Environmental SDG indicators

UNEP, UNSIAP and UNITAR e-learning course
Syllabus

Table of Contents

Background

This e-learning course is a self-paced course with individual 10 modules developed by the United Nations Environment Programme (UNEP), the United Nations Statistical Institute for Asia and the Pacific (UNSIAP) and the United Nations Institute for Training and Research (UNITAR). In September 2015, the United Nations Sustainable Development Summit adopted an international framework to guide development efforts, entitled 'Transforming our world: the 2030 Agenda for sustainable development'. The Agenda is built around 17 Sustainable Development Goals (SDGs), divided into 169 targets, which are informed by 244 Indicators[1]. The importance of improving the availability of and access to data and statistics related to the environment was recognized through the adoption of a wide range of environmental SDG targets and indicators.

This course provides an overview of the importance of monitoring the environmental dimension of development, the linkage with existing statistical frameworks (FDES and SEEA) and how to use environment statistics in decision making. The modules will also provide a brief overview on all 25 SDG indicators under UNEP custodianship.

In particular, this e-learning course aims to build the capacity of countries – representatives of National Statistical Office (NSOs), Ministries of Environment and other stakeholders - to compile and use data on the environment-related SDGs for evidence-based decision-making and to promote cross-cutting data analysis to better understand the environmental dimension of development.

Target audience

The target audience of the e-learning course is relevant staff from National Statistical Offices, Ministries of Environment, and also other civil servants and stakeholders that support broader national sustainable development monitoring and decision making, such as through the UN-led Common Country Analysis (CCA) and the government-led Sustainable Development Goals Voluntary National Reviews (VNR). The general public could also benefit by understanding what environment statistics are and how they can be utilized at the sub-national and national levels.

Overall course learning objectives

It is expected that, by the end of the course, participants will be better positioned to:

1. Describe key concepts relevant for environmental monitoring and SDG indicators;
2. Explain how respective environmental indicators are computed;
3. Discuss key challenges the participants' countries may be facing in compiling these indicators and actions that can be taken to address them.

Overall course structure

- Module 1. Measuring the environment
- Module 2. Linkages between the FDES, SEEA and the SDGs

---

[1] Currently 231 unique SDG indicators and 247 SDG indicators in total with repeated indicators. Updated list available here.

- Module 3. Measuring waste in the SDGs
- Module 4. Measuring the state of the oceans*
- Module 5. Measuring land and water in the SDGs
- Module 6. Measuring material flows in the SDGs
- Module 7. SCP interventions in the SDGs*
- Module 8. Policy coherence for sustainable development
- Module 9. Measuring gender and environment
- Module 10. Using environment statistics for national analysis and policy

Learning methodology

This e-learning course is developed in English and consists of ten modules. Each module is developed around the overall learning objectives, as well as second-level learning objectives specific to each module. Each module includes an interactive presentation complemented by a set of practice quizzes ("knowledge checks"/formative assessment); it is followed by an objective graded quiz (summative assessment) to be taken after completing the lesson to assess the knowledge and skills acquired. The interactive lessons within the module are implemented in a way that one needs to review all information on the slide prior to proceeding further. Once completed, the respective sections will be unlocked on the sidebar.

Each module can be regarded as a stand-alone module and taken individually. Modules 1, 8 and 10 comprise Learning Pathway for Policymakers. Individual modules' estimated net study time range between 1.5 – 2.5 hours depending on the length of the module and individual's pace.

Module 1. Measuring the environment

Module 1 discusses why it is important to measure the environment from different perspectives, including environmental, socio-economic, national, and global perspectives as well as emerging frameworks for measuring well-being. It introduces how environmental data and statistics are being collected and produced by explaining data silos, frameworks for integrated statistics, Framework for the Development of Environment Statistics (FDES), and System of Environmental-Economic Accounting (SEEA). The module also informs about the environmental data sources and their limitations in collection and production. The estimated net study time is 1.5 hours.

Learning objectives

Following the completion of the module, participants will be able to:

1. Explain the importance of environmental measurement;
2. Recall key sources and structures of environmental data;
3. Identify the challenges faced as a result of data silos and ad hoc data practices;
4. Describe the benefits of integrated environment statistics;
5. Explain how international statistical frameworks help improve environmental SDG reporting.

Module 2. Linkages between the FDES, SEEA and the SDGs

This module takes a deep dive into explaining the Framework for the Development of Environmental Statistics (FDES) and the System of Environmental – Economic Accounting (SEEA). It describes the relationships between FDES and SEEA as well as their use and importance in monitoring the Sustainable Development Goals and implementation of the 2030 Agenda. The module is supported by several case studies from Botswana on implementing FDES, application of SEEA in South Africa and their monitoring of the SDG 6 as well as measuring the resource productivity in European member states. The estimated net study time is 1.5 hours.

