

Thematic Evaluation Series

Evaluation of FAO's statistical work

Annex 3. Benchmarking study

Required citation:

FAO. 2020. *Evaluation of FAO's statistical work. Annex 3. Benchmarking study*. Thematic Evaluation Series. Rome.

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Acronyms and abbreviations

APCAS	Asia and Pacific Commission on Agricultural Statistics
ASEAN	Association of Southeast Asian Nations
BMGF	Bill and Melinda Gates Foundation
CapED	Capacity Development for Education Programme
CapEFA	Capacity Development for Education for All
CCSA	Committee for the Coordination of Statistical Activities
CS	Chief Statistician
DfID	Department for International Development
ED-DQAF	Data Quality Assessment Framework for Education Statistics
ERS	Economic Research Service
ESS	(FAO) Statistics Division
GSBPM	Generic Statistical Business Process Model
GEM	Global Education Monitoring
ICLS	International Conference of Labour Statisticians
ISCP	Interagency Council on Statistical Policy
ILO	International Labour Organisation
NASS	National Agricultural Statistics System
OCS	Office of Chief Statistician (FAO)
OECD	Organisation for Economic Co-operation and Development
OIRA	Office of Information and Regulatory Affairs
OMB	Office of Management and Budget
PWB	Programme of Work and Budget
TCG	Technical Co-operation Group
UIS	UNESCO Institute for Statistics
UNAIDS	Joint United Nations Programme on HIV/AIDS
UNEP	United Nations Environment Programme
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNFPA	United National Population Fund
UNIDO	United Nations Industrial Development Organization
UNSC	UN Statistics Commission
UNSD	United Nations Statistics Division
USDA	United States Department of Agriculture
UOE	UNESCO/OECD/Eurostat

1. Introduction

1. The benchmarking study was carried out as part of the *Evaluation of FAO's statistical work* (2019) for the purpose of identifying practices that could inform the work of the Food and Agriculture Organization of the United Nations (FAO). Four organizations were reviewed in detail. The International Labour (ILO) and the United Nations Educational, Scientific and Cultural Organization (UNESCO) are specialized agencies of the United Nations, like FAO. The United States Department of Agriculture's Economics Research Service (ERS) and National Agricultural Statistics System (NASS) are federal statistical agencies within the Federal Statistical System of the United States. Unlike the UN organizations studied ESR and NASS are part of a national statistical system; they are included in this study because, their technical area of interest is in agriculture, like FAO, and NASS sometimes collaborates with FAO in statistical capacity building activities.
2. The topics covered were the same for all four agencies. The broad areas covered were governance, data production/quality and capacity development, corresponding to the subject areas of the evaluation's key questions. Within each broad area a selection of topics were included corresponding to evaluation sub-questions. The study includes a thorough review of the websites of the organizations and relevant published literature. The statistics portal of each agency was accessed and searches and downloads made from databases. Interviews and email exchanges with one person per organization were used to confirm, clarify and fill gaps in information.
3. As the benchmarking study and the main work of the evaluation proceeded, the issue of governance structure emerged as being particularly relevant to FAO. Six organizations were added to the benchmarking study to allow further exploration of this issue, by reviewing websites and published documents. The additional organizations were: the World Health Organization (WHO) and the United Nations Industrial Development Organization (UNIDO), both specialized UN agencies; the United Nations Environment Programme (UNEP) and United Nations Population Fund (UNFPA), both UN Programmes; and the Organisation for Economic Co-operation and Development (OECD), an inter-governmental international organization with a strong statistics branch outside the UN system.
4. Sections A to C provide a description of the four main benchmarked organizations. Section D summarizes the expanded review of governance structure for the six additional organizations.
5. The final section is more analytical. It draws information from all of the benchmarked organizations to identify issues that may be of relevance to FAO and inform the organization's work in statistics.

2. UN Agency: United Nations, Educational, Scientific and Cultural Organization (UNESCO)

2.1 Mandate/mission with respect to statistics

6. UNESCO works towards building peace through dialogue and mutual understanding, by promoting quality education of children, cultural heritage and dignity of all cultures, and the use of scientific programmes and policies as development platforms UNESCO's work in statistics is intended to serve the organization, the 193 member states and the international community by providing high-quality statistical information on education, science, culture and communication. It is coordinated by the UNESCO Institute for Statistics (UIS).
7. UIS is custodian of most of the global indicators for SDG 4 (Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all) and for the science and technology and culture global indicators in SDGs 9 and 11. UNESCO's work in statistics covers data and indicators that FAO does not collect (UNESCO, 2017).

2.2 Governance: Structure, organization and internal co-ordination of work on statistics

8. The UNESCO Institute for Statistics (UIS), based in Canada, the official statistical agency of UNESCO, was established in 1999. Before that time, statistics had been coordinated by a Division. The aim in establishing UIS was to strengthen and improve UNESCO's statistical programme, which had been suffering from growing expectations, increasing workload and declining resources (UNESCO, 2007) and had been a cause of concern among some Member States. **The Director of UIS serves as UNESCO's chief statistician.**
9. UIS is one of nine UNESCO "category one" institutes and centres, each of which is institutionally part of the structure of UNESCO but functionally autonomous. It has approximately 70 staff worldwide UIS is responsible for the production of statistics related to UNESCO's work, development of methodologies, and providing advice and assistance to countries. Although independent, UIS is expected to align its programme with the strategic and programmatic priorities of UNESCO, working closely with the Secretariat, field offices, other institutes and centres.
10. UIS is the host and manager of UNESCO's main output database, UIS.Stat, and is also responsible for normative work in statistics and providing advice and assistance for all of the work of the institute. The equivalent in FAO would be combining the responsibilities of OCS and ESS within one unit. It does not do all of the statistics work of UNESCO; as in FAO, data collection and analysis is also carried out in other parts of UNESCO, including field offices.
11. The structure of statistical work in UNESCO, with an autonomous institute acting as leader and coordinator, is possibly unique in the UN. The autonomous institute brings the positive features of clear accountability, professional independence from UNESCO's political processes, and the potential to develop a broad strategy for UNESCO's statistics. However the structure also brings challenges, as when UIS was established it was not clear exactly what was expected of it in terms of delivery. It was reported to the evaluation that there is

a huge range of demands from within UNESCO and from Member States and UIS cannot meet all of them. The relationship between UIS and the other parts of UNESCO, notably the regional offices, requires constant negotiation. One of the priorities for UIS management is to have greater clarity and agreement on the core work of the Institute.

