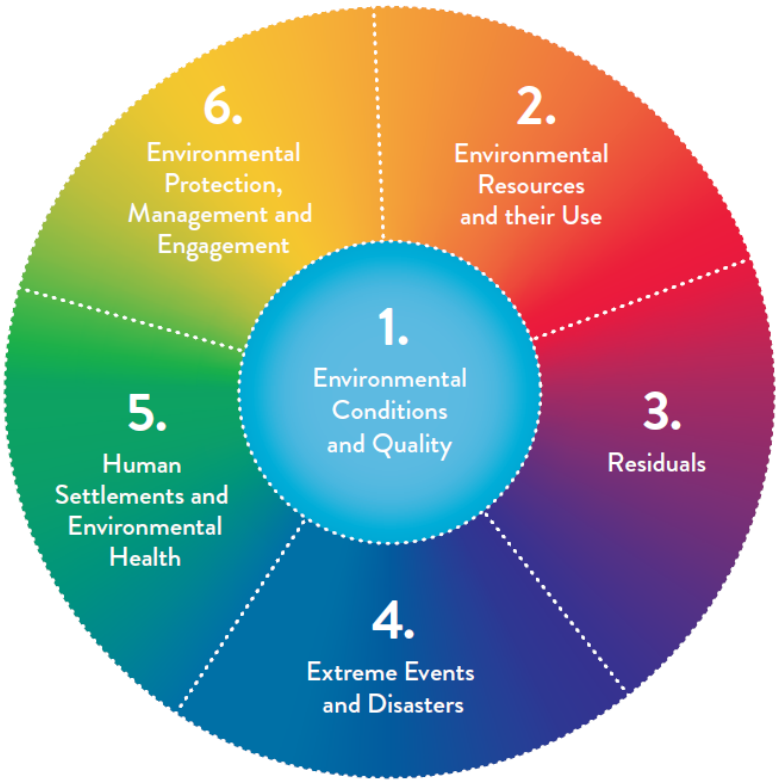
Concept Note

National Training Workshop

Framework for the Development of Environment Statistics (FDES 2013) in the Republic of South Sudan



October 2024, Juba, South Sudan

1) Background and overview of the workshop

Environmental Statistical System in South Sudan

Before South Sudan gained independence in 2011, the region faced severe environmental challenges due to decades of civil war, limited infrastructure, and weak governance. Conflict led to widespread displacement, deforestation, and land degradation, while unregulated resource exploitation and poor water management exacerbated environmental damage. The population struggled with inadequate access to clean water, sanitation, and healthcare, leading to frequent humanitarian crises. Economic development was hindered by underdeveloped infrastructure and a reliance on subsistence agriculture. Efforts to improve the situation began with the 2005 Comprehensive Peace Agreement, which ended the civil war and brought international aid and development programs focused on recovery and sustainable environmental management.

Post-independence, the Country continues to face significant environmental challenges similar to those faced by the Southern Sudan before independence. Ongoing conflict and political instability have hindered effective governance and sustainable development efforts. Deforestation, land degradation, and unregulated resource exploitation due to absence of sector laws persist, exacerbated by limited institutional capacity and weak enforcement of environmental policies and programmes. Food security, access to clean water, sanitation, and healthcare remains inadequate, resulting in recurrent humanitarian crises and public health issues. The economy is still heavily reliant on subsistence agriculture and informal sectors, with underdeveloped infrastructure stifling economic growth. International aid and development programs have provided some support, but substantial progress in environmental management and sustainable development remains elusive due to persistent instability and governance challenges.

