

Sector Review of Environment Statistics

**Statistical Committee of the
Republic of Armenia**

Report

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LIST OF ABBREVIATIONS

ARMSTAT	Statistical Committee of the Republic of Armenia
ArmStatBank	Online repository of official Armenian statistics
ADS	Armenia Development Strategy
AMD	Armenian dram
ASS	Armenian Statistical System
CoP	Code of Practice (shorter abbreviation for ESCoP)
DDS	Data Distribution Service
EEA	European Environment Agency
EFTA	European Free Trade Association
ENP	European Neighbourhood Policy
ESCoP	European Statistics Code of Practice
ESMS	Euro-SDMX Metadata Structure
ESQRS	ESS Standard Quality Report Structure
ESS	European Statistical System
ESS QAF	Quality Assurance Framework of the European Statistical System
EU	European Union
EUROSTAT	Statistical Office of the European Union
EU CEPA	Classification of Environmental Protection Activities and Expenditure
FAO	Food and Agriculture Organisation (UN)
FDES	Framework for Development of Environment Statistics (UN), 2013
FP	Fundamental Principles of Official Statistics
GA	Global Assessment
GDP	Gross Domestic Product
GHG	Greenhouse Gas
GIS	Geographical Information Systems
GSBPM	Generic Statistical Business Process Model
HBS	Household Budget Survey
HICP	Harmonised Indices of Consumer Prices
IPCC	Intergovernmental Panel on Climate Change
IT	Information Technology
IUCN	International Union for Conservation of Nature
LOS	Law on Official Statistics of the Republic of Armenia

ME	Ministry of Environment of the Republic of Armenia
MoU	Memorandum of Understanding
NA	National Accounts
NGO	Non-governmental Organisations
NSI	National Statistics Institute
OECD	Organisation for Economic Co-operation and Development
SAQ	Self-assessment questionnaire
SDGs	Sustainable Development Goals
SDMX	Statistical Data and Metadata Exchange
SIMS	EU Single Integrated Metadata System
SEEA	System of Environmental-Economic Accounting
SNCO	Hydrometeorology and Monitoring Centre
UN CBD	United Nations Convention on Biological Diversity
UN CCD	United Nations Convention to Combat Desertification
UNECE	United Nations Economic Commission for Europe
UNEP-WCMC	UN Environment Programme World Conservation Monitoring Centre
UN ESCAP	United Nations Economic and Social Commission for Asia and the Pacific
UN FCCC	United Nations Framework Convention on Climate Change
UNSD	United Nations Statistics Division
UN University	United Nations University
UNECE LRTAP	Convention on Long-range Transboundary Air Pollution

Preface

1. Sector Reviews aim to align important sectors of national statistical systems with European standards. They are tailored to the partner country in question while following a core procedure involving assessment of the administrative and technical capacities, statistical production processes and the medium- and long-term planning within the sector; following this a list of suggested improvements is proposed. The Sector Review of Environment Statistics of the Statistical Committee of the Republic of Armenia (ARMSTAT) was undertaken within the framework of the project “Global Assessments, Peer Reviews and Sector Reviews for the European Neighbourhood Policy (ENP) Countries” funded by the Statistical Office of the European Union (EUROSTAT). The review was conducted by two external experts, Mrs Jana TAFI and Mrs Monica LUZ UREÑA. A Sector Review mission took place from 13-16 June 2022 in Yerevan; the Mission Agenda is included in Annex 1.
2. The Sector Review process was initiated by EUROSTAT at the request of ARMSTAT. The company DevStat – Statistical Consulting Services S.L., under contract with EUROSTAT, was given responsibility for organising all related activities and tasks. A self-assessment questionnaire (SAQ) was developed to gauge the strengths of the ARMSTAT Environment Statistics production process and pinpoint the areas where improvements are still needed to align with European Statistical Standards. The SAQ was completed by ARMSTAT’s experts prior to the mission and served as the primary instrument for the identification of probable areas for improvement, enabling the team to focus discussions on the most prominent issues during the mission. Members of ARMSTAT’s Nature Protection Statistics Division were the experts’ main discussion partners throughout the mission, namely the head of the Nature Protection Statistics Division and the member of the State Council on Statistics in the Nature Protection Sphere. Additional meetings were organised with the President of the Statistical Committee, the member of the State Council on Statistics in the International Statistics Cooperation Sphere, as well as with the heads of the Quality Management Division, the Business Register (Sampling and Classification Division), the Financial and Economic Division and the Statistical Information and Dissemination Division. Furthermore, several meetings were organised with representatives of users and stakeholders in Environment Statistics (various government ministries and an NGO). For details see Annex 2.
3. In the European Statistical System, the compliance of National Statistical Institutes (NSIs) with European standards is assessed using principles and indicators set by the European Statistics Code of Practice (ESCoP)¹, guided by the Quality Assurance Framework of the European Statistical System (ESS QAF)². Accordingly, the SAQ and mission agenda contained questions and topics to assess the ARMSTAT Environment Statistics system’s strengths, weaknesses, good practices and areas for development in each of the three main sections of the ESCoP:
 - Institutional environment (principles 1 to 6 of the ESCoP);
 - Statistical processes (principles 7 to10); and
 - Statistical outputs (principles 11 to 15).

¹ <https://ec.europa.eu/eurostat/documents/4031688/8971242/KS-02-18-142-EN-N.pdf/e7f85f07-91db-4312-8118-f729c75878c7?t=1528447068000>

² <https://ec.europa.eu/eurostat/documents/64157/4392716/ESS-QAF-V2.0-final.pdf>

This report intends to recognise the strengths of the ARMSTAT Environment Statistics production process and bring to light areas where improvement is still needed to align the sector with European statistical standards.

Executive summary

4. ARMSTAT has significantly improved the overall quality of its statistical processes and products over the last 10 years. The institution enjoys the confidence of users and carries out its activities independently and objectively on the basis of an adequate legal mandate.
5. The Five-Year Statistical Programme of ARMSTAT, approved in 2019, directly addresses most of the ESCoP statistical principles assessed in this review. The commitment to quality and meeting international best practice throughout the organisation is embodied by this ambitious programme; the successful implementation of its current one-year Work Plan will elevate ARMSTAT's compliance with European standards to a high level.
6. As part of its outreach activities, ARMSTAT sends its yearly Statistical Programme to all stakeholder agencies for comments and feedback, and carries out an annual User Satisfaction Survey to gain up-to-date information about user needs and satisfaction. While these approaches have both been successful, establishing an additional technical Working Group to discuss user needs and the latest methodological developments for key statistics (such as environmental expenditures and water accounts) at a technical level with key stakeholders and independent experts would further enhance both the relevance and perceived objectivity of ARMSTAT.
7. Appropriate resourcing has been a persistent challenge, with high staff turnover, outdated information technology (IT) infrastructure and no use of Geographical Information Systems (GIS), along with uncertainty about long-term financial sustainability. The current programme aims for comprehensive capacity development and will help upgrade ARMSTAT's IT systems in the medium term. Adequate quality and sufficient staffing levels in terms of technical capacity are needed for the Division of Nature Protection Statistics to meet the rapidly changing data landscape, and resource allocation for Central Office operations may need to be adjusted in light of new centralised data sources and platforms, with a focus on analytical tools and integration of GIS applications.
8. Environment Statistics in Armenia are largely compliant with international statistical standards, such as the UN FDES, for all major areas of concepts and procedures (scope; coverage; collection and compilation procedures; and quality adjustments). Therefore, environmental policy monitoring and the importance of reporting of national environmental issues should be considered when further developing the sector. The UN Framework for Development of Environment Statistics (FDES) 2013 consists of 458 individual statistics organised by components, sub-components, and topics; it is recommended that ARMSTAT concentrate on the development of those in highest social and political demand, which are relevant to government policy and have sound methodological foundations. For example, to best inform on the current issues of water scarcity, climate change, deforestation, waste management, and soil degradation, statistics on water, forestry, waste, and soil should be the primary focus of development and reform. To support the efficient use of national financial resources and the efficiency of the Environment Statistics production process right from its inception at data collection, projects are already ongoing to explore the use of new and alternative data sources, such as: administrative data (for environmental taxes); earth observation data; and climate change data. Additionally, the process for data collection from urban and rural households should be developed, assessing the importance of households' environmental footprint and their value as a data source. Furthermore, ARMSTAT should ensure that environmental protection expenditures are compiled in

accordance with the EU Classification of Environmental Protection Activities and Expenditure (CEPA) 2000.

9. To fully comply with European standards, some general methodological issues need to be addressed based on the UN FDES 2013, the UN System of Environmental-Economic Accounting (SEEA) and the Global Sustainable Development Goal (SDG) indicator frameworks³. In addition, ARMSTAT should increase integration and implement the recommendations in the EUROSTAT methodological manuals and guidelines⁴. The starting point should be to introduce a national core set of Environmental Indicators based on the European Environmental Indicator Catalogue – themes under which Environment Statistics can be disseminated. This would allow a single hub to be created, complete with metadata and backup datasets, including all the indicators that should be collected in the short-term from Environment Statistics in Armenia. It is of particular note that the salient items in this list will be the SDG environmentally-related indicators, which are currently being developed by international organisations.
10. ARMSTAT Environment Statistics generally meet the needs of users. They support all policy cycles (formulation, decision making, implementation, monitoring and evaluation, agenda setting) in providing evidence-based environmental data and indicators for environmental policy and improving knowledge of environmental phenomena in Armenia. There is clear evidence of user satisfaction and interaction with users, both electronically and through various activities organised for different user groups.
11. In general, ARMSTAT disseminates Environment Statistics in accordance with international standards. Timeliness and punctuality of the release of Environment Statistics and indicators is excellent and highly appreciated by key users. Statistical outputs related to Environment Statistics are of good quality, generally well implemented, consider the needs of different users and meet current user requirements. They are produced in a suitable and user-friendly form, available with guidance and in some cases supporting metadata. In particular, the ARMSTAT website is state-of-the-art concerning user-orientation and design.
12. The mission met with several members of the ARMSTAT State Council on Statistics as well as with users and stakeholders from various ministries and an NGO. Their general opinion was that ARMSTAT has become a reliable and trustworthy statistics provider and that, in the area of Environment Statistics, questions and requests for additional information are readily answered. Some stakeholders see room for improvement regarding the representation of nature resource users and emitters and the methodological handling of some of the developments in Environment Statistics. However, in general, users are satisfied with ARMSTAT Environment Statistics.
13. In several instances, the experts have identified both the need and scope for improvement and made corresponding recommendations or offered suggestions of actions. These are listed in Chapter 2 of this report.

