



United Nations Economic Commission for Europe
Working Group on Environmental
Monitoring and Assessment

Reporting to the progress made in Environmental
Monitoring and Assessment at the national level

This questionnaire has been designed to collect information on the **results of major actions taken** by the countries in environmental monitoring and assessment **since the previous meeting of the Working Group (27 October 2020)**. The objective is to evaluate to which extent and how your country has progressed in environmental monitoring and assessment, including through using the Shared Environmental Information System (SEIS), the regular production of quality environmental indicators and digitalization efforts related to environmental information at the national level.

The Working Group could then identify the needs of your country to be addressed in the future to underpin regular reporting and assessments, in accordance with international monitoring and assessment requirements and obligations.

The main aims of the questionnaire are to:

- Determine if the countries regularly produce environmental reports, analyses and assessments, including through using environmental indicators and SEIS
- Ensure that monitoring networks are upgraded or modernized, and that data quality assurance and control mechanisms and data management are in place or improved where needed, in particular for water, air and soil monitoring and data management
- Assess steps taken at country level to enhance digitalization and digital transformation related to environmental information including through the use of new technologies, big data, artificial intelligence and Earth observation for environmental monitoring.
- Follow improvements in national environmental policy reflecting all three SEIS pillars (content, infrastructure and cooperation)
- Capture the implementation status of relevant recommendations made in national environmental performance reviews (EPRs)
- Foresee the challenges to be addressed by the Working Group in the years to come regarding institutional, regulatory mechanisms and infrastructure at the national level

If you wish to receive further information, or if you have any questions, please do not hesitate to contact us on WGEMASec@un.org.

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Has your country produced any **environmental report, analysis or assessment** on environmental information and indicators, including via the use of SEIS, since May 2019?

Yes	No
<input checked="" type="checkbox"/>	<input type="checkbox"/>

Please specify which environmental report, analysis or assessment has been produced and provide the link to the website if available.

Environmental report, analysis or assessment	
1	National environmental reports, State of environment report http://mnp.am/uploads/1/1534773643report2007-2011_eng.pdf
2	Specialised reports – climate http://www.mnp.am/uploads/1/1594377030FNC_Eng.pdf
3	Specialised reports – air http://armmonitoring.am/public/admin/ckfinder/userfiles/files/ampopag/Odi%20Obzor%202020.pdf
4	Specialised reports - water http://armmonitoring.am/public/admin/ckfinder/userfiles/files/ampopag/Water%20report%202019.pdf
5	Specialised reports - biodiversity http://mnp.am/uploads/1/15840212196-N.REPORT-ARMENIA-revised-eng-05.03.2019.pdf
6	National Statistical yearbooks https://www.armstat.am/am/?nid=586&year=2020
7	Environment and Natural Resources in the Republic of Armenia for 2019 (Statistical publications) https://www.armstat.am/en/?nid=82&id=2301
8	Environmental Statistics of Armenia for 2019 and Time-Series of Indicators for 2015-2019 https://www.armstat.am/en/?nid=82&id=2309
9	Reports on the state of the environment (Annual reports produced by Hydrometeorology and Monitoring Center SNCO) http://armmonitoring.am/public/admin/ckfinder/userfiles/files/texekanq/tarekan/Annual-19.pdf
10	Report on the results of Environmental monitoring (Quarterly reports produced by Hydrometeorology and Monitoring Center SNCO, which has been expanded essentially and included the results of meteorological conditions, climate change, forests, and hydrological monitoring.) http://armmonitoring.am/public/admin/ckfinder/userfiles/files/texekanq/eramsjak/II%20Eramsyak%202020.pdf

Please note the main changes that have been made to improve the work of national monitoring networks, in particular on air, water and soil.

Changes	
1	<p>In January 2020, the newly equipped laboratory of the “Hydrometeorology and Monitoring Center” SNCO of the Ministry of Environment of the Republic of Armenia has been opened renovated with the co-financing of the European Union and the Ministry of Environment of the RA in the framework of the EU-funded project “European Union Water Initiative Plus for Eastern Partnership Countries” (EUWI+).</p> <p>Since June 2020, the implementation of the hydrobiological monitoring has been started regularly. The hydrobiological network has been established based on the previous investigations in the pilot river basins in Armenia within EU funded project (EUWI+, EPIRB and etc) and considering the provisions of EU water framework Directive.</p>
3	<p>The surface and groundwater quality and quantity monitoring are carried out by the Hydrometeorology and Monitoring Center SNCO under the Ministry of Environment. In March 2020, the new network of the surface water quality and groundwater quality and quantity monitoring has been approved by the Order of the Ministry of Environment. According to the mentioned ME Order, the list of monitoring sites has been expanded essentially and consist 144 surface water quality sites on rivers, reservoirs and Lake Sevan, and 109 ground water quality and quantity monitoring sites.</p>
4	<p>Since 2019, the pollution monitoring network of soil has been expanded essentially. Unfortunately, it covers only heavy metals and metalloids yet.</p>
5	<p>In 2020, 23 meteorological stations have been equipped with automatic instruments.</p>
6	<p>In 2020, 6 hydrological observation points in Kasakh and Hrazdan river basins were renovated, equipped and modernized with the financing of the EUWI + project.</p>
7	<p>In 2020, 13 groundwater monitoring stations were renovated and 12 new stations were built in Sevan and Hrazdan river basin management areas within the EUWI + project.</p>
8	<p>For the first time ARMSTAT has developed a new indicator on "Drinking water quality", that indicates the proportion of drinking water samples that do not meet sanitary-microbiological standards. At the same time, it provides UNECE C9 indicator, on the accountability of which the country has obligations. The implementation of the indicator has completed the provision of accountability of the country related to water resources</p> <p>https://armstatbank.am/pxweb/en/ArmStatBank/ArmStatBank_8%20Environment_(C)%20Water%20resources/EE-c9.px/?rxid=622702ca-2012-4b2c-b431-da8d316049d5</p>

