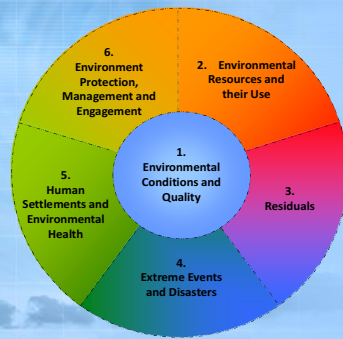


Components, sub-components and statistical topics of the FDES 2013

Part 2



Environment and Energy
Statistics Workshop for the
Arab Region.

Amman, Jordan 8-12 September 2013



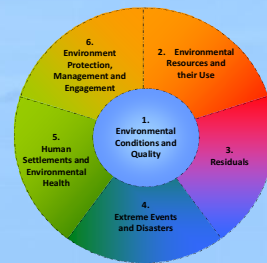
Environment and Energy Statistics Branch, United Nations Statistics Division



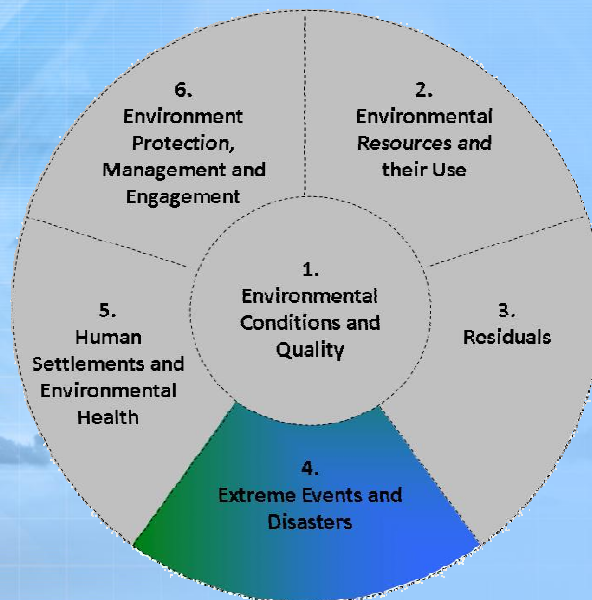
- This presentation has been elaborated by the Environment Statistics Section of the United Nations Statistics Division.
- It is mainly based on Chapter 3 of the Framework for the Development of Environment Statistics (FDES) 2013 that can be downloaded here: <http://unstats.un.org/unsd/statcom/doc13/BG-FDES-Environment.pdf>
- All presentations, handouts and background materials for the workshop can be downloaded here: <http://unstats.un.org/unsd/ENVIRONMENT/otherworkshops.htm>

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- Component 5: Human Settlements and Environmental Health
- Component 6: Environment Protection, Management and Engagement



Component 4: Disasters and Extreme Events



Contents of Component 4

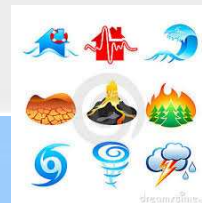
This component organizes statistics regarding the occurrence and impacts of extreme events and disasters on human wellbeing and on the infrastructure of the human sub-system.

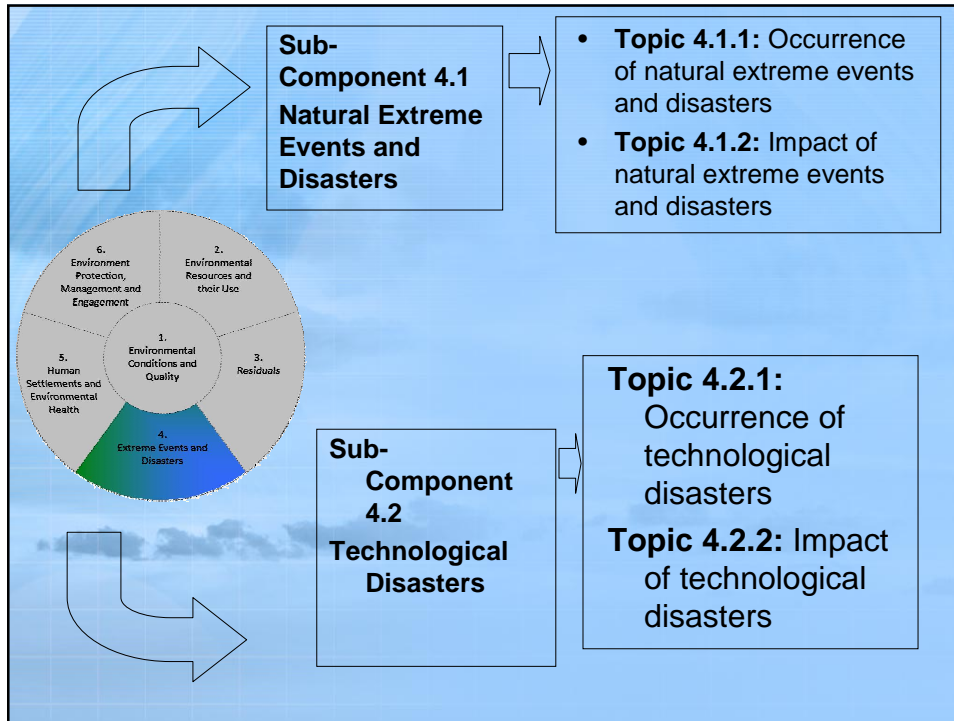


Component 4: Disasters and Extreme Events

Sources:

- National and sub-national authorities responsible for:
 - Disaster management and assistance
 - Emergency management and response agencies
 - Insurance companies
 - Optical and radar satellite operators for satellite information
 - Seismic monitoring and research centres.

