

Environment Statistics in Afghanistan

Findings and recommendations



Introduction

Afghanistan has a diverse natural environment and biodiversity ranging from expansive grasslands to reach wetlands to forest areas to mountains and glaciers. The environmental challenges and opportunities in Afghanistan are extremely diverse across the country. For many parts of the country, access to water and energy remain a concern. In the eastern forests, deforestation is creating acute challenges in terms of protecting the environment and ensuring sustainability for future generations. Reductions in ground and surface water and climate change are creating additional challenges for water management and agriculture. However, the wealth of natural capital in Afghanistan remains with potential for improving sustainable forestry, sustainable agriculture, developing a mineral extractives sector and potentially the natural environment could form a basis for stimulating the tourism sector.

However, there are information gaps in terms of monitoring the natural environment, accessing data and information on the environment and understanding the effects of environmental degradation and climate change. The purpose of this document is to:

- Provide a description of the potential steps that Afghanistan could take toward assessing the current availability of data and statistics which already exist and the national level.
 - Describe a process for pulling together existing data and statistics into the newly launched Afghanistan Environmental Data Center (The centre is a joint initiative from Kabul University,
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Afghanistan's National Environmental Protection Agency, UN Environment, and the Afghanistan Resilience Consortium. The aim of the center is to provide decision makers with access to up-to-date statistics on the environment.)

- Provide suggested roles for how the work on environment statistics may be situated in the national statistical system.
- Outline potential areas where the national statistical system in Afghanistan may wish to invest in improving the compilation and production of environment statistics and accounts.
- Recommend actions and a timeline which may be used as a starting point by the government in their

Disclaimer: This document is based on desk research and a single in-country stakeholder consultation mission conducted during September and October 2017. Thus this may not represent a complete picture.

Background

Institutions

The [Afghanistan National Peace and Development Framework](#) (ANPDF) is the overarching framework for sustainable development in Afghanistan. This plan recognizes the importance of equitable access to natural resources, including clean water and energy; the need for improved water management, particularly as it relates to the agricultural sector; the potential value of the mineral resources for the economic development of Afghanistan; and the importance of the natural environment for the current and future generations of Afghan people. However, the focus of the ANPDF is primarily on security, social development and the economy. Afghanistan also submitted a [National Voluntary Review](#) on the Sustainable Development Goals (SDGs) to the High Level Political Forum. This review primarily focused on poverty, agriculture, health, gender, infrastructure and partnerships with very little coverage on the environmental dimension of the SDGs.

The [Statistics National Strategy](#) launched in 2016 provides the basis for the development of statistics in Afghanistan. The strategy positions the role of the Central Statistical Organization in the coordination and quality assurance of all statistics produced in the country. The strategy recognizes the importance of upskilling the members of the national statistical system in order to use existing statistical standards and to engage with the entities working with environmental data.

The management and monitoring of the environment and natural resources in Afghanistan is primarily delegated to the below listed ministries:

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- **National Environment Protection Agency (NEPA):** as per the national Environmental Law, NEPA is responsible for protecting the health of people and the environment for current and future generations, this includes through conservation, biodiversity and protected areas, building public awareness of the environment, improving air, water and soil quality, building resilience to climate change and disasters, promoting waste management and exploring ways for the sustainable use of natural resources for economic development;
 - **Central Statistics Organization (CSO):** mandated to coordinate all statistical activities and to monitor all pillars of development in Afghanistan through the production of statistics and indicators, including for the sustainable development goals.
 - **Ministry of Economy:** is responsible for coordinating the implementation and analysis of the SDGs and coordination the SDG Steering Committee which will monitor the SDGs using data from the CSO and other ministries.
 - **Ministry of Energy and Water (MEW):** is responsible for managing the use of energy and water, measuring water quantity, flow and abstraction, and improving access to energy and water.
 - **Ministry of Rural Rehabilitation and Development (MRRD):** focuses on six areas of rural development centered around water and sanitation, energy, the citizen charter, promoting small and local businesses and access to roads and transportation systems.
 - **Ministry of Commerce and Industry:** responsible for promoting economic growth and development in Afghanistan including looking at the link between the environment and industry.
 - **Ministry of Agriculture, Irrigation and Livestock:** responsible for agricultural policy and the collection of statistics on agriculture and land use.
 - **Ministry of Foreign Affairs:** coordinates Afghanistan's engagement in the SDG process.
 - **Afghanistan Meteorological Department:** Maintains meteorological and climate related data.