What types of improvements have been made in your country to enhance data quality assurance, control and data management?

Improvements
<p>1 In order to improve the quality assurance of analysis the laboratory “Hydrometeorology and Monitoring Center” SNCO periodically participates in the interlaboratory proficiency testing conducted by foreign certified laboratories and received quality accuracy certificates.</p>
<p>2 In order to improve the quality of analysis the laboratory experts are trained regularly.</p> <p>3 In July 2020, the 6 hydrological observation stations renovated and equipped within the framework of EUWI+ project. The modernization of the 6 hydrological observation stations will lead to better data management systems and forecasting.</p>
<p>4 In 2019-2020, the “Hydrometeorology and Monitoring Center” SNCO has been equipped with the new field instrument for surface and ground water monitoring, which enhance the quality and accuracy of measured data, the opportunity to measure more parameters.</p>
<p>5 The water quality database on surface and ground water has been developed within the EUWI+ project and has been put into the testing and operation since March 2021.</p>
<p>6 The software developed by Microstep-MIS for collection, management and redistribution hydrometeorological data, as well as IMS CLDB integrated climate database software.</p>
<p>7 Besides basic monitoring programs, in 2019-2020, increase the concentration in mining regions. The investigation monitoring has been carried out in rehabilitate abandoned, ownerless sites. The concentration of heavy metals in water and soil has been investigated.</p> <p>The management of data quality and quality control for statistics publications in the Republic of Armenia is based on three official documents:</p>
<p>8 The quality policy of The Statistical Committee of RA approved in the Resolution № 17-A of the State Council on Statistics of RA dated of 20 June 2016. These documents are also applicable for the collection of environmental statistics. The Statistical Committee of the Republic of Armenia’s Quality Policy is aimed at the systematic improvement of statistical products and processes through the development of relevant methodologies and tools, focusing on high quality services, increasing the work efficiency and cost effectiveness.</p>
<p>The quality assurance framework of the European Statistical System approved through the resolution 31 of the State Council on Statistics on 21 November 2016. This demonstrates the will of the Republic of Armenia to align its statistical evaluation with European standards. Nonetheless, in practice, no public information regarding its implementation is available.</p>
<p>The quality declarations which describe the regulatory background of the statistics, the purpose and the methodology of the statistics, its' dissemination and other important information for the users of the statistics.</p>

Which improvements in data policy, institutional and regulatory mechanisms and technical solutions have been applied in your country to facilitate and improve data exchange between the parties concerned (ministries of environment, environment agencies and ministries of agriculture, energy, health, industry, transport and water) and with other users, including the public?

Mechanisms and solutions

- 1** The Ministry of Environment, along with his subordinated entities and agencies, is responsible for the collection, analysis and sharing of environmental information in the Republic of Armenia. In 2019-2020, The structure of the ministry was completely overhauled and the functions were expanded. According to the new structure the Water Resources Management Agency, the Bioresources Management Agency and the Waste and Atmospheric Emissions Management Agency have been merged to form a joint department for licenses, permits and compliances.

 - 2** In January 2020, three state non-commercial organizations carried out environmental monitoring; Hydromet Service of Ministry of Emergency Situation, Environmental Monitoring and Information Center and Forest Monitoring Center, have been merged and formed the Hydrometeorology and Monitoring Center of the Ministry of Environment in order to establish united environmental monitoring system and to improve data exchange between services.

 - 3** The Division of Nature Protection Statistics was formed within the Statistical Committee.

 - 4** In the Republic of Armenia, EcoPortal-water component has been developed within the ENI SEIS II East project. The water related (C1, C2, C3, C4, C5, C10, C11) and Protected Areas (D1) indicators have been developed jointly by the European Environment Agency (EEA), European Topic Centres on Inland, Coastal and Marine waters and national experts from Armenia under the ENI SEIS II East project funded by the European Union and published on the EcoPortal.