Learning objectives

Following the completion of the module, participants will be able to:

1. State the importance of environment statistics in the context of the UN 2030 Agenda for Sustainable Development and SDGs;
2. Recognize the two main frameworks for environment statistics recommended for monitoring environment-related Sustainable Development Goals;
3. Recall the purpose, structure and application of components of the Framework for Development of Environment Statistics (FDES);
4. Recall the purpose, structure and application of System of Environmental-Economic Accounting (SEEA);
5. Explain the relationship as well as linkages between the FDES, the SEEA and the SDGs;
6. Describe the benefits of the FDES and SEEA for National Statistical Offices in the collection of high-quality environment statistics and in decision-making.

Module 3. Measuring waste in the SDGs

Module 3 explains why it is important to measure the waste, how to deal with over-consumption, minimize wasted resources, prevalent recycling and achieve resource efficiency. It provides details on methodology, key definitions, limitations for computing five SDG indicators related to waste under the custodianship of UNEP: SDG 12.3.1(b) – Food Waste Index; SDG 12.4.1 – Reporting to Multilateral Environment Agreements; SDG 12.4.2 – Hazardous Waste; SDG 12.5.1 – National Recycling Rate; and SDG 14.1.1b – Marine Plastic Litter. It also briefly covers other indicators related to waste under the custodianship of other organizations, including SDG indicator 11.6.1 Solid waste management in the context of sustainable cities and communities. The estimated net study time is 2.5 hours.

Learning objectives

Following the completion of the module, participants will be able to:

1. Recognize the importance of waste measurement and management for resource efficiency and achievement of the 2030 Agenda for Sustainable Development and SDGs;
2. Recall the five SDG indicators under UNEP's custodianship related to waste;
3. Explain key terms and definitions associated with the indicators;
4. Explain the methodologies for the five SDG indicators and limitations in their computation.

Module 4. Measuring the state of the oceans*

(under the development)

Module 5. Measuring land and water in the SDGs

This module introduces land and water statistics and their importance. It goes into a detailed explanation of the methodology, terms and limitations for computation of the 6 SDG indicators under the custodianship of UNEP: SDG Indicator 6.3.2; SDG Indicator 6.5.1; SDG Indicator 6.6.1; SDG Indicator 14.5.1; SDG Indicator 15.1.2 and SDG Indicator 15.4.1. It also discusses in brief the computation of non-UNEP custodian indicators related to land and water statistics: SDG Indicator 6.3.1; SDG Indicator 6.4.1; SDG Indicator 6.4.2; SDG Indicator 11.3.1; SDG Indicator 11.7.1; SDG Indicator 15.1.1; SDG Indicator 15.2.1; SDG Indicator 15.3.1 and SDG Indicator 15.4.2. Lastly, the module explains the relationship between the SDG indicators and SEEA land and water accounts. The estimated net study time is 2.5 hours.

Learning objectives

Following the completion of the module, participants will be able to:

1. Discuss the importance of land and water measurement in the context of monitoring progress towards the SDGs and implementation of the 2030 Agenda for Sustainable Development;
2. Recall the six SDG indicators under UNEP's custodianship and the nine SDG indicators under other organizations' custodianship that are related to land and water;
3. Describe key terms and definitions associated with the land and water statistics of each SDG indicator under UNEP's custodianship;
4. Explain the methodologies for the six SDG indicators under UNEP's custodianship and limitations in their computation.

Module 6. Measuring material flows in the SDGs

Module 6 is about the material flow accounts. It introduces Economy-Wide Material Flow Accounts (EW-MFA), its historical context, key concepts and the conceptual framework for the indicators. It explains the types of flows, data sources, challenges and limitations for monitoring the material flow accounts. The module goes in-depth to explaining the methodology, data sources and limitations in computing the SDG Indicators 8.4.1/12.2.1, 8.4.2/12.2.2 and 12.5.1 that are under UNEP's custodianship. The estimated net study time is 2.5 hours.

Learning objectives

Following the completion of the module, participants will be able to:

1. Discuss the importance of economy-wide material flow accounting to monitoring the progress towards the SDGs and implementation of the 2030 Agenda for Sustainable Development;
2. Describe key concepts associated with material flow accounts;

3. Outline the MFA accounting modules, typology of flows and indicators associated with the conceptual framework;

4. Recall the three SDG indicators under UNEP's custodianship related to material flows;

5. Explain the methodologies for the SDG indicators 8.4.1/12.2/1 and 8.4.2/12.2.2 and limitations in their computation.

Module 7. SCP interventions in the SDGs*

(under the development)

Module 8. Policy coherence for sustainable development

This module explains the concept of policy coherence, its origins and relationship to the Sustainable Development Goals. It discusses its relevance and importance to sustainable development and to Sustainable Development Partnerships. It provides the methodology and limitations for the computation of the SDG Indicator 17.14.1, its description, rationale and means of verification for 8 themes used to measure policy coherence. The module is supported by the case study from Latvia. The estimated net study time is 1.5 hours.