Monitoring and reporting data needs

Afghanistan requires environment statistics for monitoring national plans and for the national monitoring of the sustainable development goals. Afghanistan has established the Afghanistan Sustainable Development Goals (A-SDGs) for national level monitoring. However, the monitoring of the environmental dimension of the SDGs is still an area for future development.

17 Goals of SDGs



National Sectors	National Targets	National Indicators
Security Sector	11 Targets	13 indicators
Education Sector	14 Targets	30 indicators
Health Sector	12 Targets	21 indicators
Governance Sector	2 Targets	5 indicators
Infrastructure Sector	29 Targets	34 indicators
Social Protection Sector	18 Targets	29 indicators
Agriculture and Rural Dev. Sector	20 Targets	20 indicators
Economic Sector	28 Targets	37 indicators
Total Number	125 Targets	190 indicators

(Source: Afghanistan National Voluntary Review of the SDGs, 2017.)

Additionally, Afghanistan is party to many multilateral environment agreements (MEA) and each agreement has unique data and reporting requirements. The CBD, the BRS and the UNFCCC are among some of the environmental agreements with data heavy reporting requirements. A full list of upcoming MEA reporting requirements for Afghanistan can be found at:

<http://uneplive.unep.org/country/reportingobligations/AF#informea>.

Situational Analysis

Assessment of Statistical thematic areas

An initial assessment of the priority areas for environmental economic accounting conducted by Afghanistan during the ESCAP workshop on Environmental Economic Accounting for South and South West Asia identified three priorities areas of statistics for future development: water supply and use, land and forests and energy. Based on the analysis of existing information and stakeholder discussions, statistics on climate change mitigation and resilience are also a priority. Chemicals and waste management was also mentioned as a future priority. Thus this analysis will be focused around these issues, how these relate to the SDGs, the potential data sources for each and the linkage with statistical standards. All globally available data mentioned below is available from uneplive.unep.org.

- **Water supply and use (SDG Goal 6):** The CSO has data related to access to water and sanitation. Access to water and sanitation is already being reported in the SDG process. There are

global data sources on surface water and wetlands which can be used for extent, the [Global Surface Water Explorer](#) of the Joint Research Center of the European Union for surface water is being proposed by UN Environment as a starting point for measuring the extent of national open water bodies. There is some national data being collected on precipitation and water quantity and flow. Although water quality is not currently being collected, NEPA is installing water quality monitoring stations in Kabul with the plan to expand to 22 other cities. Additionally, there is data on fertilizer consumption published by FAO which provides some insight into water quality. FAO publishes data on domestic, agricultural and industrial water withdrawal and the availability of renewable water; however, much of this data is more than 10 years old. It is not clear how much national data exists on wastewater, water abstraction or use (typically a business survey would be a good source of information for the industries which are using boreholes or wells as opposed to water provisioned), a more detailed assessment could identify potential data sources. There is an agricultural survey which could be used for water use by agriculture and livestock.

- **Land and forest (SDG 15):** The CSO and MAIL have information on the forestry sector, but there is a need to assess the existence of national data sources on land cover and land use. There is data on protected areas which is already being reported globally for use in the World Database on Protected Areas and in the SDG reporting. FAO publishes data on forest cover data; however, there may be some issues with the quality of the data as FAO has reported no change in forest cover in recent years. The value added from the forestry sector is captured in the Afghanistan national accounts and in the global national accounts data published by UNSD. There are global land cover products which could be used for land cover, such as the European Space Agency [Climate Change Initiative Landcover](#) database. It is not clear if there are additional sources of information at the national level on the public expenditure on the environment; on forest management; on land use; on land degradation or on other land related topics. The global earth observation data, including the land cover database mentioned above, may provide a starting point for better monitoring land and forests. In terms of biodiversity, much of this information would come from scientific studies. The IUCN red list includes threatened and endangered species. A further scoping of the area of biodiversity would be needed to assess the availability of data on this topic.
- **Energy (SDG 7):** This assessment did not cover energy in detail. There is data on access to electricity which is maintained by the CSO and is already being used for the SDG reporting. There is some data related to trade of fuel, the population using biomass fuels and fuel consumption being published by various global sources. However, a more in-depth assessment

would be necessary to identify the availability and quality of data on the energy supply, energy use, the energy mix and the investment in energy.