12. UIS reports annually to a governing board composed of 12 international experts acting in their private capacity, drawn from government organizations, research institutions and the private sector. It also receives guidance on statistical processes through the international partnerships in which it participates (see below).

2.2.1 Partners/collaborators on statistical governance

13. As a UN agency, UNESCO is represented on the Committee of the Chief Statisticians of the United Nations System and in the CCSA. UNESCO is subject to the principles governing international statistical activities (as defined by the CCSA) and also contributes to the development of international statistics governance particularly for education statistics and as custodian for SDG 4 indicators.
14. UIS is probably the main driver internationally for education statistics. It co-ordinated the 2011 revision of the International Standard Classification of Education (ISCED). This drew on a global technical advisory panel of international experts on education and statistics, including representatives of Eurostat and OECD, through a series of regional meetings UNESCO, 2012). UNESCO member states were also involved in the process through a formal global consultation.
15. UIS hosts the Secretariat of the Technical Cooperation Group on the Indicators for SDG4-Education 2030 (TCG), with 38 representatives from Member States, international organizations and civil society. The group provides a forum for discussing SDG4 indicators and monitoring Education 2030 targets. In some countries, e.g. Armenia and Ethiopia, UIS has helped to establish technical groups involving international partners to provide assistance with education SDGs. With UNICEF and the World Bank it leads the Inter-Agency Group on Education Inequality Indicators.

2.2.2 Funding sources for statistics

16. UNESCO, including UIS, has seen fluctuations in funding in recent years. After a difficult period starting in 2011, the approved UNESCO budget almost doubled between 2016-17 and 2018-19 (Hufner, K., 2017). In the same period the UIS approved budget increased from 1.4 to 1.7 percent of the total at USD 21.9 million for the biennium, justified in part by the rising demand for the data required to monitor progress towards SDG goals..
17. Core funding from Member States' assessed contributions covers only a proportion of the budget. In the 2018-19 biennium the assessed contribution was approximately 41 percent of the total 21.9.¹ USD 5 million annually is needed to cover fixed term staff costs. Other parts of UNESCO do not contribute a fee for what UIS provides, but expect it to provide assistance using the funding in its allocated budget. One of the priorities for UIS management is to stabilize the funding for the institute.

¹ UIS 2019 notes that a fundraising campaign has resulted in new commitments as well as continuing commitments from long-standing voluntary donors, but was facing challenges in funding the core work of the institute.

18. Capacity building is strongly supported by extra-budgetary funding,² as it is in FAO, and also by funding channeled through UNESCO's Capacity Development for Education Programme (CapED) programme. The UK Aid programme provides bilateral funding for statistics capacity building in countries and has supported UIS in production of the Global Education Monitoring (GEM) report.

2.3 Data production and quality

2.3.1 Scope and coverage of statistical databases and knowledge products

19. While the published statistics and knowledge products on the UIS website cover all of UNESCO's areas of work, the most recent and comprehensive information is available for education, reflecting a decision to focus work in areas of perceived comparative advantage. The Medium Term Plan 2017-21 notes the strategic shift that has been necessary to meet the additional demands for statistics arising from the adoption of the SDGs. The SDGs brought new normative and methodological challenges, including data collection processes and standards and methods for estimating indicators. UIS chose to focus strongly on SDG4 in its core work, as it has comparative advantage within UNESCO and globally in this area of work.
20. Data on education, science and culture, and on SDG 4, are held in the UIS.Stat database, accessible through the UIS.Stat portal or the UIS API portal (for programmers). It is easy for the user to download metadata and Excel tables for a long list of statistics.. UIS.Stat also displays demographic data drawn from other sources e.g. the World Bank. UIS.Stat has a strong focus on education data, including SDG4 indicators. It also includes data on employment in cultural industries and occupations and on communication and information infrastructure. Sources of data for UIS.Stat include national data (for education and culture statistics), UNICEF (e.g. the Multiple Indicator Cluster Survey), OECD, UNAIDS, UN Population Division, WHO and the World Bank. For education data, UIS draws on, and contributes to processing data for, the UNESCO/OECD/Eurostat (UOE) survey of approximately 50 high and middle income countries. It also manages the UIS Formal Education Survey of approximately 150 countries that do not participate in the UOE, using a subset of questions from the UOE survey.
21. Knowledge products related to statistics are accessible from the UIS website. They include: reports, information papers and fact sheets accessible through a searchable online document library; UNESCO e-Atlases (data visualisations) and YouTube videos³ on education, literacy, science and technology accessible through an online visualisation gallery; Global Education Monitoring (GEM) reports; Guidelines and Standards notably the International Standard Classification of Education (ISCED).
22. Comparing ease of access to statistical products of FAO and UIS, each were found to have strong and weaker points. Positive features for UIS were very easy access to key products, consistency of presentation across webpages, and prominence of SDG indicators through UIS.Stat. A weaker point was the difficulty in locating the microdata catalogue (eventually accessed through a Google search). Positive features on the FAO website were the compact and well-organised first page of the statistics portal, with links to many statistical products

² Notably in recent years from the Australian Government. In 2019 UIS reported that a fundraising campaign.

³ FAO does use YouTube on the launch of flagship publications, but it has fewer URL links than UIS from the stats portal.

including the microdata catalogue.⁴ Weaker points were the variability in presentation when moving away from the main page into divisional webpages, and the separation of SDG indicators from FAOSTAT.

