Global Action Plan

10. In many ways, the period from 2020 to 2021 catalysed innovation among national statistical systems, with many embracing public-private partnerships for the use of mobile data, satellite imagery and other technologies to better understand the effects of the COVID-19 pandemic on health, jobs, migration, violence against women and a wide range of other issues. The pandemic has also shown that while there has been progress, the playing field among national statistical systems is deeply uneven. Even before the pandemic, many countries struggled to produce and use the data and statistics that they needed to monitor and work towards achieving the Sustainable Development Goals, and the pandemic has only exacerbated these struggles.

11. To gain insight into the pressures and opportunities that national statistical offices have been facing on issues ranging widely from funding to capacity development, the World Bank, the Partnership in Statistics for Development in the Twenty-first Century (PARIS21) and the Division conducted a survey from August to September 2021. More than 100 offices completed the survey. The main findings were that, while the fundamentals of functioning national statistical systems were in place in most respondent countries, almost half of the offices reported that their countries had statistical laws that were more than ten years old. They also reported that a substantial percentage of those countries lacked data privacy and access safeguards, highlighting the need to keep statistical legal frameworks up-to-date in the context of a rapidly changing data ecosystem.

12. To be able to better respond to the new data demands of the 2030 Agenda, over 80 per cent of respondent national statistical offices identified the use of administrative data as a high-priority area for expanding their capacity. In terms of funding needs and requirements, the importance of administrative and geospatial data emerged as top priorities. Almost all of the offices in low- and lower-middle-income countries expressed the need for the support of partners in enhancing their capacity to capitalize on new technologies, methods and data sources to effectively establish new multi-stakeholder partnerships. In addition, more than two thirds of the offices consider that data management, processing and analysis are high-priority areas for training.

13. The pandemic has highlighted data gaps and exacerbated inequalities among national statistical offices: more than one year after the onset of the pandemic, connectivity issues and inadequate remote data processing capabilities were still among the most common challenges they faced, with stark differences in information and communications technology readiness across countries with different income levels. Furthermore, most developing countries prioritized funding shortages for their economic, agricultural and population and housing census programmes. Health was identified as the top policy sector in need of support for statistics by national statistical offices in developing countries, followed by social protection, education and economic affairs.

C. Changing modalities of capacity development activities

14. Many of the aforementioned issues indicate the need to change the way that national statistical offices operate and deal with ongoing and new challenges, but they also require changes to the ways capacity development is delivered to offices in need.

15. With physical meetings being impossible to conduct during most of 2020 and 2021, great efforts have been made to develop new capacity development activities using newly available tools while also recognizing their limitations, whether as modified versions of the originally planned activities, as new activities replacing previously planned activities or as new activities directly addressing data needs created by the COVID-19 pandemic.

16. The Division has modified a number of planned physical events to organize them as virtual events. Experience in the Division, as well as knowledge obtained from other users, has shown the limitations of this approach. These limitations include the length of meetings to ensure the undivided attention of the participants, personal interactions during meetings and the technical aspects of interpretation services. Virtual events have been designed to maximize their effectiveness, given the limitations. As a result, some virtual events have had to be spread out over a longer period of time (e.g. two-hour sessions per day conducted over six weeks instead of a single three-day event) or have had to be reduced in content and interaction compared

with what would normally have been planned for a physical meeting. On the one hand, a benefit of this approach was that the participants had the time to review the materials and assimilate the information between sessions, which was not always feasible in an intense one-week workshop. On the other hand, event organizers agreed that meetings that relied primarily on interactions were still best organized as physical events and therefore postponed them.

17. An apparent advantage of virtual events is the larger number of participants who are able to follow the proceedings of such events through recent advances in technology that facilitate such arrangements. The Division continues to evaluate different formats of virtual events to improve the efficiency of future events.

18. The development of e-learning courses has gained momentum in the Division in the last few years, either as stand-alone activities or as components of hybrid capacity development activities. The COVID-19 pandemic has highlighted the usefulness of e-learning courses and has prompted the faster development of such courses and their application to a wider range of statistical domains.

III. Implementation of the capacity development programme of the Statistics Division in the period 2021–2022

19. The Division organized 181 capacity development activities from 2021 to 2022, of which more than 75 per cent were webinars and virtual workshops. Hybrid and in-person events gradually started to be organized again in 2022. A breakdown of activities by statistical domain is shown below.