- **Climate change and disasters (SDG 1, 11 and 13):** To assess vulnerability, adaptation and resilience is often done through using existing indicators such as the occurrence of disasters, the population living in disaster prone areas, the quality of ecosystems which can help improve adaptive capacity, measuring changes in ecosystem health and extent and measuring the investment and development of areas which improve climate resilience. Measuring climate change mitigation requires a wealth of indicators related to agriculture, energy, national accounts, trade and domestic production and consumption. A detailed assessment of the availability of national indicators across environmental domains would provide a basis for identifying new sources of data and the quality of the data sources.
- **Chemicals and waste (SDG 12):** NEPA has a relationship with municipal authorities related to bringing together waste data. However, due to the multiplicity of methods being used at the local level and the lack of guidance on measuring chemicals and hazardous wastes (including hospital waste and e-waste), it may be necessary to secure dedicated resources for setting up a waste statistics system if this a national priority. The Framework for the Development of Environment Statistics and the System of Environmental Economic Accounting both include guidance on waste management.

Most of the providers of environmental data are interested in providing open access to data and information and there is a willingness to share information. Thus Afghanistan is in an excellent position to develop and implement improvements on environment statistics.

Potential Recommendations

Based on the above statistical areas there are three main capacity and human resource needs which can be linked to existing initiatives and Ministries.

Action Area 1: Improve environment data sharing and data access

There is a lack of knowledge sharing on which data exist in which Ministry and what data is available at the national level. The Afghanistan Environment Data Center can provide a platform for pulling together national data and information, including geospatial data. This would fall under the 'Environmental Data Networks' mandate of the center. In order to improve the access to geospatial data and statistics the following steps could provide a way forward:

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1. **Establish a governmental Working Group on Environmental Data**, ideally this group would report to an existing governmental mechanism such as the SDG Working Group. A potential TOR for such a group is included in Annex 1.
 2. **Designate a person, a Data Manager, responsible for acting as Secretary to the Working Group and for coordinating data sharing.** Someone from the Afghanistan Environment Data Center Research or from the CSO may be a logical choice to lead this work. Without a person responsible for the day-to-day work and follow up then it is unlikely that this work will progress. In the initial phase, a full time staff dedicated to the work for 2-3 months would be useful.
 3. **Conduct an assessment of existing national data.** The [Environment Statistics Self Assessment Tool](https://unstats.un.org/unsd/envstats/fdes/essat.cshtml) (<https://unstats.un.org/unsd/envstats/fdes/essat.cshtml>) would provide a well established way to conduct such an assessment. The tool includes a full scope of environment statistics which covers all areas which may be of use for national monitoring and also for international reporting purposes. All members of the Working Group on Environmental Data would be responsible for scoping the availability of data within their Ministry and then would provide this information to the Data Manager. The group would need to meet monthly at a minimum to discuss progress.
 4. **Identify existing globally available data on UNEPLive, MapX and other platforms which can be used in the data center.** UN Environment can provide assistance from headquarters on data, statistics and maps which may be useful to consider. Additionally, MapX is working on geospatial data sources. This information could be provided to the Data Manager for them to also share information with the Working Group on Environmental Data.
 5. **On the basis of the assessment, determine which data should be included in a data platform.** The Working Group may wish to establish criteria for data before including them. For example, the criteria may include: (1) Only including data which have geographical coverage of at least 3 (or all) regions of the country; (2) only including data which has available information on the source and quality of the data; (3) only including data which is expected to be collected for more than one time point; (4) only including data which is from an official or reputable source; or (5) perhaps only data for which the description is available in a certain language. Additionally, if the Afghanistan Environment Data Center is used as the platform for data sharing, it may be useful to establish a data validation mechanism by which the CSO helps verify the quality of the national data and statistics added to the platform.

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6. **Develop a platform for hosting the global and nationally available data, including geospatial data.** This would require dedicated ICT support which could potentially be provided by the Afghanistan Environment Data Center. The platform should include both data and metadata (definitions, methodologies, etc.)
 7. **Utilize the Working Group to obtain necessary data and metadata.** Once it is clear the scope of the data to be collected, then the ICT person responsible for pulling together the data can discuss how to provide data with the Working Group (i.e. through excel based tables or another means). It may also be necessary to standardise the data if different agencies use different regional names.

Action Area 2: Improve environment statistics systems

The Central Statistics Office has recognized the need for improved environment statistics for policy and for SDG monitoring. The CSO is looking to improve environmental monitoring. This section provides some steps which could be useful.