2.3.2 Processes and flexibility for responding to user needs

23. The 2017-2021 Medium Term Strategy of UIS highlights two sources of user demand: the expanding demand from UNESCO, Member States and the international community for a broad variety of data and indicators; and the relatively recent large demand resulting from the need to estimate SDG indicators.
24. Like other UN agencies UNESCO works through Regional Conferences to identify needs of Member States. To keep abreast of international requirements for the SDGs UIS works with international expert groups, such as the Global Alliance to Monitor Learning (GAML), the Inter-Agency Group on Education Inequality Indicators and the Global Partnership for Education (GPE) UIS hosts the secretariat of the Technical Co-operation Group (TCG) on the Indicators for SDG 4 and co-chairs the group.
25. Flexibility to respond to the needs of users is to a great extent determined by budget availability.

2.3.3 Quality assurance processes

26. Quality assurance for education statistics reported in UIS.Stat is guided by the Data Quality Assessment Framework for Education Statistics (ED-DQAF) originally developed by UIS and the World Bank in 2003 and published online as the *Data Quality Assessment Framework (DQAF) Manual*. The International Standard Classification of Education (ISCED), is a classification framework developed by UNESCO in the 1970s and approved by UNSD, most recently revised in 2011. Where countries use their own definitions of education levels their nationally reported statistics data may differ from what is published in UIS.Stat. UIS statistics databases and products are subject to UNESCO regulations on open data and data transparency.
27. The quality of data from Member States is affected by the strength of their national statistical systems. UIS has put considerable focus on working with Member States on their statistics related to education and learning outcomes but has reduced some of its support work on science and culture statistics because of budget constraints (UNESCO 2016).

2.3.4 Partners/collaborators on data production/dissemination

28. As previously mentioned, UIS works with OECD and Eurostat on the UOE and draws on UNICEF's surveys.

2.4 Capacity Development

2.4.1 Examples of capacity development activities

29. The strategy of UIS with respect to capacity development has been to position itself as a **provider of advice and a convener**.

⁴ The microdata catalogue lists and describes microdata sources used by UIS but does not provide access to the data.

30. 150 countries fall within UIS area of responsibility for capacity development (excluding OECD countries, which already have strong systems). All require assistance to meet their obligations with respect to the SDGs. UNESCO has focused on education indicators within SDG4, for which it has responsibility. In other areas of UNESCO's interest (science and communications) other agencies such as UNIDO, World Bank and others also have responsibility and influence.
31. **Globally**, UIS provides guidelines on production of national statistics including SDGs through its website. Most of those published in 2018 related to SDGs.⁵ UIS has a consultant working on a "buyer's guide" to statistics systems.
32. **At regional level**, UIS delivered seven workshops in 2016 and 2017 UIS, each in a different region, mostly on education statistics.
33. **At country level**, UIS has concentrated its capacity development in a small number of countries. It recognizes that other institutes with more field presence may sometimes be better placed to deliver capacity building – for example, the World Bank, the EC and DfiD have all provided technical assistance on statistics. UIS is not a donor, and does not have the field presence of UNICEF (whose area of work overlaps that of UNESCO), so it has limited "soft power". Its preferred approach, where possible, is to work as a standards setter and broker/convenor of other agencies.
34. Capacity building on education statistics provided directly by UNESCO is delivered through the Capacity Development for Education Programme (CapED), formerly known as the Capacity Development for Education for All (CapEFA) Programme. CapED provides a range of capacity building in statistics to Ministries and National Statistics Institutes, drawing on the expertise of UNESCO headquarters, country offices and Category 1 centres including UIS. It was modified in 2016 to accommodate the needs of the SDG4 Education 2030 Agenda. A pilot programme launched in 11 countries has included development of national strategies for development of education statistics and assisting countries to support the operationalization of SDG4 and contextualize SDG4 targets to the national needs. It has supported the development of technical guidelines, carried out studies on national legislation and developed on-the-job training packages for national statistical teams to assist countries in doing their own assessments of their national statistical systems.
35. Where possible UNESCO's **support to development of sector education sector plans is linked the capacity building on SDGs**. UIS has also focused on improving generation and analysis of gender-disaggregated data

2.4.2 Partners/collaborators for capacity development

36. **At global level**, driven by the need to measure progress towards SDG4 indicators, in May 2016 UIS established the Global Alliance to Monitor Learning (GAML). UIS hosts the Secretariat and website. The Alliance allows UIS to interact with international partners and national governments to build consensus, support national strategies for measuring learning, and promote international reporting of SDG targets. The results framework of GAML lays out a comprehensive list of activities for national assessments, international reporting, capacity development and research. The Alliance has met twice a year since

⁵ Examples include UNESCO Institute for Statistics (2018a) and UNESCO Institute for Statistics (2018b).

inception and its website offers a growing list of resource documents and research reports. Its research is expected to inform the inter-agency expert group on SDG indicators.

37. **At country level**, UNESCO has also formed strategic partnerships with other international agencies to help countries strengthen their statistical systems. An example is a partnership with the World Bank established in 2019 within the UN Strategic Partnership Framework with the World Bank, to provide technical support to countries on estimation of SDG4 (World Bank, 2019). Money from the USA and BMGF (USD 50 000 - 70 000 per country) has helped to deliver workshops in countries.

3. UN agency: International Labour Organisation (ILO)

3.1 Mandate/mission with respect to statistics

38. ILO is a UN Agency, founded in 1919, with 187 member States and a tripartite structure consisting of representatives of governments, employers and workers. It sets labour standards, develops policies and devises programmes promoting decent work for all women and men.
39. The ILO Department of Statistics is the UN's focal point for labour statistics. It carries out normative work, including setting international standards for labour statistics through the International Conference of Labour Statisticians (ICLS), and compiles and produces labour statistics. ILO is also the custodian agency for 14 SDG labour market related indicators.
40. ILO's work in statistics covers data and indicators that FAO does not collect.