Institutions set-up

Ministry of Environment and Forestry (MoEF)

This is the primary government body responsible for environmental management in South Sudan. It oversees the implementation of environmental policies, laws, and regulations. The MoEF is also responsible for coordinating environmental protection efforts with other government agencies and stakeholders. However, MoEF mandate is greatly restricted by the lack of framework environmental laws governing the management of natural resources in the Country. Three versions of Environment Bills have been formulated since independence (2012, 2015 and 2023) but none has ever sailed through technical review nor debate at the National Legislation Assembly. The latest version of draft environmental laws (the Environment Bill 2023 and Forest Bill 2023) are currently undergoing technical review by the Ministry of Justice and Constitutional Affairs (MoJCA) before submission to the Council of Ministers and the Transitional National Legislation Assembly (TNLA). In the

In the absence of these laws, MoEF operations are largely guided by Ministerial degrees backed by The Transitional Constitution of South Sudan 2011[1], the National Environment Policy 2015-2025[2], the 2012 Forestry Policy, and the Revitalized Agreement on the Resolution of the Conflict in the Republic of South Sudan (R-ARCSS)[3] that established a transitional governance structure called the Revitalized Transitional Government of National Unity (RTGoNU).

The National Bureau of Statistics (NBS)

NBS is the primary body legally tasked with the production of official statistics in South Sudan. Its establishment and mandate is governed by the Transitional Constitution which came into force at independence from Sudan on 9 July 2011. Part 14 of the Transitional Constitution promulgates the NBS as 'independent' oversighted by a board to formulate policies and set its internal regulations, priorities, standards, and criteria for all the censuses and surveys. The head (Director General) of the NBS is also appointed by the President. Even though the Constitution makes provision for the establishment of a board, one is yet to be appointed. Inasmuch as the Transitional Constitution pronounces that the organization, structure, and powers of the NBS shall be regulated by law, no Statistics Act has been put in place yet. A proposed act, which was under development when the National Strategy for the Development of Statistics I (NSDS I) was being developed, was never finalized or adopted. The proposed Act would have more clearly defined the role of the NBS and the role of official statistics among other provisions.

Key constitutional mandate and functions related to environmental governance include[4]:

- Collecting, compiling, analyzing, and publishing all official statistical information on economic, social, demographic, **environmental**, and general activities, and conditions of the people of South Sudan.
- Conducting all censuses and surveys in South Sudan.
- Monitoring and evaluating the social impacts of public policies, projects, and programmes in South Sudan.

[1] The Transitional Constitution of the Republic of South Sudan, 2011
[2] The South Sudan National Environment Policy 2015-2025
[3] Revitalized Agreement on the Resolution of the Conflict the Republic of South Sudan (R-ARCSS)
[4] Assessment of gender data and capacity gaps in the national statistics system of South Sudan, NBS & UN Women, 2022

- Monitoring progress of poverty alleviation and the attainment of the Millennium Development Goals
- Establishing statistical standards and monitoring adherence by all producers of statistics.

    - *Establishing statistical standards and their use by all producers of statistics to facilitate integration and comparison.*
    - *Coordinating statistics and data collection activities to avoid duplication, ensure economic use of resources, and reduce the burden on respondents.*
    - *Collecting, compiling, analyzing and disseminating statistics and related information on social, economic, demographic, and environmental activities.*
    - *Maintaining an inventory of available and relevant information in South Sudan.*
    - *Assisting users of statistical information to obtain international statistics and information.*
    - *Providing statistical and monitoring and evaluation services and professional assistance to official bodies, civil society, researchers, international institutions, and the public in general.*
    - *Serving as the contact point for international organizations, researchers, international organizations, and foreign institutions in need of statistics and information on South Sudan.*

The National Environmental Information Network (NEIN)

The NEIN was established in 2022 as a national coordination platform for the collection, management, and reporting of environmental data and information in South Sudan. The NEIN platform is chaired by NBS while MoEF provides its secretariat services. With financial and technical support from a GEF funded project, the NEIN compiled 178 core set of environmental indicators that now underpin the design of a national Environmental Information System (EIS portal) aimed at facilitating efficacious collection, management, sharing and reporting of environmental data in the Republic of South Sudan. Although operationalized, the NEIN is yet to be formalized through either a Ministerial degree or other legal format. The NEIN is not designed to be a national institution, but more of a technical working group national intervening on the environmental science-policy interface as an enabler of sound decision making based on science and data.

Moreover, the Country also committed to prepare their first Voluntary National Review (VNR) in 2024. Towards this goal, UNEP ROA developed a National Environment Summary (NES - attached) to aid the UNCT in compiling data around the environmental dimension of the SDGs. To further improve the environmental statistical system in South Sudan, NBS plans to organise a four days environmental data management training in Q3 – Q4 of 2024, aimed at introducing the NEIN to the FDES framework and refining its current indicator framework by applying the ESSAT tool/ methodology.