³<https://unstats.un.org/sdgs/indicators/indicators-list/>

⁴EUROSTAT Environment statistics methodology hub,
<https://ec.europa.eu/eurostat/web/environment/methodology>

1. Assessment of results

1.1 Part A – Institutional environment

14. **The adherence of ARMSTAT to international best practices in official statistics is widely acknowledged** and there are no signs or perceptions to the contrary. The Law on Official Statistics of the Republic of Armenia (LOS), Nr. LA-194-N of 21st March 2018, **which is fully based on the Generic Law on Official Statistics (GLOS)**, defines the concepts, purpose, and principles of official statistics, and determines the legal grounds for:

- keeping statistics;
- storing and disseminating information obtained as a result of the keeping of statistics;
- carrying out the censuses; and
- the system and functions of the authorities responsible for keeping official statistics.

It sets the conditions of production and dissemination of statistics by official producers (ARMSTAT, the Central Bank of Armenia and the other potential producers of official statistics).

15. **Basic principles of official statistics**, closely following the United Nations Fundamental Principles of Official Statistics (FP) and **European Statistics Code of Practice, are cemented in the LOS**. The legislation and associated Charter of the National Statistics Office of Armenia and the Nature Protection Statistics Division for Environment Statistics development, production and dissemination are regulated by art. 3 of the LOS. In accordance with the FP, further strengthening of the compilation of official statistics on environmental phenomena has been reflected in the Five-Year Statistical Programme 2019-2023, resulting from the adoption of the LOS in 2018. The Annual Working Plan and the Five-Year Statistical Programme are used as the main mechanisms for the coordination and planning process of Environment Statistics.

16. Article 9 of the LOS regulates the relations with other potential producers of official Environment Statistics. ARMSTAT is the responsible institution for the coordination of the national environmental statistical system.

17. In the Republic of Armenia, the Ministry of Environment is responsible for environmental protection and climate change policy, and partially responsible for sustainable development, the green economy and green growth policies. More than 15 laws regulating the environmental sphere have been adopted and the respective strategic programmes have been approved or endorsed by the Armenian government, including the “Clean Motherland” national programme. The Armenian Development Strategy (ADS) for 2014-2025 identified 15 national priorities in key provisions for environmental problems and planned measures. One of these priorities is “Improvement of the environmental monitoring system in order to ensure the application of unified monitoring approaches and standards and collection of reliable information on the ecological situation, as well as statistical data from other sources”⁵. Moreover, the Armenian government is a signatory to international conventions and participant in

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https://policy.asiapacificenergy.org/sites/default/files/Development%20Strategy%20of%20the%20Republic%20of%20Armenia%20for%202014-2025_ENG.pdf.

international and regional reporting processes related to the environment and sustainable development, such as the UN FCCC, UN CBD, UN CCD, UN SDGs, UNECE “Environment for Europe”, etc. To support reporting processes and Environment Statistics development, ARMSTAT signed a Memorandum of Understanding (MoU) with the Ministry of Environment, approved by the Government Decision on Data Provision Order from the State Revenue Committee to the Statistical Committee (recommendation 5 of the Global Assessment 2008⁶ and Peer Review 2019).

18. In order to assess the Armenian Statistical System’s (ASS) compliance with the ESCoP, a **Peer Review (PR)** was undertaken by EUROSTAT, the European Free Trade Association (EFTA), and the United Nations Economic Commission for Europe (UNECE) in **2018**⁷. The aim of conducting the **PR** was to provide an in-depth and comprehensive analysis of the institutional, organisational, and technical capacity of Armenia to produce official statistics that comply with international and European guidelines and recommendations (including the UN FP and the ESCoP).
19. The recommendations of the **PR** were highly influential in the development of the Five-Year Statistical Programme of Armenia in 2019. **The Five-Year Statistical Programme relies heavily on the European Statistics Code of Practice** and is focused on producing high-quality official statistics based on user needs, constructing effective, modern, and sustainable statistical production processes and building the statistical infrastructure and capacity required.
20. **ARMSTAT State Council approved the Five-Year Statistical Programme** in 2019 and it has been further translated into Annual Working Plans for 2020, 2021 and 2022. The current Annual Working Plan 2022, if successfully carried out by ARMSTAT, will elevate ARMSTAT to among developed National Statistical Institutions in line with international best practices.

1.1.1 Principle 2: Mandate for data collection

21. **The LOS and the recently introduced partnership MoU with the Ministry of Environment (ME), permit the sharing of some environmental administrative data sources for the compilation of Environment Statistics, and provide an adequate mandate for data collection.** Recently strengthened data provisions for environmental data collection provide ARMSTAT with improved access to environmental monitoring data. Nevertheless, there is still limited access to administrative data and no access to remote sensing data sources. A current initiative for setting up an integrated system of administrative registers will help ARMSTAT to access and use additional administrative registers, provided the issues identified regarding the use of international standard classifications are resolved.
22. **Article 20 of the LOS granted ARMSTAT legal access to administrative data.** A number of administrative sources are used during data collection for Environment Statistics; restrictions on access to these is reported to have caused statistical quality issues previously.

⁶ Global Assessment of the National System of Official Statistics of the Republic of Armenia, 2008, https://unece.org/fileadmin/DAM/stats/documents/technical_coop/GA_Armenia_EN.pdf

⁷ Peer Review of ARMSTAT and Armenian Official Statistics, 2019, <https://www.armstat.am/file/doc/99513323.pdf> (Armstat website) https://www.efta.int/sites/default/files/publications/statistics-eso/reports/2789592_Final%20Armenia%20PR%20report_20190305.pdf

23. **A number of environmental information sources are used** in data collection for centralised monitoring of air quality, water quality, forestry, hunting and special protected areas. These data are used in estimating respective the Environmental Indicators, at national level and broken down to local level. Access to this information has traditionally been reported to be problematic, but the recently signed MoU between ARMSTAT and the ME has allowed environmental information generated by the Hydrometeorology and Monitoring Centre (SNCO) and the Forest Committee to be shared.
24. Other sources of data and statistics are used in the production of Environment Statistics related to:
- Vehicles and road victims (Police Ministry);
 - Emergency situations (Ministry of Emergency Situations);
 - Extraction and use of minerals and soil conditions (Ministry of Territorial Administration and Infrastructure);
 - Fisheries (Foundation for Restoration of Sevan Trout Stocks and Development for Aquaculture);
 - Impact of mining on environmental quality and conditions (Environmental Protection and Mining Inspection Body); and
 - Drinking water quality (Ministry of Health).

These data are also used in estimating further attributes and conditions of environmental phenomena at a more comprehensive and detailed level. Although access to these sources for statistical purposes has been reported as an issue in the past, their utilisation to produce Environmental Indicators has been successful over the last few years.

25. **ARMSTAT Nature Protection Statistics Division does not access or use remote sensing datasets**, such as satellite imagery of land use, water bodies or forest cover, for statistical purposes. This is due to an apparent lack of expertise, trained specialists and appropriate tools for spatial analysis, partly because of the hesitant attitude towards these data sources, which currently operate outside the institutional system of ARMSTAT.
26. In order to reduce and prevent non-response, **ARMSTAT systematically conducts meetings with major data providers** to discuss the importance of statistical environmental surveys and the quality of the information. Additionally, ARMSTAT have the mandate to penalise non-responding units according to the Code of Laws of the Republic of Armenia on Administrative Legal Violations, art. 169.2 as “violation of the procedure for submitting data necessary for the implementation of state statistical observations or distortion of the data”. Awareness letters are sent to new respondents which have been selected from the Business Register or the administrative register of a relevant agency.
27. ARMSTAT’s informative website⁸, widely praised by users, provides all documentation related to the organisation’s legal basis, its administrative and organisational policies, and other rules governing ARMSTAT. With regard to design and user interface, the official site is of very high quality and facilitates access to relevant information regarding ARMSTAT’s statistical production.
28. However, in the changing data landscape and while implementing its programme of wholesale modernisation of data sources and compilation methods, ARMSTAT will likely become more critically

⁸ <https://www.armstat.am/en/>

dependent on new data providers and sources. All ARMSTAT operations are due to be transferred to an integrated system, which will allow online access for respondents, ensuring the timely submission of data and their automatic validation. **Access to these new data will ensure sustainable information flow** for the production of Environment Statistics and other critical official statistics in the future.