20. The table below shows the number of webinars, virtual workshops, and physical and hybrid workshops carried out in different domains, aggregating those carried out under different funding schemes (regular programme of technical cooperation, Development Account and externally funded projects).

Number of capacity development activities by statistical domain and type, 2021–2022

<i>Statistical domain</i>	<i>Webinars</i>	<i>Virtual workshops</i>	<i>In-person and hybrid workshops</i>	<i>Total</i>
Sustainable Development Goal monitoring	9	21	6	36
Social and demographic statistics	15	4	8	27
Environment, energy and environmental-economic accounting	17	12	12	41
Economic statistics	2	8	2	12
National statistical systems	14	17	3	34
Innovative data approaches	13	–	6	19
Geospatial information	8	1	3	12
Total	78	63	40	181

21. More detailed information on the capacity development activities is provided in a corresponding background document. Hereafter, some highlights and summary information are provided for each of the substantive domains in which the Division is actively providing capacity development assistance.

A. Sustainable Development Goals monitoring

22. A project on monitoring the Sustainable Development Goals was launched in 2017 by the Division with support from the Foreign, Commonwealth and Development Office (formerly the Department for International Development) of the United Kingdom of Great Britain and Northern Ireland to make the Sustainable Development Goal indicators available to the broadest possible audience and to strengthen the capacity of countries in the compilation and use of the indicators, covering 20 countries in Africa and Asia. Key activities include the establishment of national data and metadata platforms for the Goals, data modelling in line with the Statistical Data and Metadata Exchange (SDMX) standard, the creation of national metadata relating to the Goals, data-sharing arrangements and user engagement activities on monitoring of the Goals. Ahead of the pandemic, a number of in-person training sessions took place on these various activities.

23. Despite the challenges linked to the COVID-19 pandemic, including a reduction in funding, the project was quickly adapted to a remote work context and also included a component on COVID-19 data. Several online webinars and trainings have been held to support the project countries in their work to increase the availability of data and metadata relating to the Goals as well as data relating to COVID-19, and to make these available to the public. The project was closed at the end of 2022, but many relevant resources will remain available on its website.¹ Key achievements are presented in a background document on the project under the Sustainable Development Goals agenda item of the Statistical Commission.

24. Other capacity development activities on monitoring the Goals included a poverty measurement workshop held in Bangladesh in June 2021, a workshop on monitoring the Goals held in China in January 2022, national training workshops on using geospatial information to calculate indicators for the Goals held in Kyrgyzstan in May 2022 and held in Burundi in June 2022, and a workshop on the use of small area estimation for the Goals held in Ethiopia in June 2022.

25. A workshop on data and statistics for evidence-based voluntary national reviews was organized by the Division in July 2021. The voluntary national review labs invited national statisticians and policymakers from Eritrea, Pakistan, Somalia and Switzerland to present their voluntary national reviews at the 2022 high-level political forum on sustainable development. Each country shared its experiences and best practices on the data innovations and the tools for monitoring the Goals that were used to prepare their evidence-based and data-driven 2022 voluntary national reviews. In this respect, a webinar held in January 2022 highlighted country experiences, best practices and challenges in developing evidence-based voluntary national reviews, focusing on the following topics: integrating non-traditional data sources and data innovations with official statistics and building partnerships with different data stakeholders; data gap analysis, platforms and visualization; and data disaggregation and leaving no one behind.

26. For some of the topics, online microlearning trainings have been developed and made available to the general public via the e-learning platform of the Division.

27. In addition to the above-mentioned projects and activities, the Division is also carrying out other activities with the main aim of supporting countries in increasing the availability of data for the Goals. Some of these activities are listed under other headings below and are further described in the report of the Secretary-General on

¹ See <https://unstats.un.org/capacity-development/UNSD-FCDO/>.

work for the review of progress towards the Sustainable Development Goals (E/CN.3/2023/3).

B. Social and demographic statistics

28. The International Committee on Census Coordination regularly meets to discuss country situations and support needs with regard to the implementation of population and housing censuses. The Committee exchanges information on upcoming events, conferences and meetings. Several capacity development activities have taken place in the period from 2021 to 2022. For example, a regional workshop on the 2020 World Population and Housing Censuses was organized in a virtual format for French-speaking African countries on 26, 27, 31 January and 1 February 2022. The objective of the workshop was to introduce the latest international guidelines with a view to facilitating preparations for the 2020 round of population and housing censuses. The workshop also provided an opportunity to discuss the impacts of the COVID-19 pandemic on conducting censuses and possible modifications in census procedures and to assess the status of census-taking in participating countries. Another example was the training workshop on population and housing censuses that took place in Guatemala City in October 2022 and was aimed at achieving improved understanding of register-based approaches in conducting censuses and building capacity in assessing the availability and initial quality of administrative data sources.