Learning objectives

Following the completion of the module, participants will be able to:

1. Discuss the importance of policy coherence for sustainable development and achievement of the 2030 Agenda and its SDGs;

2. Explain the rationale of measuring policy coherence under the SDG Indicator 17.14.1;

3. Describe the concepts and methods of the SDG Indicator 17.14.1

4. Recognize main means (8 themes of the methodology) by which the above indicator can help monitor the implementation of policy coherence.

Module 9. Measuring gender and environment

Module 9 revolves around the gender - environment nexus and why it is important to measure in the context of the 2030 Agenda and the SDGs. It provides details on the International gender-environment policy frameworks, UN Women – Strategic plan and flagship initiatives. It also explains how to measure indicators related to the gender-environment nexus through priority areas. It describes the SDG indicators where gender and environment are explicitly covered, including SDG Indicator 1.4.2;   SDG Indicator 1.5.1/11.5.1/13.1.1; SDG Indicator 3.9.1; SDG Indicator 3.9.2; SDG Indicator 5.a.1; SDG Indicator 6.1.1; SDG Indicator 6.2.1; SDG Indicator 7.1.2 and SDG Indicator 11.2.1. The module is supported by several case studies. The estimated net study time is 1.5 hours.

Learning objectives

Following the completion of the module, participants will be able to:

1. Discuss the importance of gender-environment statistics for monitoring progress towards the SDGs and the implementation of the 2030 Agenda for Sustainable Development;

2. Give examples of how data and statistics disaggregated by sex provide the necessary information for evidence-based, inclusive and effective policy development;

3. Identify internationally agreed policy frameworks with gender and environment considerations;

4. Describe the nine indicators that are significantly involved with gender and the environment.

Module 10. Using environment statistics for national analysis and policy

Module 10 explains how to use environment statistics for national analysis and policy development. It provides key definitions and concepts and describes what the environmental policies are, why they are needed and where they originate from. It further describes the relationship between the environmental statistics and policy process. The module is supported with case studies examining the use of environment statistics in national policies. The estimated net study time is 1.5 hours.

Learning objectives

Following the completion of the module, participants will be able to:

1. Explain how environment statistics are used to inform national policymaking;

2. Describe the opportunities for ex ante and ex post policy uses of environment statistics;

3. Identify environment statistics aligned with international standards in support of the relevant policies;

4. Describe principles and procedures of international frameworks for data quality and production in national statistical frameworks.

Certification and feedback

Each of the 10 modules is followed by a quiz to test the participant's understanding of core content. Five attempts are allowed per quiz. The attempt with the highest score is retained as the grade for the module. Each attempt proposes 10 questions drawn at random from the respective question bank. For each question, the correct responses add up to 1 point. Participants need to obtain a minimum of 7 points out 10 points for the module quiz to complete the assessment requirements. Practice questions ("knowledge checks") asked during the interactive lesson modules are a form of practice and are not graded.

Participants meeting the criteria above will receive a **certificate of completion for an individual module.** When selecting the **Policymaker Learning Pathway** comprised of Module 1, 8 and 10, and meeting the criteria above for the respective modules, a participant will be awarded with a **certificate of completion for this specific pathway** Upon completion of quizzes for all ten modules, a participant will be provided a **certificate of completion for the whole course.**

Participants will be requested to complete a feedback form which can be accessed through the link in the 'Course Evaluation' section on the course home page.

Technical requirements

Browser:

- The course works best with Firefox 3.6 or higher (download for free at http://www.mozilla-europe.org/en/firefox)
- The course is also compatible with Google Chrome (download for free at https://www.google.com/intl/en/chrome/browser/)
- It is **not recommended** to use Internet Explorer for technical reasons
- Note JavaScript & Cookies must be enabled

Software:

- Adobe Acrobat Reader (download for free at http://www.adobe.com/products/acrobat/readstep2.html).
- Adobe Flash Player (download for free at http:/get.adobe.com/flashplayer)
- Microsoft Excel (Windows or Apple version) or Open Office version (download for free at http://www.openoffice.org)

Platform: Windows 95, 98, 2000, NT, ME, XP or superior; MacOS 9 or MacOS X
Hardware: 64 MB of RAM, 1 GB of free disk space
Modem: 56 K