3.2 Governance

3.2.1 Structure, organization and internal co-ordination of work on statistics

41. **Statistics is one of nine technical departments in ILO**, reporting to the DDG policy, who heads one of three portfolios within ILO. The current structure of statistics in ILO HQ is centralized, but it has not always been so. In the early days of ILO there was a Bureau of Statistics, which until 1989 acted as a consulting body to the Director General. In 1990 it was integrated into the Policy and Information Department, shrank in size and focused on standards setting, while other work in statistics was decentralized. In 2009 the Statistics Department was created and in 2012 it was moved to the Policy portfolio where it now resides. The 2020-2012 Programme of work and Budget (PWB) gives statistics a strong institutional backing.
42. **The head of the Statistics Department is also the Chief Statistician of ILO, and heads the organization's data co-ordination group.** Both roles were created in 2009 when the Department was established.
43. The structure allows the head of Statistics to have direct communication with the DDG Policy, and oversight of all four of the functions of the Department (standards setting; data compilation, capacity building and technical advice to countries). As Chief Statistician his⁶ role is to ensure that across all departments and office collecting information there is no duplication or contradiction. All of ILO's benchmarks and goals in the current PWB are linked with SDG indicators, and the Statistics Department will be responsible for monitoring all other departments in delivering the SDG indicators.
44. The collection of data is decentralized and takes place through Regional Offices and surveys conducted by thematic departments. There are challenges with governance of this decentralized work, as Regional Offices have a high degree of autonomy. In addition, ILO's limited field presence (it is not present in all Member States) and limited capacity in the field poses a challenge for work on SDGs, where there is much demand for advice and ILO needs to be active at country level. ILO recognizes that its decentralized system needs

⁶ The present CS is a "he".

statistics capacity at field level and has made some improvements; each office now has a data specialist.

3.2.2 Partners/collaborators on statistical governance

45. ILO plays a strong role in the international governance of labour statistics. It is part of the CCSA and UN Statistics Commission (UNSC) and conforms to UN policies, but does not rely only on the UNSC for statistics governance. It also works through the International Conference of Labour Statisticians (ICLS), the main international mechanism for standard setting in labour statistics,⁷ which ILO hosts. The Conference brings together labour statisticians from international, regional and national organizations.⁸ ILO's tripartite structure (governments, employers and workers) facilitates broad participation. Recommendations from the ICLS lead to resolutions and guidelines that are approved by the Governing Body of the ILO and then become international standards on labour statistics (ILO, 2018).
46. Other partnerships on statistical governance include:
 - i. data 2x, a partnership that began in 2014 between ILO, World Bank and FAO to ensure that women are included in work and employment statistics;
 - ii. a partnership with UN Volunteers that began in 2017, to advance survey methods for producing statistics on volunteer work;
 - iii. participation in the Global Partnership for Sustainable Development Data, initiated in 2015,
 - iv. membership of the Statistical Information System Collaboration Community (SIS-CC) that has produced the .STAT Suite open-source platform.

3.2.3 Funding sources for statistics programme

47. The annual programme of work and budget (PWB) broadly lays out ILO's work in statistics. In the last three PWB documents statistics is visible in several places in the work plan, suggesting that it is well embedded in the organization's strategy, and it has remained at approximately 1.7 percent of total budget.
48. Core work at headquarters is funded through Regular Budget (assessed contributions). Capacity development in regions is usually funded through Regional Offices, using their own Regular Budget allocation or through extra-budgetary projects. Country Policy Objectives of ILO offices often have items relating to statistics. If funds are not sufficient the office may request help from the Statistics Department, which has some Regular Budget reserves to cost-share, or may seek extra-budgetary funding.
49. Very stable extra-budgetary funding from the US Department for Labor is used for strengthening labour force surveys especially in Latin America.

⁷ The ICLS has been functioning since 1923. Reports are online for meetings held every five years since 1998.

⁸ Participants of the 20th ICLS are listed in ICLS 2018.

3.3 Data production and quality

3.3.1 Scope and coverage of statistical databases and knowledge products

50. ILO's main database is ILOSTAT, the main global repository of labour statistics. This can be accessed through a user-friendly portal that allows the user to download Excel tables for a long list of statistics and allows bulk downloads for many labour statistics including 12 SDG labour market indicators. It holds data for all ILO member countries.
51. Searchable data includes: SDG labour market indicators; ILO modelled estimates; population and labour force; employment; unemployment and labour underutilization; youth; working time; earnings and labour income; labour cost; social protection; safety and health at work; Industrial relations; labour migration and consumer prices. The website also provides access to country profiles, statistical briefs on aspects of labour statistics, and statistical fact sheets.
52. The database holds national official statistics, based on data provided by member states, drawing on population census, labour market surveys and national accounts
53. Comparing ease of access to statistical products of ILO and FAO, both organizations have a compact and well-organized first page of their statistics portal, with links to many statistical products. ILO's statistics portal is slightly easier to locate, from a tab on the home page of the organization's website, and its presentation is more consistent across the various webpages covering statistical issues, but its microdata catalogue is hard to locate.⁹ Unlike FAO, which has separate data centres for FAOSTAT and the SDGs, ILO displays SDG indicators in the ILOSTAT database.¹⁰

3.3.2 Processes and flexibility for responding to user needs

54. The demand for statistics is assessed by consulting countries and through the ICLS. The Medium Term Plan indicates that there is emerging demand for both routine statistics and the SDG indicators.
55. Key emerging issues include:
 - i. Big data, some of which does not provide sufficiently reliable information.
 - ii. Emerging topics in the world of work, such as the gig economy, where standards have been accepted but are being implemented in different ways.
 - iii. SDGs. For some indicators e.g. labour rights ILO has had to establish new standards. The main difficulty has come from disaggregation, as disaggregated data are not always available.

3.3.3 Quality assurance processes

56. The data co-ordination group provides a mechanism for oversight of data quality across all Departments. This was not easy at the start, as some Departments wanted to follow their accustomed processes, but over time most have become used to oversight; for example,

⁹ For the study it was located through Google and accessed here: <https://www.ilo.org/surveydata/index.php/home>

¹⁰ Microdata are not available directly to outside users, but ILO's Data Protection Analysis Unit within the Department of Statistics will sometime provide ad-hoc tabulations of statistics derived from micro-data that are not available through ILO STAT (ILO, 2018).

submitting reports for review of statistical procedures in advance of publication has become more routine.