1.1.2 Principle 3: Adequacy of resources

29. **The Five-Year Statistical Programme and the Annual Working Plan will only succeed if adequate resourcing is secured.** Adequate resources include staffing as well as IT resources and human resource management, administered in a coordinated manner. In 2022, ARMSTAT operates in 12 locations: the Central Office in Yerevan and 11 regional offices. The total budget for ARMSTAT in 2022 is AMD 1316 million (0,018% GDP), of which AMD 18 million⁹ (1,4% total ARMSTAT annual budget) is assigned to wages in the Nature Protection Statistics Division and the State Council on Statistics, Nature Protection Sphere.
30. **Overall, the staff level and overall budget for the Nature Protection Statistics Division are not sufficient to carry out current tasks.** The Nature Protection Statistics Division consists of four full-time equivalent staff (three civil servants plus one statistician) and corresponds to 1.6% of the total staff of the Central Office of ARMSTAT in Yerevan. In addition to the Nature Protection Statistics Division, the members of the State Council on Statistics in the Nature Protection Sphere and the data collectors under regional offices complete the staff working on Environment Statistics in Armenia. The staff level described does not seem sufficient considering the additional work associated with the requirement of producing detailed quality declarations for each Environmental Indicator. Furthermore, the impending necessity of using GIS applications, the expanding reporting process of Environment Statistics to international and regional organisations, and the evolving reporting of environment-related SDG indicators are not likely to be sustainable without a corresponding increase of resources.
31. **The Nature Protection Statistics Division has expanded its range of products in recent years** while the staff and IT resources have not essentially changed. To produce the annual yearbook “The Environment and Natural Resources in the Republic of Armenia”, and the set of Environment and Natural Resources Indicators for UNECE and national reporting, among others, while compiling SDG indicators and reporting to international and regional organisations such as the UN FCCC, UN CBD, UN CCD, UN SD, UN FAO questionnaires etc. will likely require some further resources in addition to the efficiency gains achieved by current staff alone. In particular, modernising data collection (by using an integrated system), production and dissemination processes could lead to an updated funding allocation between Central Office staff and regional environmental data collectors. Application of new technologies provided by the Earth Observation Services and the development of tools to assist in the production of data and indicators will deliver new georeferenced datasets presented with state-of-the-art infographics.
32. Since 2019, ARMSTAT staff have attended 10 training programmes funded by UN FAO, UN ESCAP, UN Water, UN University, EEA and EU donors. An example is the European Environment Agency (EEA) training on the System of Environmental-Economic Accounting with special focus on land

⁹ This data does not include wages for regional office staff in charge of collection environment surveys

accounting, incorporating full use of spatial data sets from Copernicus.¹⁰ A forward-looking **capacity development plan** could alleviate skills bottlenecks in carrying out the ARMSTAT development agenda in Environment Statistics.

33. In ARMSTAT, tasks and qualifications requirements for staff are defined in job descriptions. However, the job descriptions are over-general and don't take into account the specificity of environment statistics as a multi domain field, that requires a variety of education profiles (e.g. statistics, environmental science, environmental economics etc.) and the combination of specific skills (e.g. the use of GIS).
34. The Five-Year Statistical Programme is a very ambitious endeavour; to implement it successfully will likely require additional resources in both staff quantity and calibre. Ensuring relevant staff capacity while transforming environmental data collection, production, analysis and dissemination processes will be particularly critical.

1.1.3 Principle 4: Commitment to quality

35. Article 26 of the LOS committed ARMSTAT and other producers of official statistics “to continuously assess and improve the quality of official statistics in terms of relevance, accuracy, reliability, timeliness, punctuality, transparency, clarity, coherence and comparability”. The Five-Year Statistical Programme of 2019 and the Annual Working Plan of 2022 include organisation-level programmes on quality self-assessment, an integrated quality management system and enhancement of the current Quality Policy. The Quality Policy of the Statistical Committee of the Republic of Armenia was approved on 20 June 2016, by the Resolution № 17-A of the State Council on Statistics of the Republic of Armenia. The quality system of ARMSTAT is based on the 15 principles of the European Statistics Code of Practice. The quality declarations are published on the ARMSTAT website and the topic is described in detail in the "Handbook on Data Quality Assessment and Tools"¹¹. ARMSTAT has launched a process to compile user and producer quality reports following the EU Single Integrated Metadata System (SIMS). The aim of this initiative is to establish a system of reference metadata, to introduce reporting standards based on the EU SIMS and follow the reporting formats prescribed by ESMS (Euro SDMX Metadata Structure) and ESQRS (ESS Standard Quality Report Structure). These ongoing, yet to be fully implemented, frameworks provide the basis for enhancement and monitoring of overall quality and on which more detailed statistics-specific quality indicators can be developed.
36. **Various quality aspects of Environment Statistics are regularly monitored** and developed by the Nature Protection Statistics Division and the Quality Management Division. Six documents are compiled annually to describe quality aspects of Environment Statistics regarding: Yerevan Zoo; current expenditures for environmental protection and fixed assets; mining, use and extraction of minerals; land improvement; and water accounts.
37. ARMSTAT quality initiatives are **detailed and centralised and include complete documentation of the statistical processes**. For the Nature Protection Statistics Division this means creating detailed process descriptions regarding the monthly and annual collection, compilation and dissemination cycle,

¹⁰ <https://eni-seis.eionet.europa.eu/east/areas-of-work/seea-progress/explore-further/report-on-environmental-accounting-and-hands-on-data-for-indicator-production-on-integrated-approach-october-2019>, Report Environmental accounting and hands on data for indicator production on integrated approach, EEA, 2019

¹¹ http://epp.eurostat.ec.europa.eu/portal/page/portal/quality/quality_reporting and "[Quality Declaration of the European Statistical System](#)"

the roles individual staff take within the cycle and actions required for specific cases. The documentation includes instructions for environmental data collectors and detailed descriptions of the compilation methodology. Quality reports for statistical products of Environment Statistics are published in the reference metadata.

38. Further **quality improvements implemented in recent years** include the following measures:
- Modernisation of PCs;
 - Increased online reporting;
 - Improved completeness of data coverage in compilation of certain Environment Statistics (e.g. water use and discharge, waste management, current expenditures for nature protection); and
 - Introduction of new statistical operations for SEEA (in progress).

1.1.4 Principle 6: Impartiality and objectivity

39. **ARMSTAT’s role as an independent and professionally impartial state institution has been largely gained within the last 10 years.** The users of ARMSTAT products and other stakeholders with whom the experts interacted largely agree on the significant reputational gains that have taken place. ARMSTAT enjoys broad user approval and the professionalism it employs in setting its statistical methodologies is generally not questioned.
40. Again, **ARMSTAT’s Five-Year Statistical Programme calls for observance of existing international best practices** in following methodologies of statistical production. This is enforced by close collaboration with international bodies that are custodians of setting methodological standards, such as the World Bank, UNSD, UN FAO, UNECE, UN ESCAP, European Commission, etc. Meetings with key external stakeholders and separate discussions with some ARMSTAT members confirmed that they support the ARMSTAT approach to maintaining impartiality and objectivity by working closely with international organisations.
41. At least **in the area of Environment Statistics, ARMSTAT relies on more general than specific user consultation when it comes to possible changes in methodological details.** To better address the needs of domestic users, as well as following international best practices, key stakeholders’ technical experts could be involved in the preparation of methodological changes, evaluating their impact for users and identifying learning needs. Formalising this technical collaboration would further enhance ARMSTAT’s objectivity.
42. **ARMSTAT is a professional and dynamic institution with a good reputation.** In discussion with some of the ARMSTAT members, the impartiality and objectivity of ARMSTAT were not questioned in any way. **The State Council on Statistics is the supreme body of governance of the National Statistical System.** The role of the State Council on Statistics is stated in art. 10 of the LOS as to “adopt decisions on official statistics, approve statistical programmes, reports, principles of development, production and dissemination of official statistics, etc.” The ARMSTAT State Council on Statistics “approves data collection methods, coverage and periodicity” including those for Environment Statistics. To retain the confidence gained, ARMSTAT should actively ensure that the perceptions of impartiality and objectivity are maintained during the transition to new data sources and modern methods of environmental data collection.

1.2 Part B – Statistical processes

43. **The ARMSTAT Nature Protection Statistics Division produces Environment Statistics generally in line with international standards and is well prepared to compile them in accordance with EU legislation.** All main areas of Environment Statistics concepts and procedures (coverage, concepts and collection procedures, formulae and compilation procedures, sampling and quality adjustments) meet, in general, international standards on the compilation of Environment Statistics. They are in line with the UN Framework for Development of Environment Statistics (UN FDES) 2013 (with adaptations in the case of Environment Statistics with relevant national needs or data limitations). Some examples of statistics in line with international standards are water statistics and current expenditures for environmental protection, which are produced according to EUROSTAT methodology. The existing procedures and tools in place to collect environmental data, monitor their collection and perform primary and secondary data cleaning processes are of a very high standard¹², and projects are on-going to expand national electronic systems for environmental monitoring and the use of modern environmental data compilation procedures.

1.2.1 Principles 7 and 8: Sound methodology and procedure

44. In accordance with the Generic Statistical Business Process Model (GSBPM) there is a standard methodological document in place that contains guidelines for statistical operations and describes the methodological framework, based on the UN FDES 2013. This document is internally called the “process description”. It has been created specifically for Environment Statistics purposes and describes in detail the entire process from data collection, logical control and calculation to dissemination, including the responsibilities of each staff member, and the order and deadlines for each operation. An additional document details all the tasks of the production cycle with all staff members being assigned to explicit tasks.
45. Methodological documentation containing all pertinent information on metadata (concepts, methods, and classifications used in the Environment Statistics process) is published. There are technical manuals for statistical environmental data and indicators which are approved by the State Council on Statistics of ARMSTAT and published on the website. These methodological documents are in current use and strengthen the development of national Environment Statistics. They are partly based on the UN recommendations of the FDES 2013, the UNECE Guidelines for the Application of Environmental Indicators in Eastern Europe, Caucasus and Central Asia and the Global indicator framework for Sustainable Development Goals, 2017. The technical manuals for Environment Statistics have a date of approval by the State Council of February 15th, 2013. Environment Statistics products and metadata, in accordance with the ES Code of Practice, GSBPM, and SIMS, are publicly available on the website¹³.
46. Some Environment Statistics data related to health and living conditions are collected, processed, and published by other departments of ARMSTAT. Such cases include the Household Survey and

¹²[Instructions of reporting forms of statistical information on air emissions, waste and water; ARMSTAT, https://armstat.am/am/?nid=49](https://armstat.am/am/?nid=49)

¹³[Reporting forms of statistical information on air emissions, waste and water of environmental statistics ARMSTAT, https://armstat.am/am/?nid=48&thid=eco](https://armstat.am/am/?nid=48&thid=eco)

demography observations where these multi-domain statistics are used to produce Environment Statistics.