1. **Establish a designated Unit or section of the CSO responsible for Environment Statistics.** The CSO has indicated that they would like to establish a unit on environment statistics which could be used to help develop ways to turn geospatial information into environment statistics, to use existing data on natural resources from multiple sources to compile environmental economic accounts, and to provide quality assurance guidance to the other Ministries of Government. A potential TOR is in Annex 2.
2. **Utilize the Working Group on Environment Statistics to understand data availability and quality.** An assessment as described above would be largely beneficial for the work of the CSO.
3. **Define priority account(s) to work on in order to provide policy relevant indicators.** The suggestions above related to water and land/forests might be a good place to start. The [System of Environmental Economic Accounting](#) provides a guidance document on compiling water and land accounts. UN ESCAP and UN Environment can continue to provide additional training and support in this area via email and potentially follow up support (dependent on a clear demand from the CSO).
4. **Capacity building and training on environment statistic and accounting.** The CSO and other stakeholders may wish to build capacity through online training as a starting point for this area of work. ESCAP has a training repository which can provide an overview of the System of Environmental Economic Accounting and specific training on water, land and other areas at <http://communities.unescap.org/environment-statistics>.

Additionally, UN Environment and ESCAP can send additional online training materials upon request. ESCAP also hosts regional and national trainings for staff of CSOs and will continue to invite Afghanistan when these opportunities arise.

Annex 1: Draft TOR for a Working Group on Environment Data

Background:

There is a need for coordination among environment data providers and users in order to improve access to information.

Objectives and functions

The overall objectives and functions of the Working group for Environment Data will be to:

1. Provide a forum for coordination of environmental data and statistics with the view to improve data access and use.
2. Discuss issues related to data quality with a view to developing environment statistics according to international definitions and requirements
3. Propose activities to increase the use of information to support social, economic and environmental policy decision making;
4. Provide advice to the Afghanistan Environment Data Center on the content and scope environment data that can be included in an environment data platform.
5. Discuss various technical, institutional and information policy issues related to implementation of environment statistics.
6. Identify data that can use used for monitoring the 2030 Agenda (i.e. the SDGs).
7. Increase the availability of quality and timely environment statistics and indicators required for decision making through sharing data and metadata.

Organizational structure

To achieve the objectives, the Working group for Environment statistics, work will focus on to promote and standardize the environmental data collection, compilation processes, methodologies and frameworks. Accordingly, the Working group for Environment statistics will; Promote and encourage close collaboration between Central Statistics Office and the counterparts of the national statistical system, and encourage adoption of global statistical frameworks (FDES, SEEA etc.). The group will also encourage the use of new and existing data, including geospatial data and will encourage participation in online and other trainings to improve technical skills and capabilities on environment statistics unit. The group will

encourage the development of communication mechanisms to increase the visibility of environment data and statistics.

Membership, composition and terms of office

The Working Group will comprise experts from national government agencies, private sector and other stakeholders with technical expertise in fields relevant for environment statistics (e.g.: waste, water, energy, biodiversity, climate change, weather, geospatial, disaster etc.) in addition to people with knowledge and experience in the area of statistics. . The Working Group will elect two co-Chairs and will be supported by a dedicated Secretary. The Co-Chairs will lead the group while the Secretary will handle the organizational and supporting work.

The Secretary will provide the day-to-day management and coordination; undertake all internal communication on behalf of the Group and ensure the follow up on actions. In cooperation with the co-Chairs, the Secretary will coordinate, monitor and report on the activities of any subgroups, organize and develop the agenda for the Working Group meetings.

First steps and timeline

WG = Responsibility of the Working Group

S = Responsibility of the Secretary of the Working Group (the Afghanistan Environmental Data Center)

S: Organize monthly meetings

S: By November 2017: Provide the Working Group with an overview of existing global data.

WG: By December 2017: Conduct an assessment of existing national data using the Environment Statistics Self Assessment Tool (<https://unstats.un.org/unsd/envstats/fdes/essat.cshhtml>). All members responsible.

WG: By December 2017: Review national and global available data to determine if this data should be included in the national data platform.

WG: By December 2017: Determine criteria for the data platform

S: By February 2018: Develop a platform for hosting the global and nationally available data, including geospatial data.

WG: By March 2018: Compile the data and metadata and send to the Secretary of the Group.