57. It is challenging for the Statistics Department to co-ordinate the quality of data collection in the field, as technical co-operation programmes at regional and country level are more autonomous than the departments in Geneva.
58. ILO shares the challenge of all UN agencies of being obliged to work with official national statistics while acknowledging that in some countries these are weak.
59. With regard to SDGs, it was an advantage that many of the metrics were widely accepted by ICLS. For example, social protection and employment issues were already well established, the metadata were mostly accepted by ICLS, and most indicators were accepted quite quickly by Member States. However the Statistics Department management considers that there is room for improvement on communication around estimation of SDGs. Convention 160 requires minimum data standards for countries that want to report, but needs more countries to ratify it.

3.3.4 Partners/collaborators on data production/dissemination

60. ILO collaborate works with FAO on the compilation and dissemination of rural labour statistics. The two organization also collaborate on gender statistics through the data2x initiative.

3.4 Capacity Development

3.4.1 Examples of capacity development activities

61. ILO's mandate is to provide technical cooperation, assistance and training in labour statistics to ministries of labour and statistics offices in member states.
62. **At global level**, since 2015 training has been provided annually through the Labour Market Statistics and Analysis Academy to labour statisticians, policy analysts and senior managers working within national statistical systems. The training has the purpose of strengthening household surveys to support the development of decent work-related SDG indicators and closing gender data gaps in work statistics.
63. Technical assistance and tools are also provided through publication on the ILO website for the Generic Statistical Business Process Model (GSBPM). A 2013 manual provides a framework and guidelines and numerous other documents provide specific detailed information.
64. **At regional level**, ILO works through its Regional Offices on programmes with statistics content, such as the Youth Employment for Africa programme Technical cooperation at field level (funded by Germany) has supported Training of Trainers for statisticians in ILO Regional Offices.
65. Taking as an example the Asia-Pacific region, the ILO Regional Office has provided a series of capacity-building workshops: ILO Preparatory Regional Meeting of Labour Statisticians for the 20th International Conference of Labour Statisticians (2017); Work Statistics in Rural Areas for the Promotion of Decent Work (2017); Technical workshop on New Concepts of

Labour Statistics, (2019). It has also contributed to ASEAN workshops (see next section on partners/collaborators)

66. **At country level**, the Statistics Department at ILO HQ provides behind-the-scenes assistance to governments to assist them in changing laws to support international obligations on labour statistics. ILO also provides specific technical assistance depending on what is in country plans and budgets or through funding partnerships. Examples from the Asia Pacific Region include: a programme on Pilot Labour Force Surveys, covering 10 countries worldwide (Habiyakare, 2016); support to Fiji, Mongolia, Pakistan, Philippines, Samoa, and Viet Nam to effectively contribute to SDGs monitoring; a series of workshops in Cambodia through the Labour Standards in Global Supply Chains Project; in Mongolia, Introductory Training on Labour Market Information and Analysis (2016); a workshop in China on Labour Statistics beyond the Labour Force Survey (2017); a workshop in Viet Nam on statistics for informal economy (2017).
67. In its country-level statistical capacity building ILO appears to take a more direct, hands-on approach than that of UIS – more similar to FAO's approach.

3.4.2 Partners/collaborators for capacity development

68. **Globally**, ILO works with the World Bank to assist in improving quality standards on labour data captured through LSMS.
69. At regional level, ILO works through working groups within regional commissions. It also collaborates with international organizations, and national aid agencies on capacity development. An example from the Asia-Pacific Region is the relationship with ASEAN. ASEAN workshops involving FAO have included technical meetings of specialists on International Labour Migration Statistics in 2015 (with participation of UNESCP and FAO), 2018 (with participation of the Australian Department of Foreign Affairs and Trade, Global Affairs Canada and ILO) and 2019 (ASEAN Statistics, and ILO). A joint ASEAN-ILO course was run on the transition from informal to formal employment targeting ASEAN Member States.

4. National agencies: United States Department of Agriculture (USDA) Economic Research Service (ERS) and National Agricultural Statistics Service (NASS)

4.1 Mandate/mission with respect to statistics

70. Both NASS and ERS are Services of the United States Department of Agriculture (USDA). NASS is “committed to providing timely, accurate, and useful statistics in service to U.S. agriculture.” Its main role is provision of domestic agriculture statistics. The mission of ERS is “to anticipate trends and emerging issues in agriculture, food, the environment, and rural America and to conduct high-quality, objective economic research to inform and enhance public and private decision making.” It is also a source of indicators on the performance of the farm sector, agricultural trade and food security.
71. Both agencies primarily serve their domestic markets: NASS in service to US agriculture and ERS in service to those who make or influence US public policy and programs. Both also do international work that overlaps with FAO’s work in statistics. ERS maintains datasets and produces knowledge products on international agriculture that in some cases draw on FAO data. Internationally, ERS, NASS and other USDA agencies help to improve the analysis of agricultural data in countries other than the USA, and sometimes collaborate with FAO.

4.2 Governance

4.2.1 Structure, organization and internal co-ordination of work on statistics

72. **ERS and NASS are USDA’s two “principal statistical agencies” within the Federal Statistical system of the USA**, meaning that they are tasked with producing accurate, unbiased statistics that are not influenced by politics. Across all sectors there are 13 principal statistical agencies, all operating under the same regulations.
73. **The Federal Statistical System of the USA is a decentralized system co-ordinated by the Office of Information and Regulatory Affairs (OIRA), which is part of the Office of Management and Budget (OMB)** within the Executive Office of the President. OIRA’s Statistical and Science Policy (SSP) Office is headed by the Chief Statistician (National Academy of Sciences, 2017). SSP has overall responsibility for statistical policies and standards and evaluates the budgets of statistical agencies. OIRA reviews information collection requests from Federal agencies to ensure that there is no duplication and standards are maintained.
74. The Interagency Council on Statistical Policy (ICSP) is the vehicle through which inter-agency activities are coordinated and information exchanged. Meetings are attended by heads of all Federal Statistical Agencies. It also provides advice on statistics to OMB. ICSP and OMB receive advice on statistical methodology from the Federal Committee on Statistical Methodology (FCSM), which was founded by the precursor to the SSP.
75. Both ESR and NASS are also agencies in USDA’s Research, Education and Economics mission area, tasked with doing good science in support of agriculture. The others are the Agricultural Research Service and National Institute of Food and Agriculture.