29. The Development Account project the collection and use of international migration data in the context of the 2030 Agenda for Sustainable Development and the New York Declaration for Refugees and Migrants” is currently under implementation by the Division in cooperation with the Economic Commission for Latin America and the Caribbean (ECLAC), the Economic and Social Commission for Asia and the Pacific (ESCAP) and the United Nations Office on Drugs and Crime. The working group on international migration statistics of the Statistical Conference of the Americas of the Economic Commission for Latin America and the Caribbean met in April 2021 and discussed their programme of work, including the assessment of national capacities for the production of international migration statistics. Also within this context, the Expert Group on Migration Statistics met in Rabat in June 2022 and reviewed the outputs of its task forces, including the proposed indicators for key policy areas to monitor international migration and migrant well-being and documented the challenges experienced by countries with the implementation of the revised conceptual framework.

30. The Expert Group on Innovative and Effective Ways to Collect Time-Use Statistics held virtual meetings in April 2021 and February 2022. The Expert Group started its work in June 2018 with the overall objectives of taking stock and reviewing country practices in time-use surveys and providing recommendations and technical guidance to improve the collection and use of time-use data, including on unpaid work, using the latest technologies and in support of the implementation of the Sustainable Development Goals. The Expert Group finalized three reports in 2022 on the Minimum Harmonized Instrument for the production of time-use statistics; digitalization of time-use data collections; and quality considerations for time-use surveys. The twentieth International Experts Meeting on Time Use and Unpaid Work was co-organized by the Division and several other organizations in Aguascalientes, Mexico, in October 2022.

31. In addition, several webinars were organized on gender statistics, poverty mapping using small area estimates and the use of administrative data to improve indicators on violence against women. Special mention can be made of the eighth Global Forum on Gender Statistics, which took place virtually on 30 September and 1 October 2021. The Forum covered the use of gender statistics to inform

policymaking and the monitoring of progress made towards gender equality, especially during times of crisis; the use of time-use statistics to measure gender equality; and innovations in measurement with a particular focus on African countries.

32. Special mention can also be made of the hybrid international seminar on the theme “Measuring shared prosperity and inclusion: challenges and innovative approaches” which was held in Hangzhou, China, in November 2022. Each session of the seminar was focused on specific aspects of the main topic, including the use of household surveys and innovative approaches for data collection to measure poverty, prosperity and inclusion; integration of data from different sources to improve the inclusiveness on data on poverty; experience from national statistical offices in assessing inequality in poverty and ensuring inclusiveness; the alignment of household survey data with the System of National Accounts (SNA); and broader concepts of poverty.

C. Environment, energy and environmental-economic accounting

33. The Division co-organized several training events in 2021 on compiling data for Sustainable Development Goal indicator 11.6.1 on municipal solid waste generation and treatment, as well as for indicator 6.3.1 regarding urban water treatment. For example, the Division participated in the fourth Global Water Operators’ Partnerships Congress in a session on urban water treatment. The Congress convened public water utility operators, facilitators, donors, workers’ unions and civil society organizations to take on the actions, impacts and opportunities to enhance the progress being made towards Sustainable Development Goal 6.

34. The Division continued delivering implementation support and capacity development activities through two regular programme of technical cooperation projects on training materials and implementation guidelines on developing national sets of climate change statistics in 2021 and on support to countries to initiate the development of national programmes of climate change statistics and indicators in 2022. As part of the latter project, the Division in collaboration with ECLAC and the National Institute of Statistics and Information of Peru organized a five-day national mission from 12 to 16 December 2022, including a three-day workshop to initiate the development of a national programme of climate change statistics and indicators in Peru.

35. The Division also participated in several capacity development activities in 2021 and 2022 as part of a project on Caribbean-relevant climate change and disasters indicators for evidence-based sustainable development policies, which was carried out under the twelfth tranche of the Development Account and managed by ECLAC in close collaboration with the Caribbean Community. The activities included national workshops on this topic held in Suriname in July 2021 and in Grenada and Saint Lucia in November 2021 as well as a regional hybrid workshop in Chile in August 2022.