2) Challenges of producing environment statistics[5]

Environment statistics portray key information about the state of the environment and its most relevant changes through space and time. They strengthen assessments through quantitative techniques, making analyses more robust, timely and progressively harmonized at the international level. Environment statistics are necessary for producing environmental assessments, state of the environment reports, environmental compendia, environmental indicators, indicators of sustainable development, as well as to facilitate environmental economic accounting. UN member States addressed this challenge during the Rio+20 Conference in June 2012. The outcome document, "The Future We Want" emphasises on the importance of data, in particular, environmental data, as well as information and indicators.

Environment statistics cover a wide range of information and are interdisciplinary in nature. Their sources are dispersed over a variety of data producers, and similarly numerous methods are applied in their compilation. To effectively produce environment statistics, specific statistical and environmental expertise, scientific knowledge, institutional development capabilities, and adequate resources are equally necessary. Many countries including South Sudan still require substantial technical assistance and capacity building on this arena. Environment

[5] https://unstats.un.org/unsd/environment/FDES/FDES%20Flyer%20English_3July2013_WEB.pdf

statistics therefore require a proper framework to guide their development, coordination and organization at all levels of government.

3) Overview of the FDES 2013 Framework

The **Framework for the Development of Environment Statistics (FDES 2013) is** a multi-purpose conceptual and statistical framework that is comprehensive and integrative in nature and marks out the scope of environment statistics. It provides an organizing structure to guide the collection and compilation of environment statistics at the national level. It brings together data from the various relevant subject areas and sources. It is broad and holistic in nature, covering the issues and aspects of the environment that are relevant for policy analysis and decision making by applying it to cross-cutting issues such as climate change. Though the FDES is relevant to and recommended for use by countries at any stage of development, its primary objective is to guide countries at early stages in the development of their environment statistics programmes. It can also be used by international and regional institutions, as well as by other users and producers of environment statistics.

The scope of FDES covers biophysical aspects of environment and those aspects of its human sub-system that directly influence, or are influenced by, the state and quality of the environment. It includes the interactions within the environment, and among the environment, human activities, and natural events. The FDES organizes environment statistics in a simple and flexible manner into components, sub-components, statistical topics and individual statistics, using a multilevel approach. The first level of the structure consists of six components. The six components of the FDES delineate the scope of environment statistics, and contain and organize the most relevant, specific sets of information in a useful way.

The Core Set and the Basic Set of Environment Statistics: The FDES lists the most important environment statistics to describe the statistical topics thus providing guidance to countries developing national environment statistics pro-grammes. This Basic Set of Environment Statistics is designed with enough flexibility to be adapted to individual countries' environmental concerns, priorities and resources following a progression of three tiers.

Tier 1 is the Core Set of Environment Statistics which are of high priority and relevance to most countries and have a sound methodological foundation.
Tier 2 includes environment statistics that are of priority and relevance to most countries but need more investment in time, resources or methodological development.
Tier 3 includes environment statistics which are either of less priority or require significant methodological development.

Box 2: The structure of the FDES

Component 1: Environmental Conditions and Quality

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Sub-component 1.2: Land Cover, Ecosystems and Biodiversity

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Statistical topic 1.2.3: Biodiversity

a. Flora statistics - terrestrial, freshwater and marine

1. **Number of known species by status category (Tier 1)**
2. Species population (Tier 2)
3. Number of endemic species (Tier 2)
4. Number of invasive alien species (Tier 2)
5. *Habitat fragmentation (Tier 3)*

b. Fauna statistics - terrestrial, freshwater and marine

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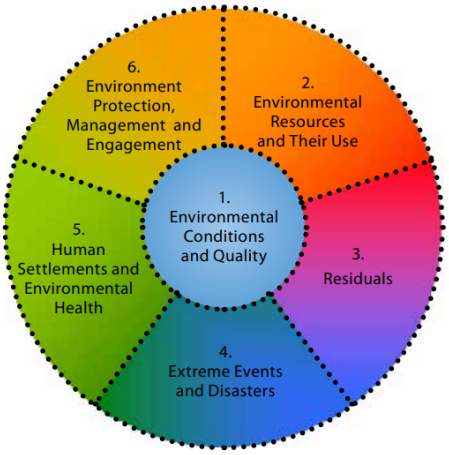