76. NASS has just over 1000 permanent staff and ERS approximately 320. In 2019 approximately 80% of ERS posts were relocated from Washington DC to Kansas City, followed by loss of some ERS staff who chose not to move.
77. NASS has five Divisions and two field operations offices. It also has a small International Programs Office. ERS is organized into the Office of the Administrator and four Divisions, three of which have responsibilities for maintaining statistical databases and datasets and/or carrying out the analysis to develop statistical products.
78. **Each Agency and Division develops its own work plan and maintains different databases, but all of USDA's work on statistics, and that of the other principal statistical agencies, is coordinated through the Office of Management and Budget, which also sets data quality standards.**
79. **Within ERS there is no equivalent to a Chief Statistician;** the Chief Administrator guides the research programme of the agency. **In NASS the closest equivalent to a CS is the Chief Mathematical Statistician, who is also the Director of Research and Development** and oversees developments in the Agency's data collection and dissemination methods. The Directors of the Methodology and Statistics Divisions also play a role in development of methodology.

4.3 Partners/collaborators on statistical governance

80. In addition to participation in the ICSP, NASS also collaborates with US universities and the National Institute of Statistical Sciences on statistical methods.
81. The USA contributes to international statistical standards setting through international bodies and working groups, usually represented by the Chief Statistician.

4.3.1 Funding sources for the statistics programme

82. Both ERS and NASS are funded from the public budget. The USDA mission area in which NASS and ERS work is positioned receives approximately USD 3 billion a year, of which the ERS budget in 2018 was USD 87 million and the NASS budget USD 191 million. USDA, and particularly ERS, has been under funding pressure for several years. The President's budget for ERS in 2019 initially proposed a large decrease to USD 45 million, approximately half of what ERS estimated it would need, which would have resulted in discontinuing "research relative to farm, conservation and trade policy, and on investments in agricultural research and development..." and "annual estimates of international food security for low- and middle-income countries and research on international developments this activity." A range of special initiatives including research on drought resilience, new energy sources, local and regional food markets and markets for environmental services would also need to be cut" (USDA Office of Budget and Program Analysis, 2019).
83. The funding for capacity development provided by the NASS International Programs Office does not come from USDA, which is not a donor, but is provided by others including the State Department, USAID and the World Bank.

4.4 Data production and quality

4.4.1 Scope and coverage of statistical databases and knowledge products

84. NASS is responsible for the US Agriculture census, carried out every 5 years, and also carries out over 450 annual surveys. Data from both sources is available through one portal.
85. ERS has five searchable output databases related to US domestic agriculture. One of these is the Agricultural Baseline Database, which holds projections for US domestic production, imports and exports of major field crops and livestock species and is the source of 10-year projections for the annual USDA Agricultural Projections report. Other databases deal with specific commodities and trade statistics. ERS also has many Excel datasets that can be downloaded in their entirety, including the International baseline database and a database of International Agricultural Productivity estimates strongly based on FAOSTAT data. The databases and datasets available through the ERS website draw on primary data from USDA and other US government agencies, its own surveys, and data from trusted international agencies and private providers.
86. Both agencies publish a broad range of statistical knowledge products used by US stakeholders and international agricultural economists, all downloadable from their websites. For international agriculture, a key product is the ERS annual International Food Security Assessment.
87. The statistical products for all USDA agencies, including ERS and NASS, are easily accessed through links from a data tab on the main USDA website as well as from the data tab on individual agency websites. ERS and NASS have different but equally straightforward presentation of their statistical products. There is no consolidated microdata catalogue, but registered USDA agency users can download state-level data for some key databases (e.g. the Agricultural Resource Management Survey) through an API app.

4.4.2 Process for assessing user needs

88. Demand for data and statistics is assessed through both internal and external consultation. The planning cycle includes formal consultation of external stakeholders. NASS collaborates with community based organizations and local organizations to ensure representativeness within the Agriculture census and surveys. ERS is a consumer of data so part of what it produces is driven by the needs of its own research; external consultations help to guide research directions. Current areas of interest include environmental footprint, nutrition and international trade. However, ERS' ability to continue to pursue these areas will depend on budget allocation.
89. The SDGs have not directly affected the work of NASS or ERS. When requested by the Office of Management and Budget, each will provide data from its existing databases to support estimation of SDG indicators, but they have not redesigned their statistical programmes to accommodate the SDGs. Some of the SDG indicators are of interest and use to the USA, others less so. In working with international partners, ERS has found that countries have their own specific priorities and interest with regard to statistical indicators; for example, OECD collects some environmental data that USDA does not collect.

4.4.3 Quality assurance processes

90. As USDA Service and Federal principal statistical agencies, NASS and ERS are bound by the Statistical Policy Directives of the Office of Management and Budget (1985, 2008 and 2014), which interpret UN Fundamental Principles of Official Statistics, and by the statistical guidelines of USDA, which derive from OMB directives. As well as screening new surveys, OMB also reviews response rates to check for possible bias. The quality standards and directives summarized on NASS and ERS websites are clearly derived from OMB, directives,¹¹ and their sites provide links to OMB published guidelines. Short courses on aspects of data integrity provided by NASS are available to USDA staff including ERS employees.