47. **There are regular contacts between the Nature Protection Statistics Division, other producers of environmental data and statistics and main users.** These contacts usually serve the purpose of discussing the Annual Statistical Programme, Environment Statistics products, and statistical environmental surveys and their updating. ARMSTAT's Nature Protection Statistics Division responds promptly to any policy and public enquiries, considering the ongoing development of environmental monitoring systems and the modernisation of e-governance for public services. The Public Council of Users of Official Statistics is an inter-agency coordination council and a working group for the implementation of the requirements and provisions of the UN FCCC and the Paris Agreement. The needs of users, when communicating with ARMSTAT, are taken seriously; for example, the organisation and formalisation of the mutual understanding for the functioning of the production and coordination of Environment Statistics was signed by the Prime Minister (Decision Nr. 719-A). At the request of the Ministry of Environment and ARMSTAT, a MoU was developed to regulate the provision of environmental data and the coordination of Environment Statistics. The Environment Statistics inter-institutional group requires the participation of all environment-related data providers. They are: the Ministry of Environment; the Ministry of Health; the Ministry of Labour and Social Affairs; the Ministry of Justice; the Ministry of Emergency Situations; the Ministry of Foreign Affairs; the Ministry of High-Tech Industry; the Ministry of Economy; the Ministry of Education, Science, Culture and Sport; the Ministry of Territorial Administration and Infrastructures; the Ministry of Finance; the Cadastre Committee; ARMSTAT; the Urban Development Committee; and the Public Services Regulatory Commission.
48. **Nature Protection Statistics Division and the main users are in active contact.** The purpose of discussion with the users of Environment Statistics products allows relevant policies and political priorities to be integrated into environmental monitoring and reporting practices. Users note that ARMSTAT's Nature Protection Statistics Division responds immediately to any inquiries. However, ARMSTAT considers that coordination and cooperation among the users of Environment Statistics is not a stakeholder priority, and the benefits of these activities are uncertain.
49. **Meetings, workshops, and study courses are attended at international level leading to the frequent introduction of methodological improvements.** ARMSTAT staff from the Nature Protection Statistics Division regularly attend relevant events at an international level. Most of the methodological materials for improving the existing methodology and implementing the best international standards come from these meetings and courses. In recent years, there have been significant methodological changes, including: the introduction of climate change statistics; the application of the UN FDES and the Basic Set of Environmental Statistics; and the endorsement of SEEA modules. ARMSTAT actively participates in international and regional networks to improve environmental data and indicator methodologies. Some examples of these networks are the UNECE Joint Task Force on Environment Statistics and Indicators, the UNECE Working Group on Environmental Monitoring and Assessment, the UNECE/OECD Seminars on SEEA implementation, the UNECE Expert Forum for Producers and Users of Climate Change Statistics and the UN ESCAP Expert Group on Environment Statistics; all of these inform the methodological development of Environment Statistics in Armenia.

50. **Recruitment advertisements are prepared by the Human Resources Management Division and based on requirements set by the Nature Protection Statistics Division.** The majority of ARMSTAT staff are civil servants who are appointed on a competitive basis, with the recruitment procedure being the same for all divisions. **Training courses are scheduled on an ad hoc basis considering needs, staff, and funding availability.** A specific application to improve staff capability to handle Environment Statistics data and indicators is in place. Vocational training on Environment Statistical issues takes place when the necessity and funding has been identified by national or international agencies.
51. **ARMSTAT's overall methodological framework used for producing Environment Statistics is broadly in line with international statistical standards. In general, Environment Statistics are largely compliant with the UN FDES 2013. Environment Statistics are in a development stage.** Environment statistics cover national level and *marzers* (regional) level. Metadata are still under development and some efforts have been made to produce and regularly publish Environment Statistics. The development process is carried out in close communication with stakeholders. In order to meet international statistical standards, the European legislation and UN FDES 2013 recommendations, some challenges remain to be made.
52. **ARMSTAT is responsible for producing Environment Statistics and reporting them to international and regional organisations:**
- Annual questionnaires on water, waste and climate change are sent to UNSD/UNEP;
 - The UN FAO collects annual Agro-environmental Indicators;
 - 48 Environmental Indicators are regularly submitted to the UNECE Statistics Division;
 - 95 Environmental Indicators are reported annually to the Committee of Independent States;
 - 36 sub-indicators of the SDGs are produced and reported;
 - Reporting to environmental conventions or initiatives is undertaken by the Ministry of Environment; and
 - The Life Quality Indicators related to the environment are produced in the scope of UN FDES and include SDG indicators¹⁴.
53. **ARMSTAT Nature Protection Statistics Division conducts three statistical environmental surveys to collect data and produce Environment Statistics on current expenditures for nature protection and fixed assets, extraction and use of mineral waters and land improvement.** Environmental data is collected from large and small enterprises that have been identified as reporting units from the Business Register and the register of the Ministry of Environment (permission for emissions and licenses for water extraction). Definitions are mainly based on international methodologies as they are selected according to relevant requirements and recommendations. Simultaneously, discussions are carried out, and suggestions are accepted from relevant field experts. For each survey specific instructions are developed. The final form/survey is then circulated among

¹⁴ https://www.armstat.am/file/ECASTAT/ECO/en/Annex%208_EN.pdf

stakeholder agencies and only after their agreement/acceptance is the survey sent for confirmation by the State Council on Statistics and Improvement to the Ministry of Justice.

54. **ARMSTAT Nature Protection Statistics Division compiles a list of observation units for environmental surveys along with the Ministry of Environment.** The criteria for the selection of observation units are developed using the national Business Register and registers of environmental permits and licenses. The updating of observation units takes place on an annual basis and is supported by national legal and administrative mechanisms.
55. **ARMSTAT use various types of data sources for producing Environment Statistics:**
- **Environment Statistical surveys**, in which environmental data are collected in cities and regions from large and small businesses, present the main environmental pressure points and negative impacts occurring in Armenia. The number and list of reporting units of large and small businesses are identified to measure their negative environmental impacts. A Business Register and a permit register are used for identification and reporting data from each observation unit; the reporting units are usually updated once a year and remain representative for the assessment of environmental impacts and negative pressures. Rural and urban households are not part of the reporting units in statistical environmental surveys. Instead, the Household Budget Survey and population census data are used to identify environment-related data and to estimate the aggregate negative pressure on the environment of households.
 - **Administrative records and registers** that display the environmental data of the large and small enterprises in the business sector, i.e. the lists kept by environmental agencies that issue licenses for natural resources use and emissions permits.
 - **Environmental monitoring**, collecting environmental data from monitoring points/sites of measurement of environmental conditions and quality on air, water, and soil. Quality adjustment of these statistics is the responsibility of the Hydrometeorological and Monitoring Centre. ARMSTAT receives Environment Statistics of environmental conditions and quality for analysis, production of Environmental Indicators and their dissemination.
 - **Environmental multi domain statistical surveys**, in which environmental data on urban waste production, treatment and incineration in cities are collected by municipal organisations responsible for waste management and reported to ARMSTAT. This is regulated by the National Law on Waste.
56. **ARMSTAT has established a Quality Management Division to improve and enhance the statistical processes across the institution.** Currently, this department has a focus on sound documentation of all procedures in place and on mapping statistical production systems with GSBPM. The Quality Management Division, together with the Nature Protection Statistics Division, monitor the implementation and validate the results of the most important processes for data collection, data editing and validation and data codification/classification. The mandate of the Quality Management Division includes the support and monitoring of methodological improvements and the correctness of applied procedures.
57. **ARMSTAT uses economic, social-demographic and specific classifications for Environment Statistics.** In Armenia, the **National Classification of Economic Activities corresponds to the European classification NACE Rev. 2.** In addition, the **National Classification of Resource**

Management Activities has been developed for the collection and production of Environment Statistics. This classification corresponds to the European classification of resource management activities. For **National Waste Classification** the Law on Waste is used, which defines the concept of waste, and classifies and describes the streams of solid waste, municipal waste, industrial waste and hazardous waste streams. These waste categories correspond to the European Waste Classification for statistical purposes (EWC-Stat).

58. **ARMSTAT coordinates the statistical activities of other data producers and contributors to the Environment Statistics production process.** According to the ARMSTAT Annual Working Plan 2022, there are 23 statistical workstreams where Nature Protection Statistics Division staff collect statistical data, check them, sometimes aggregate them, and publish these environmental statistics in ArmStatBank and on the website. In total, almost 1600 indicators are published in ArmStatBank including water, waste, environmental taxes and mineral use indicators.
59. **ARMSTAT uses environmental data and statistics** produced by other institutions. For example, the Hydrometeorology and Monitoring Centre produces statistics on water, air, and soil conditions and quality. The Ministry of Environment produces statistics on air emissions, GHG emissions statistics, forest statistics, and statistics on protected areas. ARMSTAT uses these for producing Environmental Indicators, reporting on SDGs, and the development of SEEA accounts, among other purposes.
60. **Emission Statistics data from mobile sources are calculated and based on fleet vehicle fuel consumption.** These data are available in the National Energy Balance and are provided to environmental experts for calculation of emission data statistics. The Ministry of Environment produces territorial data and presents those environmental pressures that occur within the borders of Armenia. These data have annual periodicity and are reported to ARMSTAT in the form of a bulletin for checking and publication.
61. **Emissions Statistics data from stationary sources of pollution from large and small enterprises are applied and reported in the National Emission Inventory.** The collection and calculation of these data are based on a combination of basic methods such as measurements, calculations, and expert estimations. Large enterprises, with large stationary sources of pollution, report emissions that are based on measurements. Medium and small enterprises report emissions data that are calculated by activity and linked to emission factors. Expert judgement of emission data is used, for example, in the case of emission data from domestic heating. These emission data are very relevant for estimating the impact of rural households. The Population and Housing Census and the Household Survey are good additional sources for such estimation. The Environmental Protection and Mining Inspection Body collects environmental data and presents these data in Excel format for checking, aggregation, and publication. These data have annual periodicity. ARMSTAT has no role or a minor role in the production of respective emission data. ARMSTAT has taken action to produce the SEEA CF Air emission accounts, following a dedicated framework and the EU manual on air emission accounts, and strives to ensure that the same economic activities are included in statistics for comparability. This means that emitters are broken down by economic activity according to the classification of economic activities which is appropriate to study how the economy emits GHGs. Territorial data are used to follow the development of emissions in relation to climate change goals. These data show which emission sources are present in Armenia. For international reporting to the Climate Change

Convention, guidelines have been developed by the UN Panel on Climate Change. Armenia produces ‘greenhouse gas inventories’ on this basis¹⁵.