Figure 1. The FDES components

FDES 2013 covers six key components: *environmental conditions and quality, environmental resources and their use, residuals (waste and emissions), extreme events and disasters, human settlements and environmental health,*

and environmental protection and management. The framework aims to provide countries with a standardized approach to compiling comprehensive environmental statistics, facilitating international comparisons, and supporting the integration of environmental data into broader statistical systems.

The Environmental Statistics Self-Assessment Tool (ESSAT) is designed to assist countries in evaluating their capacity to produce and manage environmental statistics within the FDES framework. The ESSAT helps identify existing data sources, assess the quality and completeness of available data, and pinpoint areas needing improvement. By using the ESSAT, countries can develop a strategic plan to enhance their environmental statistical systems, ensuring better data availability and quality for informed decision-making and policy development.

Compatibility: FDES is compatible with and supports other state of the art frameworks and systems, both statistical and analytical, such as the System of Environmental Economic Accounting (SEEA), the Driving force—Pressure—State—Impact—Response (DPSIR) framework, or the indicator frameworks.

Why should countries use the FDES?
The FDES was designed in such a way as to:

- be a flexible, multi-purpose tool that adapts to the needs and priorities of countries and different users.
- help to identify the range of statistics relevant to decision-making.
- facilitate a synthesized presentation of data.
- suitably simplify complex environmental issues.
- be coherent with other existing statistical frameworks and classifications; and thus
- promote sound concepts

Adopting the FDES 2013 framework and the ESSAT tool can significantly benefit South Sudan by providing a structured approach to developing its environmental statistics system. This adoption would enable the country to systematically collect, analyze, and report environmental data, enhancing decision-making and policy formulation. Improved environmental statistics would support sustainable development, help address environmental challenges, and fulfill international reporting obligations, ultimately contributing to better environmental governance and management in South Sudan.

4) Objectives of the FDES 2013 Training Workshop

The proposed national training workshop will introduce NEIN members to the 2013 Framework for the Development of Environment Statistics (FDES 2013) and refine current indicator framework by applying the Environment Statistics Self-Assessment Tool (ESSAT) methodology. This workshop aims to achieve the following specific objectives:

1. **Align with international standards:** Enhance understanding of the FDES 2013 framework to ensure that South Sudan's environmental statistics align with global standards and best practices.

2. **Build capacity for integrated assessments:** Equip NEIN members with the necessary skills to conduct integrated environmental assessments and reporting, supporting national development planning and the implementation of Multilateral Environmental Agreements (MEAs).

3. **Enhance data governance and sharing:** Promote the development of robust operational frameworks and guidelines for data governance, sharing, and usability, including standardized formats, protocols, and metadata management.

4. **Support National Environmental Initiatives:** Contribute to the ongoing preparation of the South Sudan's first Voluntary National Review (VNR) by enhancing NEIN skills for the compilation of comprehensive data on the environmental dimension of the Sustainable Development Goals (SDGs).

5) Workshop Structure

The workshop will be conducted over four days, with a blend of theoretical sessions and practical exercises designed to ensure that participants gain a thorough understanding of the FDES 2013 framework and its application using the ESSAT tool. The proposed agenda is as follows:

Day 1	
FDES Component 1: Statistics related environmental conditions and quality	
(1) Atmosphere, climate and weather, (2) Hydrographical characteristics, (3) Geological and geographical information (4) Soil characteristics, (5) Land cover, (6) Ecosystems and biodiversity,	(7) Forests, (8) Air quality, (9) Freshwater quality (10) Marine water quality, (11) Soil pollution, (12) Noise.
FDES component 2: *Statistics related environmental resources and their use.*	
(1) Stocks and changes of mineral resources, (2) Production and trade of minerals, (3) Stocks and changes of energy resources, (4) Production, trade and consumption of energy, (5) Land use, (6) Use of forest land. (7) Soil resources,	(8) Timber resources, (9) Aquatic resources, (10) Crops (11) Livestock, (12) Other non-cultivated biological resources, (13) Water resources, (14) Abstraction, use and returns of water.
Day 2	
FDES component 3: *Statistics related to residuals*	
(1) Emissions of greenhouse gases, (2) Consumption of ozone depleting substances, (3) Emissions of other substances, (4) Generation and pollutant content of wastewater, (5) Collection and treatment of wastewater,	(6) Discharge of wastewater to the environment, (7) Generation of waste (8) Management of waste, (9) Release of chemical substances
FDES component 4: *Statistics related extreme events and disasters.*	
(1) Occurrence of natural extreme events and disasters, (2) Impact of natural extreme events and disasters,	(3) Occurrence of technological disasters, (4) Impact of technological disasters
FDES component 5: *Statistics related to human settlements and environmental health.*	
(1) Urban and rural population (2) Access to selected basic services (3) Housing conditions (4) Exposure to ambient pollution (5) Environmental concerns specific to urban settlements	(6) Airborne diseases and conditions (7) Water-related diseases and conditions (8) Vector-borne diseases (9) Health problems associated with excessive UV radiation (10) Toxic substance & nuclear radiation-related diseases
FDES component 6: *Statistics related to environmental protection, management, and engagement*	
(1) Government environmental protection and resource management expenditure (2) Corporate, non-profit institution and household environmental protection and resource management expenditure (3) Institutional strength (4) Environmental regulation and instruments	(5) Participation in MEAs and environmental conventions (6) Preparedness for natural extreme events and disasters (7) Preparedness for technological disasters (8) Environmental information (9) Environmental education (10) Environmental perception and awareness (11) Environmental engagement
Day 3	
FDES ESSAT: *Environment Statistics Self-Assessment Tool* ▪ Introduction to the FDES 2013 Environment Statistics Self-Assessment Tool (ESSAT). ▪ Compilation of South Sudan Basic set of environment indicators based on the FDES framework ▪ Mapping way forward on the incorporation of the FDES indicators into the EIS reporting tool.	

6) Expected Outcomes

The workshop is expected to yield the following outcomes:

1. **Improved alignment with global environment goals and standards:** NEIN members will have a clear understanding of the FDES 2013 framework and how to apply it to their work, ensuring that South Sudan's environmental statistics are globally comparable; besides meeting national reporting requirements for National development plan, the SDGs, the Rio Conventions and other pirority MEAs.

2. **Strengthened Environmental Information System (EIS):** Refinement of the current indicator framework and integration into the national EIS system, facilitating better data management and reporting.

7) Workshop agenda

Time	Duration	Agenda	Coordinator
Day 1 (Tuesday, 30 July 2024) at Imperial Plaza Hotel, (Juba - South Sudan)			
Participant: NBS and institutions/agencies			
Session 1 : Opening Remarks			
08.00 - 08.30	30'	Registration of participants	All Participant
08.30 - 09.15	45'	Opening Remarks and Official opening (a) NBS, MoEF (b) UNEP	NBS and UNEP
Session 2 : Introduction of Environment Statistics			
09.15 - 10.00	45'	Overview Environment Statistics, Conceptual Foundation and Structure of the FDES 2013 (a) Presentation by UNEP (b) Presentation by NBS: *Design of the EIS system speaheaded by the SS-NEIN* (c) Discussion	NBS and UNEP
10.00 - 10.15	15'	Coffee Break	All Participant
Session 3 : Statistics related Environmental Conditions and Quality			
10.15 - 12.15	120'	Component 1 of the FDES 2013 (a) Presentation by UNEP (1) Atmosphere, climate and weather (2) Hydrographical characteristics (3) Geological and geographical information (4) Soil characteristics (5) Land cover (6) Ecosystems and biodiversity (7) Forests (8) Air quality (9) Freshwater quality (10) Marine water quality (11) Soil pollution (12) Noise (b) Discussion	UNEP
12.15 - 13.45	90'	Lunch and Break	All Participant
Session 4 : Statistics related Environmental Resources and Their Use			
13.45 - 14.45	60'	Component 2 of the FDES 2013 (a) Presentation by UNEP (1) Stocks and changes of mineral resources (2) Production and trade of minerals (3) Stocks and changes of energy resources (4) Production, trade and consumption of energy (5) Land use (6) Use of forest land (7) Soil resources (8) Timber resources (9) Aquatic resources (10) Crops (11) Livestock (12) Other non-cultivated biological resources (13) Water resources (14) Abstraction, use and returns of water (b) Discussion	UNEP
14.45 - 15.00	15'	Coffee Break	All Participant
15.00 - 16.00	60'	Component 2 of the FDES 2013 (Continuation)	UNEP