36. With regard to energy statistics, a virtual workshop on bio-energy monitoring and reporting in Africa was organized in conjunction with the African Energy Commission in June 2022, and a virtual workshop, in conjunction with the secretariat of the United Nations Framework Convention on Climate Change, was organized in January 2022 on quality assurance in the context of the national energy information management system and energy statistics of Ghana in January 2022 with the United Nations Framework Convention on Climate Change. Similar national workshops were held in hybrid format for Benin, Burkina Faso, the Niger and Togo in September 2022.

37. As part of the implementation of the System of Environmental-Economic Accounting (SEEA), several projects were executed from 2021 to 2022. A project on

natural capital accounting and valuation of ecosystem services was launched in 2017 by the Division together with United Nations Environment Programme, the secretariat of the Convention on Biological Diversity and the European Union and was finalized in 2021. It was funded by the European Union and was aimed at assisting the five participating partner countries, namely Brazil, China, India, Mexico and South Africa. Several events were organized in India (January 2021), China (June 2021), Brazil (November 2021) and Mexico (December 2021).

38. The three-year Development Account project on environmental-economic accounting for evidence-based policy in Africa and Asia carried out under the twelfth tranche, started in 2020. The project was aimed at addressing the technical and institutional barriers to the establishment of routinely produced environmental-economic accounts at the national level in five countries: Bhutan, Kenya, Mozambique, Philippines and Senegal. Training events were organized in Senegal in May, August and November 2021 and in July 2022. Similar events were organized under this project in Kenya in August and September 2022, in Mozambique in July and September 2022 and in the Philippines in May and July 2021 and in September 2022.

39. Several e-learning courses on environmental-economic accounting and on energy statistics have been produced and made available on the e-learning platform of the Division. The Division organized a global e-learning programme on the System of Environmental-Economic Accounting-Ecosystem Accounting between April and June 2022 in collaboration with the Statistical Institute for Asia and the Pacific and a regional e-learning programme for Latin America in May 2022 in collaboration with ECLAC.

D. Economic statistics

40. The Network of Economic Statisticians was established in 2021 with the intent to create an agile, collaborative and highly impactful approach for improving the responsiveness of the system of economic statistics to fast-evolving policy demands. On 1 November 2021, the Division organized the first virtual organizational sprint meeting, or intensive working meeting, of the network. Additional thematic sprints were organized on global facilitation of access to privately held data for official statistics and on measures that go beyond Gross Domestic Product, and held in several sessions in 2021. In June 2022, the network also organized a sprint on the measurement of inflation of owner-occupied housing to discuss the various methods employed in the measurement of the owner-occupied housing services costs in the consumer price index.

41. The Division held its annual six-week e-learning course on international merchandise trade statistics from March to April 2022. The objective of the course is to enhance the capacity of trade statisticians to apply the most recent internationally agreed recommendations, define the best possible data sources, set up or enforce collection systems and strengthen statistical production processes. The online course was attended by 1,129 participants, including 49 females, from 163 countries or areas. The majority of the participants came from national statistical institutes, followed by those in academia and data users. The Division also conducted an e-learning foundational course on statistical business registers from September to November 2022 in collaboration with the Statistical Institute for Asia and the Pacific and the Asian Development Bank. The course was developed under the overall guidance of the Committee of Experts on Business and Trade Statistics; experts from this Committee also contributed to the delivery of the course.

42. A global conference on the theme “Macroeconomic statistics for the future” was held in Brussels on 10 and 11 November 2022. The event was jointly organized by the Division and Eurostat to discuss the ongoing updates of the SNA and the *Balance of Payments and International Investment Position Manual*. It was attended by 170 participants from national statistical offices, central banks, regional and international organizations and academia. Priority areas of discussion included sustainability and measures that go beyond GDP, digitalization, globalization and communication. In addition, the Network of Economic Statisticians provided an overview of its activities and findings based on consultations on such measures (see also [E/CN.3/2023/8](#), para. 9).

43. In the context of the outreach programme for the update of the 2008 SNA,² the Division in collaboration with the regional commissions organized a range of online meetings to keep countries informed on the update process and to receive feedback. These included an Economic Commission for Africa webinar as well as a joint international workshop with the National Bureau of Statistics of China with participants from member countries of ESCAP. A meeting of the Group of Experts on National Accounts of the Economic Commission for Europe (ECE) was focused on issues associated with the update.