62. **ARMSTAT develops and reviews statistics on Environmental Protection Expenditures.** The definitions and concepts of the Environmental Protection Expenditures are taken from the UN FDES 2013 and the Basic Sets of Environmental Statistics. The Environmental Protection Expenditure statistics measure the resources dedicated by resident enterprises and government to protecting the natural environment. This aggregate covers the use of environmental protection services, investment (gross fixed capital formation) for environmental protection activities, and net transfers to the rest of the world for environmental protection. Data are collected on an annual basis from businesses and government in urban and rural areas. However, classification for environmental protection activities in Armenia is not in line with the EU CEPA 2000. Therefore, ARMSTAT is considering changes due to application of the implementation of the EU Regulation No 691/2011 on European Environmental-Economic Accounts consolidated version, and the transition to the of SEEA CF implementation in order to describe transactions related to the prevention, reduction, and elimination of pollution and any other environment degradation.
63. **ARMSTAT follows the concepts of municipal waste statistics.** The definitions of waste generation and treatment are taken from the recommendations of the UN FDES and the UNECE Statistical Division on Environmental Indicators. The Environmental Protection Authority and the Mining Inspectorate Body annually collect data on municipal waste from enterprises, households and authorities in towns and villages via special reporting surveys of municipal units that provide waste services. These data are submitted in Excel format to ARMSTAT for quality checks in order to publish aggregated municipal waste statistics.
64. **ARMSTAT follows the concepts of hazardous waste statistics.** The definitions of waste generation and treatment are taken from the recommendations of the UN FDES and the UNECE Statistical Division on Environmental Indicators. The Environmental Protection Authority and the Mining Inspectorate Body annually collect data on hazardous waste from enterprises, households and authorities in towns and villages. These data are submitted in Excel format to ARMSTAT for quality checks in order to publish aggregated hazardous waste statistics
65. **ARMSTAT follows for the concepts of waste statistics.** The definitions of waste generation and treatment are taken from the recommendations of the UN FDES and the UNECE Statistical Division on Environmental Indicators. The Environmental Protection Authority and the Mining Inspectorate Body annually collect data on waste from enterprises, households, and municipal authorities in towns and villages. Two data collection sources are in place, namely the administrative register of permits and municipal reporting. This process of data collection is similar in many EU countries. These data are provided in Excel format to ARMSTAT for quality checks in order to publish aggregated waste statistics. ARMSTAT is able to select the data collection methods.

¹⁵ IPCC. 1997. Revised 1996 IPCC Guidelines for National Greenhouse Gas Inventories. JL Houghton, LG Meira Filho, B Lim, et al. (eds.). Paris, France: IPCC/Organisation for Economic Co-operation and Development/International Energy Agency. Available at <https://www.ipcc-nggip.iges.or.jp/public/gl/invs1.html>

66. **ARMSTAT follows the concepts of water statistics.** Concepts cover water abstraction, consumption, use, treatment, and discharge with definitions based on the UN FDES and the UNECE Statistics Division and used for water indicators exercises and SDGs indicators. The Environmental Protection Authority and the Mining Inspectorate Body annually collect data from enterprises, households, and municipal authorities in towns and villages via a special reporting survey of observation units that have permission to provide water supply services and self-abstract water. These data are submitted in Excel format to ARMSTAT for quality checks in order to publish aggregates of water statistics. The metadata are in line with Eurostat and the OECD, which jointly conduct a questionnaire on inland waters. ARMSTAT compile this questionnaire on an annual basis together with national data for reporting. In addition, water accounts hybrid tables on supply and use are produced on a national initiative.
67. **ARMSTAT receives environmental data on minerals and mining activities** from the Ministry of Territorial Administration and Infrastructure in Excel format for checking, aggregating, and publishing data. Methodological documents¹⁶ are available on their website.
68. **ARMSTAT regulates relations and procedures with reporting units through the LOS** Consequently, if a company is part of the statistical environmental survey process, this process is immediately backed up by legal leverage. Besides, for statistical surveys all reporting questionnaires for upcoming surveys are approved by the Ministry of Justice. Therefore, in practice, there are no issues with assessing the quality of substitute adjustments, as the reporting unit of the company is obliged to report to avoid penalties.
69. **ARMSTAT collects statistical data, including from administrative registers, through statistical documents approved by decisions of the State Council on Statistics.** The range of indicators is determined based on a study of user demand. The legislation of the sphere is studied, and a working group is set up with specialists of the relevant department, to increase familiarity with the information available in the administrative registers. After summarising the official opinions, the statistical forms/reports and instructions, approved by the decision of the State Council on Statistics, are registered as legal acts either by the Ministry of Justice or by the State Council on Statistics itself. They are submitted to ARMSTAT at the frequency mentioned in the Annual Working Plan and posted on the ARMSTAT website.
70. **Administrative data sources are used for environmental taxes and nature use fees purposes, especially for the compilation of observation units and for data collection.** The use of administrative data sources is a strategic objective for ARMSTAT and the Nature Protection Statistics Division. It must be verified that administrative data meet statistical standards regarding coverage, sampling, and concepts. In 2021, administrative data from the Tax service were used for data collection, checking, summarising, aggregation, and publication. ARMSTAT plans to assume national data stewardship for administrative data. This should facilitate the use of administrative data and support an increase of share in the data collection for the Environmental Indicators production process from Environment Statistics.
71. **Environmental data are collected by ARMSTAT employees in the central and regional statistical offices.** There are 4 employees at the Central Office and 11 employees at the regional offices supporting environment statistics when it is required. Besides environmental data collection for Environment

¹⁶ <https://www.arlis.am/documentview.aspx?docid=86890>

Statistics, regional employees also support data collection for other statistics. Most of the employees from regional offices work for ARMSTAT in permanent positions and have been collecting these data for many years. This allows for reliable fieldwork results and a high level of qualifications, skills, and training.

72. **All environmental data are electronically reported and immediately entered manually into a database at the office, providing for a high level of digitalisation and allowing the application of immediate validation procedures.** Central Office staff, each responsible for a specific domain, analyse the incoming environmental data using quality checks (times series, databases, methods, etc.) and provide comments and feedback in the case of data problems. There is a process under development for the implementation of an integrated system which will allow the use of automated methods.

1.2.2 Principles 9 and 10: Non-excessive burden on respondents and cost-effectiveness

73. **ARMSTAT Nature Protection Statistics Division has not measured the response burden on companies for the last few years**, but the use of administrative data is increasing. As part of the EU funded Twinning project recently carried out (2018-2021), an integrated system is being developed. The system aims to use a single database with no repetitions or duplication of data. ARMSTAT divisions in general, and the Nature Protection Statistics Division in particular, must provide the structure of each database so that the final system can include all the information and all duplicate information can be eliminated.
74. **ARMSTAT currently does not monitor the use of resources to produce Environment Statistics**, but the total cost of Environmental Statistics production in recent years remains broadly stable.

1.3 Part C – Statistical output

75. In general, **ARMSTAT disseminates Environment Statistics in line with international standards.** Timeliness and punctuality of the environmental data and indicators released are excellent and also praised by key users. Users are informed about all methodological changes through press releases and updates of methodological documentation, and in terms of user interface and technology, the ARMSTAT website is state-of-the-art.
76. A selection of the large number of statistical outputs produced by the Nature Protection Statistical Division in 2021 were: The experimental Life Quality indicators related to environment; 48 UNECE Environmental Indicators¹⁷; 11030 Environmental Indicators for the Ecobook; 1600 indicators for ArmStatBank¹⁸; and 36 environment-related SDGs sub-indicators¹⁹. These data were published in a user friendly and convenient format.

¹⁷ <https://www.armstat.am/en/?nid=12&thid=env&type=0&submit=Search>

¹⁸ <https://statbank.armstat.am/pxweb/hy/ArmStatBank/?rxid=9ba7b0d1-2ff8-40fa-a309-fae01ea885bb>

¹⁹ <https://sdg.armstat.am/>

1.3.1 Principle 11: Relevance

77. **There is clear evidence of user satisfaction and engagement of users with respect to ARMSTAT statistics**, through various events organised for user groups. Through different mechanisms ARMSTAT tries to ensure that users' needs are met. One of these mechanisms is the Annual Working Plan, sent to all stakeholders for their comments and recommendations for Environment Statistics. Additionally, the User Satisfaction Survey is conducted annually.
78. **ARMSTAT conducts a User Satisfaction Survey yearly** and evaluates the number of website visits and data requests. This survey was conducted in 2019, 2020 and 2021. The results are available on the website in Armenian²⁰. The design of the survey in which energy statistics have been combined with Environment Statistics, makes it difficult to estimate the real demand for Environment Statistics by the general public.
79. **ARMSTAT regularly monitors mass media and analyses the feedback from users**, at times offering explanations about the content/use of certain statistics. Moreover, ARMSTAT organises consultations on the Five-Year Statistical Programme and the Annual Working Plan and analyses the feedback received. Interest in Environment Statistics by the general public seems to be limited. In the ARMSTAT website's Frequently Asked Questions section there are no questions related to environmental phenomena²¹. However, basic counting of use and downloads of Environment Statistics by website visits are not available, which would have been helpful to measure the real demand and interest of the general public.
80. **ARMSTAT publishes an advance release calendar** for its statistical products on its website²².
81. **Guidelines and additional information on use of environmental data and indicators are provided**. These guidelines are published in Methodology for Environment Statistics and include, among others, technical manuals for water statistics, water accounts and Environmental Indicators for Quality of Life²³. In addition, ESMS for some Environment Statistics²⁴ and the Metadata Statistical Glossary²⁵ are published on the website. Additional explanations are given on request to users via phone, email, conferences, and public lectures²⁶.
82. To better serve the users, contact information of the Nature Protection Statistics Division Head is publicly available on the website²⁷.
83. ARMSTAT produces a Basic Set of Environment Statistics plus several additional statistics that are required by EU and Armenian legislation:
- 10 environment-related SDGs (1.5.1, 6.4.1, 6.4.2, 9.4.1, 11.5.1, 12.4.2, 13.1.1, 13.2.2, 15.1.1, 15.5.1);

²⁰ <https://www.armstat.am/en/?nid=725>

²¹ <https://www.armstat.am/en/?nid=107>

²² <https://www.armstat.am/en/?nid=33>

²³ <https://www.armstat.am/en/?nid=369>

²⁴ <https://www.armstat.am/en/?nid=836&gid=EE>

²⁵ <https://www.armstat.am/en/#E>

²⁶ <https://www.armstat.am/en/?nid=29>

²⁷ <https://www.armstat.am/en/?nid=57>

- 48 UNECE Environmental Indicators;
- UN SD Environment Statistics questionnaires (water, waste, e-waste, etc.);
- UNECE Convention on Long-range Transboundary Air Pollution statistics;
- A national report on the state of environment; and
- SEEA statistics.