4.4.4 Partners/collaborators on data production/dissemination

91. ERS draws on data produced by several US government agencies, including those of other USDA agencies and Customs and Excise. It works directly with FAO through international food security assessments. ERS and FAO produce "competing products" that use different methods of estimation; FAO staff review the ERS reports. FAO also reaches out to ERS for data on e.g. pesticides. From time to time ERS staff are seconded to FAO for periods of 3-5 years.
92. ERS is interested in global food productivity estimates and exploring the reasons behind the statistics. It uses FAO data to make comparisons across countries e.g. how much land is under agriculture, land under crops. For some data "FAO

4.5 Capacity Development

4.5.1 Examples of capacity development activities

93. Both ERS and NASS provide capacity development domestically in the USA; the benchmark study focused on their international capacity development work, which is necessarily more limited in scope. **Both NASS and ERS approach their international statistical capacity development on a country by country basis, responding to country demands.**
94. NASS has a small International Programs Office that provides assistance to developing countries, on request and subject to available funding. It can only cover a small number of countries as it has limited staff and funds. Generally it works on assistance with agriculture census and survey preparation, rather than becoming involved in the institutional

¹¹ OMB issued its latest statistical policy directive on December 2, 2014 (U.S. Office of Management and Budget, 2014b). The directive was labelled no. 1 because of its foundational importance. (The original no. 1 was combined with no. 2 as described below).

The directive cites relevant documents issued by OMB (e.g., other statistical policy directives) and by the Office of Science and Technology Policy, together with *Principles and Practices for a Federal Statistical Agency* (National Research Council, 2013), the European Statistics Code of Practice (European Statistical System Committee, 2011), and the *Fundamental Principles of Official Statistics* (United Nations Statistical Commission, 2014), as contributing "to an integrative framework guiding the production of Federal statistics, encompassing design, collection, processing, editing, compilation, storage, analysis, release, and dissemination" (U.S. Office of Management and Budget, 2014b:71611). The directive notes, however (U.S. Office of Management and Budget, 2014b:71612): Although these principles and policies provide a common foundation for core statistical agency functions, their actual implementation in the form of standards and practices can involve a wide range of managerial and technical challenges. Therefore, to support agency decision-making in a manner that fosters statistical quality, OMB developed this Statistical Policy Directive. This Directive provides a unified articulation of Federal statistical agency responsibilities."

development of statistical services. It does not directly provide support on SDG indicators, but might advise on survey design to collect data that a country needed for estimating SDGs. Staff from the International Programs Office attend international conferences and provide short courses to young statisticians.

95. ERS provides capacity development primarily through participation in conferences (e.g. an upcoming conference co-hosted by NASS). If requested by the Foreign Agricultural Service (FAS) it will work with country delegations to the USA on how data are collected and analyzed, or will give talks to visiting delegations.

4.5.2 Partners/collaborators for capacity development

96. NASS International Program staff attend regional statistical conferences hosted by FAO such as the Asia and Pacific Commission on Agricultural Statistics (APCAS), and have also provided input in projects managed by FAO, for example in Bangladesh and Malawi.

5. Review of statistical governance structures in six international organizations

97. Five international organizations were subjected to a reduced study covering only their governance structures. World Health Organization (WHO), United Nations Industrial Development Organization (UNIDO) are UN specialized agencies, like FAO. The United Nations Environment Programme (UNEP) and the United National Population Fund (UNFPA) are respectively a UN Programme and a UN fund. The Organisation for Economic Cooperation and Development (OCED) is an intergovernmental organization. All of the reviewed organizations have substantial statistical databases drawing on data from many member countries, making them useful comparators for FAO.
98. Table 1 summarizes a review of websites and published documents relating to the statistical governance structures in the reviewed organizations. Notably, in all of them, the Chief Statistician or equivalent roles was combined with the role of head of the main statistical unit. This is the same kind of structure as ILO and UNESCO, but different to that of FAO.

Table 1. Governance structure of work in statistics of five benchmarked organizations

	Statistics coverage	Staff working on statistics	Statistical governance structure **
WHO *	<p>Statistics on a broad range of health-related topics including diseases and conditions, health¹² personnel, immunization, mortality, morbidity, risk factors, health service coverage, and health systems.</p> <p>Custodian or joint custodian of more than 50 SDG indicators related to human health (WHO, 2019).</p>	<p>Until 2019, approximately 100 full time equivalent staff within HIS and spread across divisions</p>	<p>Until 2019, WHO's work in statistics was coordinated by the Department of Health Statistics and Informatics (HSI).</p> <p>HSI maintained the main data portal and core statistical database and was responsible for the production of its main annual statistics reports as well as coordinating standards setting in health statistics (UNSTATS, 2017) and capacity building in health statistics. HSI had five units.</p> <p>In 2019 WHO created a new division of Division of Data, Analytics and Delivery. This Division reports to the DG's office and its head appears to function as Chief Statistician.</p>
UNIDO	<p>Industrial statistics, including mining and quarrying, manufacturing and electricity, gas and water supply.</p> <p>Custodian agency of several indicators under SDG 9.</p> <p>Data and statistical knowledge products are accessed through a statistics portal.</p>	<p>Approx. 25 including regular staff, long-term consultants and researchers.</p>	<p>UNIDO's work in statistics is led by the Statistics Unit, whose head is the UNIDO Chief Statistician.</p> <p>The Unit is positioned within the Department of Policy Research and Statistics, which oversees all of UNIDO's statistics activities.</p> <p>The Unit combines the role of guidance on statistical norms and methods and the responsibility for compilation, storage and</p>

¹² Information from WHO website and UN statistics division website.

			dissemination of worldwide industrial statistics.
UNEP	Environmental statistics, indicators, resource accounting and natural capital valuation. Custodian agency for 26 environment-related SDG indicators.	50	UNEP's work in statistics is led from the Science Division, whose SDG Data and Information Unit co-ordinates statistical activities across all UNEP Divisions and Offices and provides quality assurance and statistical validation (UNEP, 2019). The head of the Unit appears to function as Chief Statistician.
UNFPA	Statistics related to sexual and reproductive health. Custodian of 2 SDG indicators.	80 of whom 20 full time in HQ, one per regional office	UNFPA's work in statistics is led by the Technical Division in HQ, whose head effectively functions as Chief Statistician. Much of the technical work is done by the Population and Development Branch of the division.
OECD	Statistics on entrepreneurship and business, finance, trade, labour, national accounts and productivity for OECD member states.	Not available	OECD's work in statistics, including the governance of statistics and the maintenance of statistical databases, is led by the OECD Secretariat's Directorate of Statistics, whose head is also the Chief Statistician.
<p>Notes:</p> <p>*Until 2019. Recent changes in governance structure were not fully documented on the WHO website at the time of the benchmarking study</p> <p>** All of the UN agencies and programmes are highly decentralized. Governance of statistics at field level requires a working relationship between the headquarters governance structure and regional offices.</p>			

6. Lessons for FAO

99. This section highlights issues that may be of relevance to FAO. The most useful lessons relate to statistical governance structure.