Day 2 (Wednesday, 31 July 2024) at TBD (Juba - South Sudan)			
Participant: NBS and institutions/agencies			
Session 5 : Statistics related Residuals			
08.00 - 09.30	90'	**Component 3 of the FDES 2013** (a) Presentation by UNEP (1) Emissions of greenhouse gases (2) Consumption of ozone depleting substances (3) Emissions of other substances (4) Generation and pollutant content of wastewater (5) Collection and treatment of wastewater (6) Discharge of wastewater to the environment (7) Generation of waste (8) Management of waste (9) Release of chemical substances (b) Discussion	UNEP
09.30 - 09.45	15'	Coffee Break	All Participant
Session 6 : Statistics related Extreme Event and Disasters			
09.45 - 11.15	90'	**Component 4 of the FDES 2013** (a) Presentation by UNEP (1) Occurrence of natural extreme events and disasters (2) Impact of natural extreme events and disasters (3) Occurrence of technological disasters (4) Impact of technological disasters (b) Discussion	UNEP
Session 7 : Statistics related Human Settlements and Environmental Health			
11.15 - 12.15	60'	**Component 5 of the FDES 2013** (a) Presentation by UNEP (1) Urban and rural population (2) Access to selected basic services (3) Housing conditions (4) Exposure to ambient pollution (5) Environmental concerns specific to urban settlements (6) Airborne diseases and conditions (7) Water-related diseases and conditions (8) Vector-borne diseases (9) Health problems associated with excessive UV radiation exposure (10) Toxic substance- and nuclear radiation-related diseases and conditions (b) Discussion	UNEP
12.15 - 13.45	90'	Lunch and Break	All Participant
13.45 - 14.15	30'	**Component 5 of the FDES 2013 (Continuation)**	UNEP
Session 8 : Statistics related Environmental Protection, Management, and Engagement			
14.15 - 15.15	60'	**Component 6 of the FDES 2013** (a) Presentation by UNEP (1) Government environmental protection and resource management expenditure (2) Corporate, non-profit institution and household environmental protection and resource management expenditure (3) Institutional strength (4) Environmental regulation and instruments (5) Participation in MEAs and environmental conventions (6) Preparedness for natural extreme events and disasters (7) Preparedness for technological disasters (8) Environmental information (9) Environmental education (10) Environmental perception and awareness (11) Environmental engagement (b) Discussion	UNEP
15.15 - 15.30	15'	Coffee Break	All Participant
15.30 - 16.00	30'	**Component 6 of the FDES 2013 (Continuation)**	UNEP

Day 3 (Thursday, 1 August 2024) at TBD (Juba - South Sudan)			
Participant: NBS and institutions/agencies			
Session 9 : Environment Statistics Self-Assessment Tool - South Sudan priority indicators			
08.00 - 10.15	135'	**Environment Statistics Self-Assessment Tool (ESSAT)** (a) Presentation by UNEP (b) Discussion	UNEP
10.15 - 10.30	15'	Coffee Break	All Participant
Session 10 : Working Group			
10.30 - 12.00	90'	**Working Group** (a) Discussion	All Participant
12.00 - 13.30	90'	Lunch and Break	All Participant
13.30 - 15.00	90'	**Presentation** (a) Presentation by Ministries/Institutions (b) Evaluation	All Participant
15.00 - 15.15	15'	Coffee Break	All Participant
Session 12 : Closing Remarks			
15.15 - 16.00	45'	**Closing Remarks** (a) UNEP (b) SS- NEIN [NBS]	NBS and UNEP