Additionally, the Ministry of Environment publishes ARMSTAT Environment Statistics on the Ecoportal. These data and indicators provide a sound statistical basis to cover environmental information at the most relevant levels of the Armenian environmental issues, as well as other relevant indicators on emerging trends in Armenian society (waste management, water scarcity, climate change, deforestation, air quality and soil degradation).

84. **ARMSTAT has the intention of developing and producing additional Environmental Indicators and Statistics.** This will further align its environmental statistical system with EU standards²⁸. There are concrete plans to compile and publish harmonised Environmental Indicators from Environment Statistics that should follow the EU Environmental Indicator Catalogue.²⁹ The Environmental Indicator Catalogue responds to the need for a repository of all available indicators in Europe. It is an inventory of almost 200 European indicators, providing a one-stop-shop for indicators on environmental and environment-related topics. Currently, the catalogue includes indicators produced mainly by Eurostat and the European Environment Agency (EEA), but also some indicators from the European Commission's Joint Research Centre (JRC) and other international sources. European and international bodies develop Environmental Indicators chiefly for policy purposes. However, many of them are relevant for ARMSTAT and their well-developed structure, methodological background and policy connection make them suitable for application. A national catalogue of environmental indicators in Armenia would be a major methodological undertaking and require substantial time and resources, in particular if ARMSTAT decides to implement the Basic Sets of Environmental Statistics and the SEEA approach, as required by EU legislation and UNECE, and global environmental indicators.
85. ARMSTAT's ongoing work to develop and **produce air emissions accounts** coincides with the current working plans of many NSIs within the (European Statistical System) ESS, as these are included in the six mandatory European environmental accounts under Regulation (EU) No 691/2011 (amended by Regulation (EU) No 538/2014 and by Commission Delegated Regulation (EU) 2022/125)³⁰ on the following topics: **air emissions, environmental taxes, material flows, environmental protection expenditures, production and jobs in the environmental sector, and physical energy flows.**
86. **ARMSTAT's current efforts go a long way to ensuring and monitoring user satisfaction and meeting the ESCoP principle on relevance with regard to Environmental Indicators.** However, there is no formal technical working group for key Environment Statistics producers, users, and experts to discuss possible improvements in existing methodology and emerging needs. Such a group could

²⁸ Eurostat, Environment Statistics overview <https://ec.europa.eu/eurostat/web/environment/overview>

²⁹ European Environmental Indicator catalogue <https://ec.europa.eu/eurostat/web/environment/environmental-indicator-catalogue>

³⁰ <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:02011R0691-20220220&qid=1668775719663&from=EN>

also be a platform for methodological collaboration with experts from local institutions – public, private and academic – as well as a potential source for resources in terms of shared development projects and as a catalyst for the introduction of new statistical sources, methods and techniques within ARMSTAT Environment Statistics.

1.3.2 Principle 12: Accuracy and reliability

87. **The content of the existing data validation process is generally of good quality.** While some of the validation processes take place outside the compilation software, the level and detail of analysis to identify suspect movement is of good quality. When data come from administrative registers and from respondents who are responsible for data quality, these reports are cross-checked with other data sources. Aside from this, the LOS requires reporting respondents to provide proper information.
88. **ARMSTAT regularly updates reporting units** in order to adequately include new units and correctly account for them in surveys. This is regulated by the LOS and any changes are explained by notifications.
89. **The environmental data and indicators are compared across regions and significant deviations from the average are checked.** Trends in data and indicators are analysed using time series in Excel templates and regardless of the number of reporting units recorded in each city or region. They are considered to be reliable if they pass a validation check. If unreported units were identified, a verification procedure is undertaken using the Business Register, and the relevant supervising agency is provided with an updated in the list of respondents to the statistical environmental survey.
90. **ARMSTAT collects environmental data to measure environment pressure from large and small businesses, which are the main respondents in statistical environmental surveys.** Households are excluded from this coverage of respondents to produce Environment Statistics. The concepts and some technical processes are being discussed and formulated for assessing households' environmental pressure metrics and their reporting mechanism. These need to be clearly explained to the stakeholders and users to make the best possible use of existing data sources and statistical surveys, as well as incorporating new sources coming on stream.

1.3.3 Principle 13: Timeliness and punctuality

91. **ARMSTAT releases Environment Statistics in a timely and punctual manner.**
92. **The timeliness and punctuality of ARMSTAT's Environment Statistics are highlighted by users' feedback.** It is noteworthy that the publication of the Environment Statistics Yearbook is done on an annual basis, always following the reporting year. Statistics about environmental monitoring are published in March and statistics on water use, air emissions, waste generation and environmental taxes are released in August. Aggregates of these data are disseminated with metadata in October, as well as the Environmental Indicators and data, which are disseminated in a press release.
93. **ARMSTAT has no plans to accelerate the production processes of Environment Statistics and Indicators,** in order to maintain a balance in the reporting of business respondents and the schedule of statistical production dissemination.

1.3.4 Principle 14: Coherence and comparability

94. **ARMSTAT has internal monitoring procedures for coherence of environmental data with other statistics and their consistency over time, using internationally established standards, definitions, and classification.** For example, monetary data in the water accounts and the datasets of the tax service are reconciled with the national accounts. The same procedure is followed in the case of data on natural resource use and emissions, where cross-checking with the relevant units of the environmental inspectorate body or agency is undertaken.
95. **Notably, users are informed of all methodological changes affecting the time series through press releases and updates of methodological documentation as well as in footnotes.** This primarily concerns the methodology used for Environment Statistics and Indicators, as well as SDGs related to the environment. ARMSTAT explains to users that for GHG emissions data the changes are due to the application of a higher tier approach and new GHG emission categories. Secondary data sources are being verified for consistency in coverage, frequency, aggregation, and conceptualisation with the data entry standards. Systematic analysis of Environment Statistics outputs with other statistical or administrative data are carried out, for example, to adjust forestry statistics for illegal logging and households' consumption of fuel wood.

1.3.5 Principle 15: Accessibility and clarity

96. **ARMSTAT Environment Statistics are presented in a clear and understandable form.** They are released in a suitable and convenient manner, available and accessible on an impartial basis with supporting metadata and guidance. Notably, ARMSTAT's website, in terms of design and user orientation, can be considered as state-of-art.
97. **There are a few areas where improvements to the way Environment Statistics are presented could be made to better meet users' needs.** In particular, in terms of quality and quantity of publicly disseminated Environmental Indicators and Environment Statistics could be improved, considering visualisation tools and providing more reporting related to national environmental phenomena, including the UNECE Environmental Indicators and global sets of Environmental Indicators (this point has also been suggested by users and policymakers).

2. Recommendations

The following recommendations were discussed with the Nature Protection Statistics Division, and largely agreed upon.

The **recommendations in comparison with the European and international manuals, guidelines and recommendations** are the following:

2.1 Principle 2: Mandate for data collection

- a. **Ensure the data access provisions in the Statistics Law and collaboration practices with other stakeholders are kept up-to-date in the changing data landscape.** As the critical issues related to data access will fundamentally change this, the provisions of legislation (LOS) should be detailed enough to facilitate access to new data sources such as earth observation data. **As regards administrative data, according to the new Law ARMSTAT has a clear mandate to access this, and line ministries and public institutions are obliged to grant access to their data for statistical purposes, consulting ARMSTAT regarding any major revisions or new data collections (Art. 10 Access to Administrative Data).**
- b. **Further strengthen ARMSTAT's role as a data steward for Environment Statistics.** In collaboration with other statistics producers, organise data collection activities of other public entities to enable better use of administrative data for statistical purposes within the entire Armenian Statistical System.
- c. **Include in the Annual Working Plan all the statistics that are to be produced by the Nature Protection Statistics Division and separate them from Social Statistics,** using a different category. Some of the statistics, such as **water accounts**, are included in the Five-Year Statistical Programme but not in the Annual Working Plan. The international reporting form of questionnaires (UNSD, UN FAO etc.) **is included in the Annual Working Plan, part 4. Exchange of Statistical Information by ARMSTAT³¹.**

2.2 Principle 3: Adequacy of resources

- d. **Ensure that the human and financial resources** for the ambitious development and corresponding Five-Year Statistical Programme **are fully in place in the medium-term.** The current allocation of overall resources, in the light of significantly changing work requirements, is very tight for successfully implementing the full Five-Year Statistical Programme.
- e. **Create a sustainable capacity plan specifically for the Nature Protection Statistics Division.** The development of Environment Statistics complies with UN FDES, UN SEEA and SDGs frameworks, so deepen in-depth knowledge of these frameworks is required. New compilation techniques require new skill sets mixing ICT, GIS and environmental expertise. Furthermore, ensure that specific IT, GIS and analytical requirements for the Division are addressed in the ARMSTAT IT policy.

³¹ https://www.arlis.am/Annexes/6/2021_N18hav.pdf, in Armenian

2.3 Principle 5: Commitment to quality

- f. Within the currently implemented framework of quality management, **identify all the actions to be implemented by the Nature Protection Statistics Division and continue existing efforts to improve quality procedures.**

2.4 Principle 6: Impartiality and objectivity

- g. **Further clarify the role of the ARMSTAT State Council on Statistics in reviewing and approving methodological changes in Environment Statistics.**
- h. **Ensure that the mandated quality dimensions are enforced in practice:**
- Actively seek stakeholders' knowledge in scientific and international best practices in determining methodological changes; and
 - Set up a technical Working Group on environmental data and statistics for key Environment Statistics producers, users and experts to discuss possible improvements in existing methodology and emerging needs.