 - 5** In order to raise environmental awareness and raise awareness among different groups of the society, the "Eco-platform" environmental information TV project was initiated.

 - 6** In the framework of the Twinning Partnership with the Statistical Committee of the Republic of Armenia for the Project Implementation within the World Bank's Implementation of the National Strategy Program for Strengthening of the National Statistical System, a list of potential indicators was selected to suitably capture the dimensions and domains of environmental quality of life. For each indicator is proposed a methodological sheet including the definition of the indicator, indication on its rationale and interpretation, as well as methodological information, data sources available for the compilation including reference to the survey instrument and potential disaggregation for the dissemination of the indicator. These indicators are going to be published at ARMSTAT web-page very soon.
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Has your country made any changes in data policy within the last year?

Yes No



If yes, please specify which changes.

Changes

- 1 EU-Armenia Comprehensive Enhanced Partnership Agreement. The EU-Armenia Comprehensive Enhanced Partnership Agreement (CEPA) was signed on 24 November 2017 in the margins of the Eastern Partnership Summit. In the field of environment, the EU will support the country's adoption of EU environmental standards as well as its development of clean sources of energy.
- 2 The websites and social networks (Facebook, Tweeter, and ets) of the Ministry of Environment and subordinated organizations have been improved and developed. The dissemination of environmental information generated by organizations in the framework of their functions on websites has improved and increased.
- 3 The national open data maturity reports and a roadmap for further development of Armenia was developed within the ENI SEIS II project.

A road map for the development of climate change-related statistics in the Republic of Armenia has been developed with the support of the UNECE Statistical Division. This is the first study conducted in Armenia where is an attempt to assess the current status of climate change-related national statistical system, the priorities and actions for the development of such system. The main purpose of this first road map is to evaluate the status of climate change-related statistics in Armenia and its transparent reporting as part of regular statistical data and to define its further development.

The roadmap has been developed according to the following scheme:
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 - identification of priority actions,
 - definition of sectoral activities,
 - identification of ways to improve administrative registers,
 - development and implementation of tools and mechanisms for actions,
 - monitoring of implementation of works, evaluation of results,
 - ensuring information quality, transparency, accessibility and continuous flow.

<https://www.armstat.am/file/doc/99518228.pdf>

Please provide a list of activities undertaken by your country to implement the recommendations on environmental monitoring and assessment made in previous national environmental performance reviews (EPRs).

Recommendations	
1	The Environmental performance review for Armenia was developed in 2000. Since then large-scale institutional, technical and legislative changes have been took place.
2	The monitoring network has been enlarged, increase its concentration in mining regions and the laboratory equipment has been modernised, analytical techniques and standards has been improved.
3	The mining enterprises has been carried out the environmental monitoring regularly and provide data to the Ministry of Environment for comment and recommendations in order to improve the monitoring. The reports on environmental monitoring are published on the website of the Ministry of Environment.
4	In 2018, the Inspectorate for Nature Protection and Mineral Resources under the Government of the Republic of Armenia was established as a result of the separation of the Body of Nature Protection and Mineral Resources of the Ministry of Environment of the Republic of Armenia.

What do you think are the main challenges for your country with regard to institutional, regulatory mechanisms and infrastructure at the national level?

Challenges	
1	Weak IT structure of territorial Government entities. Digitalisation of public administrations require trained staff, clear procedures, and technical standards to follow.
2	Lack of geospatial initiative. At the moment, there is no central geoportal available, hence there is a need to develop a central and standard platform for the dissemination of environmental information with spatial data.
3	Collaboration for the development of digitalisation. There is a need to assess common functions in public institutions and to find solutions which are generic, applicable and interoperable between them. In that regards, there is a need for a cross-sectorial approach to digitalisation, which involves the participation from all Ministries.
4	Lack of extended legal basis concerning the open data access. The Law on Freedom of Information (adopted in 2003) is the main legal source concerning open data in the country.
5	Lack of inventory of public information available for disclosure. Institutions publish their information on their website but very few datasets are published and no inventory of the total amount of data available exists.
6	Lack of published data in machine-readable formats. Formats of data published by administration bodies differ from each other, which hampers usage. Procedures related to formats of data files and way of its dissemination should be unified to improve re-usability and digital processing.
7	Need for implementation and appropriate use of the top-down and bottom-up approach with clear division of roles and responsibilities among governmental institutions on national and local level.
8	Lack of technical equipment. For example, improvement and modernized the air quality monitoring network.

Please indicate any other information you think may be relevant. Please also indicate how the Working Group could assist in facilitating environmental monitoring and assessment in your country and region.

Working group could assist to continue the development of the Shared Environmental Information System (SEIS) in Armenia, improve international environmental reporting and national infrastructure.