E. Management and organization of national statistical systems

National statistical systems

44. *The Handbook on Management and Organization of National Statistical Systems* was endorsed by the Statistical Commission in March 2021 as guidance for chief statisticians and senior managers of national statistical offices on how to develop and maintain national statistical capacity that is fit for purpose. To remain relevant in a rapidly changing data ecosystem, the Handbook has been designed as a “living document” to be regularly updated and revised. It went live in October 2022.

45. From April to June 2021, the Division conducted a series of online training workshops on user engagement for those working with official statistics in Bangladesh and the United Republic of Tanzania, which included participants from the national statistical offices, line ministries and other government agencies and institutions, with both producers and users of data for the Sustainable Development Goals. The Division and the Statistical, Economic and Social Research and Training Centre for Islamic Countries also organized a workshop which addressed the call to build resilient, inclusive and integrated statistical systems under the leadership of national statistical offices to respond to increased and urgent data demands in times of disaster.

46. In January 2022, the Division organized a webinar with Latvia, Maldives and South Africa to share experiences on the importance and limitations of existing legal and regulatory frameworks on official statistics, the opportunities and challenges of institutional frameworks to improve data governance and the possibilities for national statistical offices to act as data stewards within the broader data ecosystem.

Data stewardship

47. In March 2022, 20 national statistical offices and partner organizations met in the context of the working group on data stewardship and discussed national data governance and legal frameworks, equity and inclusion, data sharing and collaboration, data stewardship and the city data agenda, and the conceptual framework of data stewardship. In the same month, another webinar was held on

² See <https://unstats.un.org/unsd/nationalaccount/SNAUpdate/Outreach.asp>.

enabling a data-driven culture between the national and city levels: How can national statistical offices and city data officers work together?

National quality assurance framework

48. A virtual international workshop on the implementation of a national quality assurance framework was organized by the Statistics Division, the National Bureau of Statistics of China and ECE in January 2022. Quality assurance includes coordinating the national statistical system; managing relationships with data users, data providers and other stakeholders; managing statistical standards; and assuring professional independence. It further covers assuring methodological soundness, cost effectiveness, relevance, accuracy and timeliness, as well as managing the response burden. Several webinars on this topic were also organized in February 2021 and in July and November 2022.

Statistical Data and Metadata Exchange

49. The Division organized a series of virtual workshops on the use of SDMX for data reporting on the Goals for Nepal in January 2021, Ghana in March 2021, Cambodia, the Lao People's Democratic Republic and Viet Nam in April 2021, Bangladesh and Liberia in May 2021 and Thailand in July 2021. Participants received hands-on skills training in SDMX data modelling, mapping indicators for the Goals to the global Sustainable Development Goal Data Structure Definition, the use of advanced SDMX tools and transmission of national indicators to the United Nations Global Platform.

Use of administrative data

50. The Collaborative on the Use of Administrative Data for Statistical Purposes was initiated in May 2020 as a response to the urgent need for more timely and disaggregated data to inform the progress of the 2030 Agenda as well as to respond to the COVID-19 pandemic and its socioeconomic effects. A key objective of the Collaborative is to address both urgent and longer term needs to access and use administrative data for statistical purposes in a coherent and cross-cutting manner, building on advances made in various sectors and by different partners. The Collaborative is co-convened by the Statistics Division and the Global Partnership for Sustainable Development Data and has members from over 20 countries as well as from regional and international agencies.

51. A key goal of the Collaborative is to facilitate experience exchange across partners and develop practical guidance and tools. Key outputs include an inventory of over 100 resources, including country case studies, guidance and a template on developing a memorandum of understanding between administrative data holders and national statistical offices, and webinars and expert clinics that discuss various aspects of the work.

52. Related to the Collaborative, the Division is also implementing a Development Account project carried out under the thirteenth tranche, supporting eight countries in Africa, Asia and Latin America in improving access to and use of administrative data. More details about the work of the Collaborative and the project can be found on its webpage³ and in the background document on the topic under the Sustainable Development Goals agenda item of the Statistical Commission.

³ See <https://unstats.un.org/capacity-development/admin-data/>.