2.5 Principles 7 and 8: Sound methodology and procedures

- i. **Continue the integration into Armenian Statistical System of concepts and definitions in line with European standards and methodology³² for Environment Statistics**, taking into account the national policy monitoring priorities and reporting of environmental problems at national scale:
- Document, explain and publish changes in concepts, relating to scope, determination of definitions, and production techniques. In the case of changes in Environment Statistics methodologies and for transitions to new methods of data collection, the requirements of national environmental legislation should be considered.
- j. **Ensure that Environmental Protection Expenditures are defined and comply with the EU CEPA 2021**, applying Regulation (EU) No 691/2011 on European environmental economic accounts³³.
- k. **Ensure integration of specific classifications that are used in Environment Statistics** (for example, FAO Land Cover Classification System, UN Framework Classification for Fossil Energy and Mineral Reserves and Resources UNFC, Classification of Environmental Activities CEA), as well as classifications, categories and groupings used in Environmental Statistics that have not been developed for statistical purposes (for example, the classification of natural and technological disasters CRED-EMDAT, the classification of protected areas and of threatened UNEP-WCMC and IUCN, or the source categories for GHGs from the IPCC).
- l. **Identify Environment Statistics which need urgent changes** to meet rising social and political demands.

³² EU Environment Statistics methodology <https://ec.europa.eu/eurostat/web/environment/methodology>

³³ <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32011R0691&qid=1668779612770&from=EN>

m. **Continue the application of UN FDES, UN SEEA and SDGs frameworks:**

- Implement methods and procedures in line with Eurostat recommendations³⁴ on Environmental Statistics to support reporting of environment-related SDG indicators. Development of these SDG indicators and defining the reporting obligation of ARMSTAT will require the planning of additional financial and human resources.
- Integrate SEEA accounts that produce relevant datasets for SDGs indicators. This will act as a completeness and quality test of Environment Statistics, identifying missing data and any weakness in statistical environmental surveys.
- Develop the application of SEEA accounts such as water accounts (resource table), air emission accounts, waste accounts, Environmental Protection Expenditure accounts, and SEEA ecosystem accounts, using a spatial approach. Introduce these activities into the Annual Working Plan for the next few years, bearing in mind that this will be a large undertaking to comply with European standards / international recommendations in this complex area, as Eurostat plans to integrate economic and environmental accounts.³⁵

n. **Set up a National Environmental Indicators Catalogue** to support harmonisation of environmental datasets with the European Environmental Indicator catalogue.³⁶

o. **Continue work to access and introduce new, alternative and complementary administrative data sources**, ensuring that:

- Conceptual and qualitative differences between the new and the traditional source and any impact on indicators and data time series are evaluated, documented and communicated to users;
- Staff skills are acquired/developed and appropriate to perform quantitative and analytical data processing and management (cleaning, classification) using statistical software (e.g. R, Stata, SAS, ARGIS, QGIS, SAGA, etc.);
- Additional resources are available to allow for the necessary investments in IT development, infrastructure and application of GIS analytical tools for Environment Statistics; and
- Implement methods and procedures in line with Eurostat recommendations³⁷ on Environment Statistics, as well as UN FDES, UN SEEA and SDGs frameworks.

p. **Assess the importance of developing a data platform for e-governance services that will serve as a channel for various data sources, including data sources to produce Environment Statistics.**

Considering that the share of these environmental data and Environment Statistics between

³⁴ All Eurostat recommendations and guidelines for the HICP are listed on the Eurostat website: <https://ec.europa.eu/eurostat/web/hicp/methodology>. Recently, a new recommendation on the use of multilateral methods for the compilation of HICP was discussed at the Price Statistics Working Group (November 2021) and will be published when officially endorsed by the Directors of Macro-Economic Statistics in the European Statistical System (ESS).

³⁵ https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Environmental_accounts_-_establishing_the_links_between_the_environment_and_the_economy

³⁶ European Environmental Indicator Catalogue, <https://ec.europa.eu/eurostat/web/environment/environmental-indicator-catalogue>

³⁷ See Reference 31

environmental data holders and stakeholders' channels are increasingly used by policy makers and the general public.

- q. **Develop a formal working group for regular contacts and interaction between the Nature Protection Statistics Division and key users and stakeholders** on methodology development, interpretation, and dissemination formats. This will, over time, enhance the relevance and use of Environment Statistics among national users.

2.6 Principles 9 and 10: Non-excessive burden on respondents and cost-effectiveness

- r. **Assess the opportunity and develop a strategy for allocating existing staff resources to Environment Statistics production** at the Nature Protection Statistics Division, considering that:
- The use of new/alternative data sources eventually reduces the workload of primary data collections from businesses; and
 - New environmental data require continuous and extensive data processing (data cleaning, classification, quality checks, analytical skills).

2.7 Principle 11: Relevance

- s. **Separate Environment Statistics from Energy Statistics in the User Survey Statistics.** Having both categories together does not allow proper analysis of the results and comments.
- t. **Develop a formal mechanism for the Nature Protection Statistics Division to monitor users access to Environment Statistics published in ARMSTAT website.** This information is available at the Statistical Information Dissemination Division and could be easily provided to the Nature Protection Statistics Division in order to better understand users' needs and adapt statistical production accordingly.

2.8 Principle 12: Accuracy and Reliability

- u. **Identify and investigate potential sources of errors and biases that may have an impact on the Environmental Indicators and Statistics.** Even if their impact, magnitude, and direction may not be directly measured, it is important to consider their relative importance and make plans for addressing them. Include the findings of these observations as part of the Environment Statistics methodological document.

2.9 Principle 14: Data coherence and comparability

- v. **Introduce metadata attributes to all Environmental Indicator and Statistics releases.**

2.10 Principle 15: Accessibility and clarity

- w. **Provide some additional Environmental Indicators on the website and SDGs platform:**
- The UNECE environmental indicators; and
 - The UN SDGs environment-related indicators already produced (6.3.2, 6.5.1, 6.6.1, 8.4.2, 12.1.1, 12.2., 12.4.1, 12.c.1, 14.5.1, 15.1.2 and 15.4.1).

- x. **Consider disseminating the Environment Statistics reported to international bodies and conventions when appropriate.**
- y. **Provide more guidelines and information on the website**, including:
 - Information for public users on how and for what reasons to use Environmental Indicators and Statistics;
 - Use more infographics for Environment Statistics to improve the visualisation of statistical products; and
 - Provide answers to “FAQs” that address typical misconceptions and misinterpretations of Environment Statistics in relation to data and indicators.

2.11 Additional recommendations

- z. **Change the name of the Division (Nature Protection Statistics Division) to better refer to the whole domain for which statistics are produced.** As already done for the Ministry of Environment (previous Ministry of Nature Protection), the name of the Division could be changed in order to refer to a wide concept according to the statistics produced to, for example, Environment Statistics Division.

Categorisation of recommendations

The recommendations above have been further categorised into short-term and medium-term recommendations based on their importance in further improving compliance with European and international standards in Environment Statistics. Short-term recommendations involve changes that should and could realistically be implemented by end of 2023 while the medium-term recommendations by nature are linked to broader institutional programmes or require preparatory work that involves other stakeholders. Also, recommendations of the Peer Review of ARMSTAT and Armenian Official Statistics 2018 are still relevant and should be taken into account for better development of Environment Statistics ³⁸.

Recommendations	
Short-term:	
	<ul style="list-style-type: none"> • Include in the Annual Working Plan all the statistics to be produced by the Nature Protection Statistics Division and separate them from the Social Statistics (para. 2.1.c)
	<ul style="list-style-type: none"> • Identify all the specific actions to be implemented by the Nature Protection Statistics Division regarding quality and continue existing efforts to improve quality procedures (para. 2.5.f)
	<ul style="list-style-type: none"> • Identify Environment Statistics which need urgent changes due to higher social and political demand (para. 2.5.1)
	<ul style="list-style-type: none"> • Separate Environment Statistics for Energy Statistics in the Users Survey Statistics (para. 2.7.s)
	<ul style="list-style-type: none"> • Develop a formal mechanism for the Nature Protection Statistics Division to monitoring the users access to Environment Statistics published in the ARMSTAT website (para. 2.7.t)

³⁸Peer Review of ARMSTAT and Armenian Official Statistics 2018, https://www.efta.int/sites/default/files/publications/statistics-eso/reports/2789592_Final%20Armenia%20PR%20report_20190305.pdf

Recommendations	
	<ul style="list-style-type: none"> • Provide some additional Environmental Indicators on the website and SDG platform (para 2.10.w)
	<ul style="list-style-type: none"> • Consider disseminating the Environment Statistics reported to international bodies and conventions when appropriate (para. 2.10.x)
	<ul style="list-style-type: none"> • Provide more guidelines and information on the website (para. 2.10.y)
	<ul style="list-style-type: none"> • Change the name of the Division (Nature Protection Statistics Division) to better refer to the whole domain for which statistics are produced (para. 2.10.z)