WG: By April 2018: Review the content of the platform, determine if there are data gaps that need filling and design a workplan for the next year. (The group could continue to serve as the forum for providing advice to the CSO on environment data and statistics.)

Annex 2: Draft TOR for Environment Statistics Unit in the CSO

Mandate of the unit:

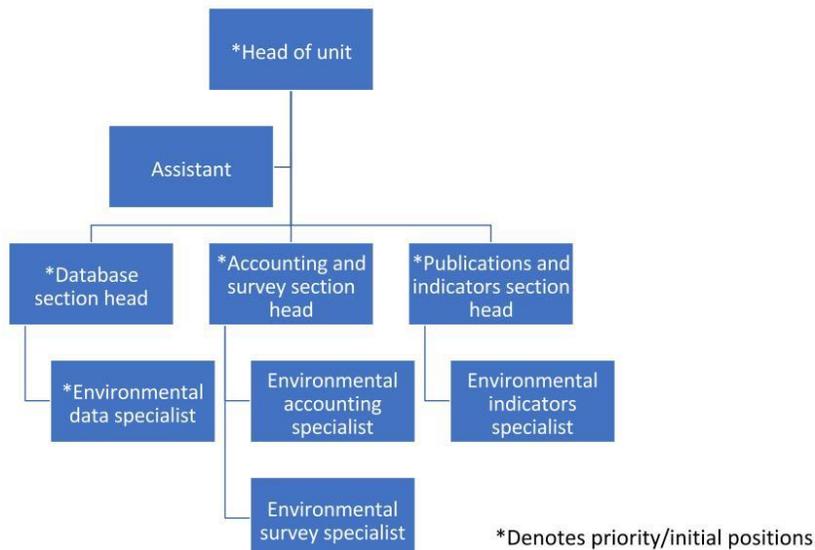
Coordinate inventorying acquisition and publication of environmental data across the National Statistical System

Advising CSO and other departments on data quality and application of international standards

Compile and publish priority environmental-economic accounts

Publish annual compendia of statistics and contribute indicators to national reports

Draft organogram for environment statistics unit (5-10 persons)



TORs, background and tasks of the staff

*Unit head: environmental statistician

Tasks: Manage work priorities of sections, apply national and international statistical standards (e.g., SEEA, FDES); coordinate within CSO to acquire and use data, to adapt work plan to CSO standards and processes (e.g. GSBPM, DQAF); coordinate contributions to national data needs (e.g., data centre, SDG reports..)

Background: geography, environmental economics, environmental studies...

Skills: environmental analysis; project management; written and oral communications;

Assistant to unit head: administrative support, coordination of activities, database support, publications support

****Database section (This could be not needed if the Afghanistan Environment Data Center can accomplish much of this role. In this case the CSO may want to have just one person responsible for working with and validating the data in the Afghanistan Environment Data Center):** Inventory, acquire and manage priority spatial and other environmental data (databases, indicators)

***Head data section:** spatial & database specialist; land and ecosystem accounts; geocoding of existing data

Background: GIS and database management

Skills: spatial analysis, data management

Environmental data specialist: validation of air, water, waste; methodology support data

Background: environmental engineering

Skills: validation of monitoring and other data

Accounting and survey section: compile priority environmental-economic accounts

***Head accounting and survey section:** development of accounts, validation of related data, exploitation of survey data

Background: economics, national accounting, sociology...

Skills: environmental-economic accounting, environmental data analysis

Environmental accounting specialist: data acquisition, validation of environmental-economic accounts

Background: economics, national accounting, natural resource management, sociology...

Skills: environmental-economic accounting, environmental data analysis

Environmental survey specialist: develop new surveys (e.g., industrial water use, environmental expenditures), exploit existing surveys (e.g., Census, households environment) and contribute questions for existing surveys (e.g., economic survey)

Background: environmental studies, geography

Skills: economic and household survey design and analysis

Publications and indicators section: Publish annual compendium of environment statistics; provide priority indicators to government reporting (SDGs, national plan, progress reports)

*Head publications and indicators section: manage annual publication, other indicators and analyses

Background: environmental economics, environmental studies, geography...

Skills: analysis and written communications, environmental data analysis

Environmental indicators specialist: acquire, select and validate data from Database and Accounting and Survey units; contribute analysis to annual publication.

Background: environmental economics, environmental studies, geography...

Skills: analysis and written communications, environmental data analysis