Coronavirus disease pandemic recovery

53. The project “Resilient and agile national statistical systems to meet post COVID-19 data needs to recover better”, under the fourteenth tranche of the Development Account, is expected to strengthen the capability of the national statistical systems of target countries to collect, process and disseminate data and statistics to inform COVID-19 pandemic recovery policies. The project shall eventually enhance the resilience and agility of national statistical systems to respond to emerging economic, social and environmental data needs in times of crises and disasters through the use of innovative data sources, advanced data acquisition methods and modern technologies while ensuring a path towards the achievement of the 2030 Agenda. The project, with an initial budget of \$3 million, spans from September 2022 to September 2025 and is implemented by the Statistics Division jointly with the Economic Commission for Africa, ECE, ESCAP, ECLAC, the Economic and Social Commission for Western Asia, the United Nations Development Programme and the United Nations Office on Drugs and Crime.

F. Innovative data approaches for official statistics

54. The Committee of Experts on Big Data and Data Science for Official Statistics is mandated to develop methods, tools and applications for the use of big data and data science in the compilation of statistics and indicators. In addition, the Committee is tasked to develop training materials and conduct training activities in this innovation space. In the 2021–2022 period, the members of the Committee organized many webinars and several larger capacity development events.

55. In January 2022, a conference on mobilizing big data and data science for the Sustainable Development Goals was held at Expo 2020 in Dubai, United Arab Emirates, organized by the Committee of Experts and the Government of the United Arab Emirates. Highlights included the ceremonial launch of the regional hub on big data for the Middle East and North Africa, the award ceremony of the United Nations youth hackathon held in 2021 and the launch of the United Nations Privacy-Enhancing Technologies Lab. In June 2022, several workshops were conducted in Rwanda to support the regional hub on big data for Africa, targeting different levels of organization and governance structure for the hub and drafting a strategic workplan which was presented during the Statistical Commission for Africa meeting in November 2022.

56. The seventh International Conference on Big Data and Data Science for Official Statistics was held in November 2022 in Yogyakarta, Indonesia, on the theme “Global challenges and the importance of relevant and timely data”. The Conference featured high-level panels on sustainability and global economic recovery, food security and access to relevant data, as well as several mini-workshops. It also served to promote data innovation, launch several new initiatives and showcased creative solutions by the hackathon teams to help address global challenges.

57. The Data for Now initiative supports countries in the use of innovative sources, technologies and methods for the streamlined production and dissemination of better, more timely and disaggregated data on key areas related to specific Sustainable Development Goals. It is co-led by four partners, including the Statistics Division. The initiative emphasizes country ownership, sustainability and scalability as the key principles guiding the design and execution of activities aimed at integrating new methods and sources into existing national statistical systems and explicitly seeks to avoid creating parallel data production processes at the country level.

58. In 2022, the Division focused on initiating and implementing capacity development activities in a number of countries in Africa, Asia and Latin America through various projects, with funding from the Governments of Italy, Norway and the United Kingdom. The Data for Now initiative also hosted a series of inspiration workshops in March and April 2022 which showcased examples of how countries are working on the use of innovative data sources, methods and tools, engaging with a wider set of partners and improving their information technology infrastructure to facilitate the integration of innovation approaches.

59. More details about the work can be found on the webpage of the initiative as well as in a background document prepared for the Commission at its fifty-third session.

G. Geospatial information management

60. In April 2021, the Committee of Experts on Global Geospatial Information Management and the member institutes of the Committee for the Coordination of Statistical Activities organized an international workshop on the integration between geospatial and statistical information. National workshops on capacity-building for geospatial information actors were held in Ethiopia in May 2022 and in Mali in September 2022. Several events were organized by the Caribbean Geospatial Development Initiative to create awareness of the value of leveraging geospatial and statistical data to support policy development among senior decision makers in the region, as well as to build awareness of the importance of geographical names standardization and the principles and techniques of geographical naming with a special focus on cultural heritage among geographers, cartographers and cultural historians across the Caribbean.

61. At the eleventh and twelfth sessions of the Committee of Experts on Global Geospatial Information Management in August 2021 and August 2022, many items were discussed, such as strengthening geospatial information management; the Integrated Geospatial Information Framework; the sustainability and quality of a global geodetic reference frame; how geospatial information supports and informs the Sustainable Development Goals; the implementation of the Global Statistical Geospatial Framework, the Framework for Effective Land Administration and the Strategic Framework on Geospatial Information and Services for Disasters; and progress and activities of the Committee's regional committees.