6.1 Statistical governance structure

100. The statistics systems of all 10 reviewed organizations operate within a decentralized institutional structure and are themselves decentralized. They provide useful comparators for FAO which also has a decentralized structure and statistical system.
101. Both of the UN organizations in the main benchmark, and all five organizations in the review of governance structure, have one unit responsible for statistics governance and for maintenance of the main statistical database. In all cases the person who heads the main statistics unit also has the role of Chief Statistician or its equivalent. As reported by ILO and UIS this has advantages, as it requires fewer reporting lines than FAO's system and may be simpler to understand. In both cases any potential of conflict of interest is managed through governance structures external to the unit.
102. In most of the UN agencies reviewed and in the OECD secretariat, the main statistics unit is physically located at headquarters and embedded within the organization's headquarters structure, while in UNESCO it is located in a different country and functionally autonomous. The ILO statistics department reports to a high level in the ILO structure, and this has advantages in coordinating with the rest of the organization. While the UIS positioning has potential benefits of structural clarity and accountability, its physical and institutional separation has made it challenging to co-ordinate with the rest of UNESCO.
103. The US statistics system illustrates the contrary situation, with the role of chief statistician located outside of the statistical agencies responsible for data collection. However the potential governance challenge of physical and institutional distance is minimized by the fact that governance is enforced through Federal regulations. Published statistical directives and regulations cascade visibly from OMD through the websites of USDA, NASS and ERS, and the OMB office equivalent to FAO's OCS has the right of veto over all new statistical activities. Combining the roles of Chief Statistician and Head of Statistics undoubtedly makes for a more straightforward governance system in a UN agency, although it does not entirely remove the difficulty of decentralization. ILO and UIS have faced similar problems to FAO in ensuring compliance across all of the HQ departments and divisions that maintain specialized statistical databases. Both use equivalent co-ordination working groups to FAO's IDWG and have required patient negotiation to improve compliance. Governance of statistics activities at field level is also a challenge to any UN agency, as reporting lines through regional offices and limited statistics field presence make it difficult to develop strong communication lines between HQ and the field and to enforce compliance.
104. **There may be value for FAO in considering a more centralized HQ statistics structure to strengthen high-level governance, give prominence to statistics and simplify communication with specialized departments and divisions. The ILO model with the unit based at HQ would be more likely to suit FAO's structure than the UNESCO model of an autonomous institute.**

6.2 Harmonization of work on SDGs with other work in statistics

105. Reviewing the work of the four main benchmarked agencies, their approach to the SDGs can be placed along a continuum. UIS has structured its work to prioritize the SDGs for which it is custodian and has organized its statistical database portal to make the SDG indicators prominent. It also makes an explicit link between work on SDG4 and UNESCO's assistance with education sector plans. ILO has maintained a more even balance between the SDGs and routine statistics in its work plans but displays the SDGs prominently than FAO on its statistical database portal. The USDA agencies are in a different situation as they are not custodians of SDG indicators; they have hardly been affected by the international emphasis on SDGs, other than to supply data to OMD from their routine databases.
106. **There may be value for FAO in making the SDG's more visible and instantly accessible from the main FAOSTAT portal, as they are from the main portal of ILOSTAT and UIS.Stat.**

6.3 Effects of resource instability on scope of work in statistics

107. Reviewing the work of the four fully-benchmarked agencies, all of them have faced funding challenges, as has FAO, that have some extent affected the scope and coverage of their work.
108. ILO has been able to increase its statistics budget in absolute terms and retain its percentage of the total organizational budget over the past three biennia, but has not been given an increased budget to deal with the extra work associated with the SDGs. UIS has recently been able to increase its share of budget but is still constrained by budget. Alone among the reviewed organizations, ERS has faced funding cuts.
109. All four agencies have managed to retain sufficient funding for their core work, but new and innovative work has been constrained by budget, as illustrated by the UIS decision to focus strongly on education and the published concerns about ERS's ability to keep abreast of emerging areas.
110. The UN organizations must use national official statistics national data, and are affected by the stability of extra-budgetary funding to countries, as this supports national census and surveys in many lower-income member states. As bilaterally funded projects often operate autonomously, it can be challenging for the headquarters statistics units to support monitoring of data quality
111. **There are no obvious lessons for FAO on good funding practice from this review, only a warning about the importance of sufficient and stable funding to maintain innovative work and databases of good quality.**

6.4 Capacity development strategy

112. With respect to capacity building in statistics, UIS, ILO and NASS all struggle to balance potentially very large demand with finite resources to deliver, and each has arrived at its own strategic approach. Both UN agencies differentiate between the direct provision of resource material and specialized, global- and regional-level training, and the support given to country-level statistical activities such as censuses and surveys. The former is

provided respectively by UIS and the ILO Statistics Division. For the latter, UIS prefers to work as a convenor of other agencies with more field presence and ILO by co-funding and supporting a limited number of capacity development activities identified through Regional Centre programmes. NASS plays a comparatively smaller role in international capacity development, delivering hands-on training upon request in a small number of countries.

- 113. While it was not possible to arrive at firm conclusions, there may be useful ideas to FAO explore. One is the ILO Labour Market Statistics and Academy, providing an annual ten-day course on the statistical production process for labour statistics; FAO does not appear to offer an exactly comparable product for agricultural statistics. Another possibility is the UIS approach of being a convenor of capacity building at country level, working through regional offices. FAO might benefit from leveraging its limited regional and country statistics human resource through expanded collaboration with USDA agencies and others.**

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