Recommendations	
Medium-term:	
	<ul style="list-style-type: none"> • Ensure the data access provisions in the Statistics Law and collaboration practices with other stakeholders are kept up to date in the changing data landscape
	<ul style="list-style-type: none"> • Further strengthen ARMSTAT's role as a data steward for Environment Statistics
	<ul style="list-style-type: none"> • Ensure that the human and financial resources are fully in place
	<ul style="list-style-type: none"> • Create a sustainable specific capacity plan for the Nature Protection Statistics Division
	<ul style="list-style-type: none"> • Further clarify the role of the ARMSTAT State Council on Statistics in reviewing and approving methodological changes in Environment Statistics
	<ul style="list-style-type: none"> • Ensure that the mandated quality dimensions are enforced in practice
	<ul style="list-style-type: none"> • Continue the integration of concepts and definitions in line with European standards for Environment Statistics
	<ul style="list-style-type: none"> • Ensure that Environmental Protection Expenditures are defined and comply with the EU CEPA 2021
	<ul style="list-style-type: none"> • Ensure integration of specific classifications that are used in Environment Statistics
	<ul style="list-style-type: none"> • Continue the application of UN FDES, UN SEEA and SDG frameworks
	<ul style="list-style-type: none"> • Set up a National Environmental Indicator Catalogue.
	<ul style="list-style-type: none"> • Continue existing work to access and introduce new, alternative, and complementary administrative data sources
	<ul style="list-style-type: none"> • Assess the importance of developing a data platform of e-governance services that will serve as a channel for various data sources, including data sources to produce Environment Statistics.
	<ul style="list-style-type: none"> • Develop a formal working group for regular contacts and interaction between the Nature Protection Statistics Division and key users and stakeholders
	<ul style="list-style-type: none"> • Assess the opportunity and develop a strategy for allocating existing staff resources to Environment Statistics production
	<ul style="list-style-type: none"> • Identify and investigate potential sources of errors and biases that may have an impact on the Environmental Indicators and Statistics
	<ul style="list-style-type: none"> • Introduce metadata attributes to all Environmental Indicator and Statistics releases

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Annexes

Annex 1: Agenda

AGENDA

Statistical Committee of the Republic of Armenia

Sector Review – Environment Statistics

13-16 June 2022

International Review Team

Experts: Ms Mónica Luz and
Ms Jana Tafi

Monday, 13 June 2022		
09:15 – 09:45	Opening and introduction to the review	Review team and the participants from ARMSTAT
09:45 – 10:45	Institutional environment	Meeting with ARMSTAT Senior Management
	Cross-cutting issues	
10:45 – 11:00	<i>Coffee break</i>	
11:00 – 12:30	Institutional environment	Meeting with Environment Section head & ARMSTAT Senior Management
	Principles 2 Mandate for data collection 3 Adequacy of resources	
12:30 – 12:45	<i>Revising the workplan</i>	<i>Review team</i>
12:45 – 13:45	<i>Lunch break</i>	
13:45 – 15:15	Institutional environment	Meeting with Environment Section head & Manager responsible for the National Statistics Development Strategy & Manager from Internal audit department
	Principle 4 Commitment to Quality	
15:15 – 15:30	<i>Coffee break</i>	
15:30 – 16:30	Institutional environment	Meeting with relevant ARMSTAT staff (e.g., Manager from the department of Strategic Planning, Coordination and Communication)
	Principle 6 Impartiality and objectivity	
16:30-17:00	Cross-cutting issues	

Tuesday, 14 June 2022		
09:15 – 10:30	Statistical processes	Meeting with Environment section core staff and other relevant ARMSTAT staff
	Principle 7 Sound methodology -Presentation ARMSTAT (15 min) -Feedback by review team on SAQ-answers and presentation provided by ARMSTAT -Discussion on open questions -Identification of missing information and conclusion on preliminary recommendations	
<i>10:30 – 10:45 Coffee break</i>		
10:45 – 12:00	Statistical processes	Meeting with Environment section core staff and other relevant ARMSTAT staff
	Principle 8 Appropriate statistical procedures -Presentation ARMSTAT (15 min) -Feedback by review team on SAQ-answers and presentation provided by ARMSTAT -Discussion on open questions -Identification of missing information and conclusion on preliminary recommendations	
<i>12:00 – 13:15 Lunch break</i>		
13:15 – 14:30	Statistical processes	Meeting with Environment section core staff and other relevant ARMSTAT staff
	Principles 9 Non-excessive burden on respondents 10 Cost effectiveness -Presentation ARMSTAT (15 min) -Feedback by review team on SAQ-answers and presentation provided by ARMSTAT -Discussion on open questions -Identification of missing information and conclusion on preliminary recommendations	
<i>14:30 – 14:45 Coffee break</i>		
14:45 – 17:00	Meeting with Board of ARMSTAT Members	Invited group meeting online/in-person (e.g., Board of ARMSTAT Members from Ministry of Environment, Ministry of Health, Ministry of Economy, Ministry of Agriculture, Ministry of Transport, Ministry of
	Cross-cutting issues and Discussion on: -past and future major methodological changes -stakeholder opinions on ARMSTAT Environment Statistics	

Tuesday, 14 June 2022		
		Energy, etc. and scientific community)

Wednesday, 15 June 2022		
09:15 – 10:30	Statistical output Principles 12 Accuracy and Reliability 13 Timeliness and Punctuality 14 Coherence and Comparability 15 Accessibility and clarity -Presentation ARMSTAT (15 min) -Feedback by review team on SAQ-answers and presentation provided by ARMSTAT -Discussion on open questions -Identification of missing information and conclusion on preliminary recommendations	Meeting with Environment section core staff and other relevant ARMSTAT staff
10:30 – 10:45	<i>Coffee break</i>	
10:45 – 12:00	Meeting with key Users Incl. discussion on Principle 11 Relevance (<i>whether Environment statistics meet and serve the existing needs of governments, research institutions, business concerns and the public in general; whether emerging needs and priorities in Environment statistics are systematically considered</i>)	Invited group meeting online / in person with different groups of users (media, public sector, scientific and research community)
12:00 – 13:15	<i>Lunch break</i>	
13:15 – 15:45	Follow-up on missing information and open questions -Provision of missing information on institutional environment, statistical processes, and outputs -Tie up loose ends and open questions	Meeting with Environment section core staff
15:45 – 17:00	Recommendations Drafting of the results	Review team

Thursday, 16 June 2022		
09:30 – 10:30	Recommendations -Presentation of the mission results and preliminary recommendations -Discussion of preliminary recommendations	Final meeting with senior management and head of Environment section

Thursday, 16 June 2022		
<i>10:30 – 10:45</i>	<i>Coffee break</i>	
<i>10:45 – 12:15</i>	Recommendations	ARMSTAT Team
	-Views of ARMSTAT on recommendations -Discussion on options and necessary actions	
<i>12:15 – 12:45</i>	<i>Wrap-up and way forward</i>	

Annex 2: Participants at the Environment Statistics review meetings

ARMSTAT participants	Monday, 13 June		Tuesday, 14 June		Wednesday, 15 June		Thursday, 16 June	
	am	pm	am	pm	am	pm	am	pm
Mr. Stepan Mnatsakanyan President of the Statistical Committee, Chairman of the State Council of Statistics of RA, ARMSTAT								✓
Mrs. Anahit Safyan, Council Member	✓	✓	✓	✓	✓	✓	✓	✓
Mrs. Nelli Baghdasaryan Council Member	✓	✓	✓	✓	✓	✓	✓	✓
Mrs. Anna Nakobyan Head of Nature Protection Statistics Division	✓	✓	✓	✓	✓	✓	✓	✓
Mr. Vardan Arevshatyan Head of Business-register, Sampling and Classifications Division		✓						
Mrs. Ruzanna Shaboyan Head of Quality Management Division		✓						
Mrs. Susanna Karapetyan Head of Financial and Economic Division		✓			✓		✓	
Mrs. Naira Mandalyan Senior Specialist of the Nature Protection Statistics Division	✓	✓	✓	✓	✓	✓		
Mrs. Armine Andresyan Specialist of the Nature Protection Division	✓	✓	✓	✓	✓	✓	✓	
Mrs. Asya Podpomogova Statistician of the Nature	✓	✓	✓	✓	✓	✓	✓	

ARMSTAT participants	Monday, 13 June		Tuesday, 14 June		Wednesday, 15 June		Thursday, 16 June	
	am	pm	am	pm	am	pm	am	pm
Protection Division								
Mrs. Anna Nalbandyan Specialist of the International Statistical Cooperation Division	✓			✓	✓			✓
Mrs. Narine Musheghyan Head of Statistical Information Dissemination Division				✓	✓		✓	
Mr. Gohar Nshanyan Chief Specialist of the Statistical Information Dissemination Division					✓			
Mrs. Nelli Margaryan Chief Specialist of the Statistical Information Dissemination Division					✓			
Mrs. Hasmik Egiazaryan Specialist of the International Statistical Cooperation Division			✓					
Mrs. Narine Nikoghosyan Ministry of Health, National Center for Disease Control and Prevention			✓					
Mrs. Lilit Avetisyan Ministry of Health, National Center for Disease Control and Prevention			✓					
Mr. Ruben Grigoryan Ministry of Health, National Center for Disease Control and Prevention			✓					
Mrs. Shushanik Isahakyan			✓					

ARMSTAT participants	Monday, 13 June		Tuesday, 14 June		Wednesday, 15 June		Thursday, 16 June	
	am	pm	am	pm	am	pm	am	pm
Ministry of Health, National Institute of Health								
Mrs. Diana Andreasyan Deputy Director of the National Institute of Health, Ministry of Health			✓					
Mrs. Svetlana Movsisyan Water Committee			✓					
Mr. Armen Movsisyan Environmental Protection and Mining Inspection Body of the Republic of Armenia			✓					
Mrs. Karine Melikyan Environmental Protection and Mining Inspection Body of the Republic of Armenia			✓					
Mr. Tigran Chilingaryan Center of Economic Research, Government of the Republic of Armenia			✓					
Mrs. Magda Hovhannesyan Ministry of Economy, Food Security and Agro-Processing Development Department			✓					
Mrs. Gayane Shahnazaryan Ministry of Environment, Hydrometeorology and Monitoring Center			✓					
Mrs. Anna Zatikyan Ministry of Environment, Hydrometeorology and Monitoring Center			✓					

ARMSTAT participants	Monday, 13 June		Tuesday, 14 June		Wednesday, 15 June		Thursday, 16 June	
	am	pm	am	pm	am	pm	am	pm
Mr. Vahagn Tonoyan EU4 Environment-Water Resources and Environmental Data, local representative in Armenia			✓					
Mr. Tatevik Alikhanyan Ministry of Emergency Situations			✓					
Mrs. Alisa Savadyan National Water Partnership					✓			
Mrs. Silva Ayvazyan Aarhus Center, Ministry of Environment, Hydrometeorology and Monitoring Center (SNCO)					✓			