62. Other key activities included the inauguration of the United Nations Global Geospatial Knowledge and Innovation Centre in Deqing, China, in May 2022, and the second United Nations World Geospatial Information Congress on the theme of “Geo-enabling the global village: no one should be left behind”, held in Hyderabad, India, in October 2022. The Congress facilitated effective outreach to the next generation through a dedicated youth forum titled “Geo-enabling the global village with Generation Z and Alpha”.

IV. Coordination of capacity-building programmes

63. The Global Network of Institutions for Statistical Training was formally endorsed by the Statistical Commission in 2018 and has since worked to improve the coordination of statistical training. The Global Network has a webpage about the statistics courses available via the online gateway “UN SDG:Learn”, which is a hub for e-learning and face-to-face courses on sustainable development topics. The hub gives information about and access to more than 150 courses provided by many

statistical institutes. All of the e-learning courses developed by the Statistics Division are routed to the learning management system⁴ of the Division.

64. The Global Network commissioned two reports in the period 2021–2022. In February 2021, it issued one, entitled “Report on the project ‘Improving trainings that focus on coordination of the national statistical system’”, which was based on the results of interviews with eight countries (Armenia, Ethiopia, Fiji, Ghana, Mexico, Morocco, Mozambique and Viet Nam) and indicated that measures to improve the management of the national statistical systems included improving the legal basis for the systems; better regulations for standards throughout the systems regarding planning, data collection, processing, dissemination, data protection and confidentiality, quality assurance and metadata; and better coordinated reporting to international organizations. In March 2021, it published *Sustainable statistical training programs at National Statistical Offices*, which covers organizing training programmes, identifying training needs, meeting training needs, focusing on e-learning and evaluating training for continuous improvement. The main recommendations from this report are to establish a collection of e-learning resources on a single international multilingual platform to reduce duplication of e-learning creation efforts among offices and to ensure quality resources, develop a document that recommends a standard curriculum for the training programmes of national statistical offices, provide recommendations on the first steps towards establishing a training programme and strengthen coordination among international and regional organizations and clarify the role of each in statistical training.

65. The Committee of Experts on Big Data and Data Science for Official Statistics task team on training, competencies and capacity development develops tools to help countries build capacity to enable them to use innovative data approaches. The task team has developed a competency framework for big data acquisition and processing,⁵ the Big Data Maturity Matrix, and the Big Data Training Catalog. The competency framework is intended to provide general guidance for national statistical offices when hiring, assessing knowledge gaps, and training staff in specific areas, thus helping the offices to achieve their strategic business goals now and in the future. The maturity matrix is a self-assessment tool to help national statistical offices to understand the extent to which they have developed or implemented big data infrastructure and applications. It therefore aims to help the offices to understand their level of organizational maturity with respect to big data development and also to identify their strengths and weaknesses, from which a development plan or road map may be produced.

66. The Big Data Training Catalog application serves to link users to training courses and materials on big data-related topics and allows users to define a personal learning path. The application is built on the concepts of the competency framework and includes a searchable catalogue, learning paths and course evaluations. In the personal learning path section, users first select the kind of user they are (e.g. “Manager” or “Data Scientist”), identify the core skills they want to learn about (e.g. “machine learning”) and then assess their level of knowledge on the selected core topics (e.g. “Foundation level (Beginner)”). Once they fill out the personal profile and click on the search button, the application provides a list of the most appropriate resources for the specified situation. These resources are mostly online courses that are provided free of charge or with tuition by academic institutions or private sector organizations.

⁴ See <https://learning.officialstatistics.org>.

⁵ See https://unstats.un.org/bigdata/task-teams/training/UNGWG_Competency_Framework.pdf.

V. Targeted development and evaluation of capacity-building programmes

A. Competency frameworks for official statistics

67. Strong statistical, technical, leadership and management skills are necessary for the production, management and dissemination of quality official statistics.⁶ The Statistical Institute for Asia and the Pacific has developed a core skills framework for statisticians of national statistical offices in developing countries that could be used as the basis of the competency framework for these offices. It includes general statistical knowledge, analytical skills and knowledge and skills related to the various elements of the generic statistical business process model.⁷

68. A competency framework⁸ is used and promoted in the United Kingdom to assess the technical skills of government statisticians and data scientists when they enter the profession and as they progress through the grades of the framework. Similar to the skills framework of the Statistical Institute for Asia and the Pacific, the framework of the United Kingdom serves to identify the different levels of skills needed, such as those of a statistical officer, who would work with users and data suppliers to establish new uses of existing data sources, taking ethical considerations into account, or those of a senior statistical officer, who would not only proactively engage users to design and implement new work but would also share expert knowledge of familiar and alternative data sources to enhance the understanding of users and other analysts and would lead requirement gathering for complex analytical projects. Those in higher level positions would then go into building networks of users and interested parties across multiple areas and building plans for statistical development programmes.

