

APAT

Egyptian and Italian Cooperation Programme on Environment
Environmental Indicators and their use for indicator-based reporting activities

Environmental Data Yearbook

Indicator fact sheet

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Introduction

1) Who are these guidelines written for?

The following document is intended as a guideline for those involved in indicator development, experts from EEAA and other organizations taking part to the project of the Egyptian Environmental Data Yearbook.

2) What is the main purpose of these guidelines?

The main objective of this document is to provide generic criteria and recommendations to document indicators through the fact sheet model. This document is not a methodological paper: it does not aim to provide builders of indicators methodological recommendations on how to design indicators.

3) What is a fact sheet and why is it important?

A fact sheet is a tool to collect homogeneous information and data for indicators relating different environmental issues. Its main objective is to effectively communicate information, summarise general concepts and emphasize points of interest and concerns.

The proposed fact sheet format is defined on the basis of the one originally developed by APAT, which has proven very helpful and successful for the Italian Environmental Data Yearbook.

The fact sheet presented on this paper attempts to answer the following questions:

- Is the indicator easy to interpret correctly? Does it match the interest of the target audience?
- Is the indicator representative of the monitored environmental issue?
- What are the causes behind the development of the indicator?
- Is there a national/international reference value for comparing changes over time?
- Is the indicator based on accurate, reliable data, comparable over time and space?
- What is the methodology used to build the indicator? Scientifically, is the indicator well done?
- What is the quality of information provided by the indicator?

INDICATOR META DATA

This section involves technical and descriptive information relating the indicator and elementary data used for its definition.

Indicator title	Each indicator must be given a clear title, reflecting its main purpose
Environmental topic area	See Annex 1
Indicator Code/ID	A unique code must be provide for tracking names of fact sheets, data files etc.
EEAA contact/fact sheet responsible Name: E-mail:	APAT contact point Name: E-mail:

Indicator codes must be assigned according to the following pattern: “Environmental topic area Code” + a Progressive Number starting from “01”.

E.g.: The first indicator for the Waste topic area will be “WA01”, the second one will be “WA02” etc. The first indicator for the Air Quality topic area will be “AQ01”, “AQ02” for the second one etc.

List of Authors and Institutes/Organizations responsible for the update/development of the indicator

Insert the list here

Geographical coverage

Mark with a “X” the geographical coverage referencing of the data used to build the indicator. Multiple choices are possible.

National	
Governorates	
Others	

In case of “Others” or multiple answers, provide further details here

Temporal coverage

Clearly note all time periods covered by the data used to define the indicator; for each time span indicate the earliest and the most recent year

Indicator Update Frequency

Make clear whether the indicator is updated regularly and how often (E.g: Annual, Every two/three/five years, variable frequency)

Type of representation

Most indicators are based on data which are displayed through graphs or tables (spreadsheets). Mark with a “X” what kind of representation is used on this fact sheet. Multiple choices are possible.

Tables	
Graphs	
Maps	

For each table/graph, provide the name of the related file. File names should match the following suggested pattern:

- tab+ Indicator Code_Progressive number of the table
- fig+ Indicator Code_Progressive Number of the figure

The overall enumeration of tables/figures should reflect their order on the final publication.

<i>Spreadsheet file names</i>
Excel (or other format) file names
<i>Figure file names</i>
Figure file names

Tables should be provided as excel files.

Figures should be provided both as image (JPG; PNG; GIF) and excel files (xls)

INDICATOR DESCRIPTION AND PURPOSE**Description**

Provide a short description of the indicator, highlighting: its main features, its limitations and the methodology used to build it.

Note that this section should contain text which does not change along the years.

Purpose

Illustrate the main objective of the indicator

Policy objectives and references

This section should highlight the relevance of the indicator with reference to specific national or international targets. Include a list of these targets here. Whenever possible, include the relevant targets on graphs

DPSIR (Driving Force - Pressure - State - Impact - Response) Framework

According to the DPSIR framework, environmental indicators can be classified into five groups (See Annex 2).

Mark with a “X” the group the indicator belongs to. Multiple choices are possible.

DPSIR	
Driving force	
Pressures	
State	
Impacts	
Responses	

QUALITY OF INFORMATION

This section focuses on those aspects which contribute to the qualitative level of the information provided through the indicator and the related elementary data.

Quality Aspects: Indicator Level

At indicator level, we consider four attributes to describe the quality of information.

- 1) **Relevance:** relevance of the indicator for describing the environmental issue. *“Is the indicator what the user expects in relation to the issue monitored?”*
- 2) **Accuracy:** this attribute depends on several elements like: data comparability, reliability of information sources, spatial and temporal coverage of data etc. *“Is the indicator reliable?”*
- 3) **Comparability over time:** consistency of the methodology in time. *“Is the indicator based on data which are comparable over time?”*
- 4) **Comparability across space:** spatial consistency of the methodology. *“Is the indicator based on data which are comparable across the Country?”*

Each component (relevance, accuracy, comparability in time and comparability in space) must be given a score from 1 to 3 (1 = no major problem; 3 = maximum reservations).

In the table below, choose a score for each row.

<i>Quality Aspects</i>	<i>Score</i>
Relevance	1,2,3
Accuracy	1,2,3
Comparability over time	1,2,3
Comparability across space	1,2,3
Overall Scoring	SUM

Provide a short motivation for each score assigned to each qualitative attribute.

The overall scoring determines the indicator quality of information. If the quality is “High”, the indicator can be applied with confidence by users. If the quality is “Low” the users should be much more careful in the judgement.

Mark with a “X” the row corresponding to the overall scoring.

<i>Score</i>	<i>Quality of Information</i>	
Between 4 and 6	High	
Between 7 and 9	Medium	
Between 10 and 12	Low	

Quality Aspects: Data Level

The overall quality of an indicator depends also on the quality of the elementary data used to build the indicator itself. The quality framework developed by EUROSTAT considers the following attributes:

Relevance		<i>Do the data reflect current and potential users' need?</i>
Accuracy		<i>Do the data correctly estimate or describe the quantities that they are designed to measure?</i>
Accessibility and clarity		<i>Are the data easily available to users? Are the data accompanied with appropriate metadata, illustrations, information on their quality?</i>
Completeness		<i>Are domains for which data are available reflecting the needs expressed by users?</i>
Comparability		<i>Are the data comparable in space/time?</i>
Coherence		<i>Are the data coherent when combined with other data?</i>
Timeliness and punctuality		<i>Does users receive the data in time and according to prestabilished dates which permit the information to be of value?</i>

In the table above, mark with a “X” the rows corresponding to the qualities reflected by the elementary data used to build the indicator.

Unit of measurement

List the units of measurement of the data used to define the indicator. Units should follow the International System of Units (SI)

Data sources

The provider of the data (Agency, Association, Ministry, Organism etc), where the data can be found and other issues relating data sources should be clearly stated here

Assessment of state and trend

Through the Chernoff icons we provide users a visual assessment of the indicator trend. The assessment represents a personal evaluation of the expert on the basis of their knowledge of the monitored environmental issue, keeping into account eventual targets.

If there is no trend to explain, Chernoff icons should be referred to the state of the indicator.



Happy face: Positive assessments



Serious face: Neutral assessments



Sad face: Negative assessments

Choose the appropriate Chernoff icon and summarize the reason of your choice
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DATA

Insert here the tables listed in the meta data section (“Type of Representation” sub-section). Sort the tables according to the Progressive Number associated to each file name.

For each table provide:

- a technical title as it should appear in the final publication
- units of measure
- headings for all columns and all rows
- a source of the data

Please remember:

- decimal symbol is “.”(point)
- put years on top of the columns
- eventual notes must be inserted at the bottom of tables

Insert here the graphs listed in the meta data section (“Type of representation” sub-section). Sort the graphs according to the Progressive Number associated to each file name. The graphs should be easily readable with proper scales and fonts and understandable without confronting the text.

For each graph provide:

- a technical title as it should appear in the final publication
- units of measure
- a source of the data

Comments to tables and figures

A short (5-10 lines) factual explanation for tables and figures should be inserted here

Further work required (at data and indicator level)

If you need, you can assess here what needs to be done to improve the indicator.

E.g: improvement in methods, new data, better data, improvement of coverage in space and time etc.

List of references and literature

List relevant scientific publications, manuals, web sites relating the references used or cited on the fact sheet

List of acronyms

Insert the acronyms and the related definitions used or cited on the fact sheet

ANNEX 1**List of Codes**

<i>Environmental Topic Area</i>	<i>Environmental topic area code</i>
Air Quality	AQ
Biodiversity and protected areas	BP
Energy	EN
Forestry	FO
Fresh Water & Coastal Zone management	FW
Industry	IN
Land use management (land degradation and desertification)	LU
New settlements (industrial and urban zones)	NS
Noise	NO
Solid waste management/Hazardous waste and hazardous substance	WA
Transport	TR

ANNEX 2**DPSIR definitions**

<i>DPSIR Definition</i>	
Driving forces	are the human influences and activities that, when combined with environmental conditions, underpin environmental change. Indicators for driving forces describe the social, demographic and economic developments in societies and the corresponding changes in lifestyles, overall levels of consumption and production patterns.
Pressures	are exerted on resources and ecosystems as a result of human activities (i.e. driving forces), and include consumption and waste generation patterns and trends.
State	refers to the condition of the environment resulting from pressures (e.g. level of air pollution, land degradation and deforestation)
Impacts	are the results of pressures on the current state of the environment, which occur in a certain sequence. For instance, air pollution may cause global warming (primary effect), which may in turn cause an increase in temperature (secondary effect), which may provoke a rise of sea level (tertiary impact), which could result in a loss of biodiversity and thus impact on human health and well-being.
Responses	are the societal actions taken collectively or individually to ease or prevent negative environmental impacts, correct environmental damage or conserve natural resources. Responses may include regulatory action, environmental or research expenditure, public opinion and consumer preferences, changes in management strategy, and provision of environmental information.