69. In a more specialized sense, the competency framework for big data acquisition and processing⁹ is intended to provide guidance for the national statistical offices when hiring, assessing knowledge gaps and training staff. It covers the wide array of skills and knowledge considered relevant for those working with big data acquisition and processing. The proposed framework involves core competencies as well as a more general set of soft skills. They are outlined with reference to a simplified statistical production process and are followed by thematic blocks. The framework contains an appendix that can serve as a reference catalogue of selected information technology programs and tools.

B. Maturity models for modernization of statistical production

70. Modernizing statistical production is a key priority for all national statistical offices. The High-level Group for the Modernization of Official Statistics developed a modernization maturity model and an associated road map that focus on how to build organizational capabilities through the implementation of certain standards of statistical modernization, such as the generic statistical business process model. They allow national statistical offices to evaluate their current level of maturity against a standard framework and provide the offices with clear guidelines on the steps to take to reach higher levels of organizational maturity more quickly and efficiently.

⁶ See https://www.unescap.org/sites/default/d8files/knowledge-products/TAG_paper_ESCAP_Capacity_Framework.pdf.

⁷ See https://www.istat.it/it/files/2021/09/GSBPM-v5_1.pdf.

⁸ See <https://analysisfunction.civilservice.gov.uk/policy-store/competency-framework-for-the-government-statistician-group-gsg/>.

⁹ See https://unstats.un.org/bigdata/task-teams/training/UNGWG_Compentency_Framework.pdf.

71. The maturity model of the High-level Group is a self-evaluation tool to assess the level of organizational maturity with several distinct dimensions, each of which has different levels of maturity. The dimensions are business (the core business practices and policies of a national statistical office), methods (statistical methodology and quality assurance), information, applications and technology. The levels range from initial implementation to mature implementation.

72. Similarly, the aforementioned Big Data Maturity Matrix of the Committee of Experts on Big Data and Data Science for Official Statistics training task team is designed to group the key areas of big data development into four dimensions: legal and policy framework, information technology infrastructure, human resources and application.

C. Targeted capacity development programmes

73. Competency frameworks can be developed for general skill sets as well as for the specific functions of a national statistical office to identify the different levels of skills needed. Maturity models for the self-assessment of existing statistical capacity can also be worked out along various dimensions and with different levels of maturity. Could competency frameworks together with maturity models, therefore, lead to more targeted capacity development programmes, including personal learning paths and corporate training needs? Should a shift from a supply-oriented provision of training to a demand-based provision, based primarily on country needs, take place? Could such a shift still work at a regional level, or should training in the future be based more on the particular country?

74. Over the past two years, many capacity development activities have been held remotely due to the COVID-19 pandemic. More e-learning courses have also been developed, as can be seen via the UN SDG:Learn gateway. In this regard, the following questions will need to be considered:

(a) Will the modalities for capacity-building activities be significantly changed for the post-COVID pandemic era?

(b) What are the positive elements of the lessons learned over the past two years that can help capacity development be more effective?

(c) Would the combination of e-learning with in-person activities be the most effective way of improving knowledge and skills?

(d) Which forms of combining e-learning with other activities would be the most efficient?

75. Many questions can also be posed in relation to the evaluation of the effectiveness and impact of statistical capacity development. Ultimately, it is most important that a national statistical office can serve its country to the best of its abilities and provide trustworthy, relevant and timely information.

76. After the surveys on the monitoring of the state of statistical operations during the COVID-19 pandemic and after the survey on the implementation of the Cape Town Global Action Plan, it may be the right moment to start an in-depth analysis of targeted capacity development programmes, carried out in collaboration with relevant partners, to address the questions posed above.

VI. Action to be taken by the Statistical Commission

77. The Commission is invited:

(a) To acknowledge and support the work done by the Statistics Division on capacity development;

(b) To support the proposal for an in-depth analysis, carried out in collaboration with relevant partners, of targeted capacity development programmes on the basis of corresponding competency frameworks and maturity models and to report back on this analysis at the fifty-sixth session of the Commission in 2025.