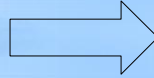




Component 4: Overview		
Component 4 Extreme Events and Disasters	Sub-Component 4.1 Natural Extreme Events and Disasters (two topics, 18 statistics)	Topic 4.1.1: Occurrence of natural extreme events and disasters Topic 4.1.2: Impact of natural extreme events and disasters
	Sub-Component 4.2 Technological Disasters (two topics, 15 statistics)	Topic 4.2.1: Occurrence of technological disasters Topic 4.2.2: Impact of technological disasters

Sub-Component 4.1: Natural Extreme Events and Disasters

Sub-Component 4.1 Natural Extreme Events and Disasters



Topic 4.1.1
Occurrence of natural
extreme events and
disasters

Topic 4.1.2
Impact of natural
extreme events and
disasters



Sub-component 4.1: Natural Extreme Events and Disasters

Definitions:

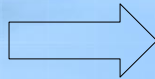
- **Extreme Event:** An event that is normally as rare or rarer than the 10th or 90th percentile within its statistical reference distribution at a particular location.
- **Disaster:** Described as a result of exposure to an extreme event. A disaster should be categorized using the same criteria as the CRED Emergency Events Database (EMDAT). This means that **at least one of the following** criteria must be fulfilled:
 - i. Ten (10) or more people reported killed
 - ii. One hundred (100) or more people reported affected
 - iii. Declaration of a state of emergency, **or**
 - iv. Call for international assistance has been made.

Relevance:

- Statistics on natural extreme events and disasters are important to policy makers, analysts and civil society not only for assessing the impact of an ongoing disaster, but also for monitoring the frequency, intensity and impact of disasters over time.

Sub-Component 4.1: Natural Extreme Events and Disasters
Topics 4.1.1 - 4.1.2

**Sub-Component
4.1
Natural Extreme
Events and
Disasters**



Topic 4.1.1
Occurrence of natural
extreme events and
disasters

Topic 4.1.2
Impact of natural
extreme events and
disasters

Sub-Component 4.1: Natural Extreme Events and Disasters

**Topic 4.1.1: Occurrence of natural extreme events and
disasters**

Includes:

- Type of natural disaster, location, magnitude, date of occurrence and duration.
- Statistics on hazard prone areas and on the vulnerability to disasters (i.e. population living in hazard prone areas).
- Extreme events and disasters can be categorized and classified using the current classification of the Centre for Research on the Epidemiology of Disasters Emergency Disasters Database (CRED EMDAT).



Sub-Component 4.1: Natural Extreme Events and Disasters

Topic 4.1.2: Impact of natural extreme events & disasters

- Impact can be measured/informed by: the number of people killed, injured, homeless and affected, as well as economic loss.
- Economic loss can refer to damage to buildings and other economic assets, number of transportation networks affected, economic disruption or loss of revenue to commercial services, as well as utility disruption.
- Physical loss or damage refers to the magnitude of the impact of the event or disaster on the quantity and quality of land, crops, livestock, aquaculture, biomass, etc.
- The specific impact of each natural disaster on the integrity of the local ecosystem can also be reported on.
- External assistance received for disaster relief can also be measured.

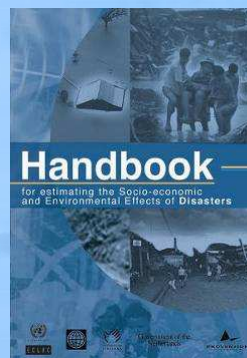


Sub-Component 4.1: Natural Extreme Events and Disasters

Topic 4.1.2: Impact of natural extreme events & disasters

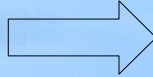
Handbook for Estimating the Socio-economic and Environmental Effects of Disasters

- The United Nations Economic Commission for Latin America and the Caribbean (UNECLAC) has developed this handbook, useful to other countries and regions
- It evaluates the overall impact of disasters associated with natural events and includes a methodology for evaluating this impact. This analysis of disaster impact in terms of damage and losses makes it possible to estimate the impact of disasters on economic growth, on the population's living conditions and on environmental conditions in the region.



Sub-Component 4.2: Technological Disasters

**Sub-Component
4.2
Technological
Disasters**



Topic 4.2.1
Occurrence of
technological disasters

Topic 4.2.2
Impact of technological
disasters



Sub-component 4.2: Technological Disasters

Includes information on the occurrence and impact of such disasters on human lives and habitats, and on the environment as well as on disaster preparedness for such types of disasters.

Technological disasters arise from human intent, negligence or error, or from faulty or failed technological applications

Types of technological disasters recognized by CRED:

1. Industrial disasters which cover leakages of fluid toxic chemicals, oil spills and explosions;
2. Transport disasters: accidents of mechanized transport of chemicals, volatile materials or other hazardous substances by road, rail, water or pipeline
3. Miscellaneous disasters such as arson fires and other disasters of varied origin.

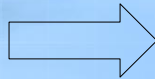
Relevance:

- Tech disasters can impact large areas and affect both human safety and the environment in both the short and long term.
- Policy makers, analysts and civil society require statistics on technological disasters in order to understand who is ultimately responsible, what the immediate and potential impact may be, and to assess and mitigate future risks.

Sub-Component 4.2: Technological Disasters

Topics 4.2.1 – 4.2.2

**Sub-Component
4.2
Technological
Disasters**



Topic 4.2.1

Occurrence of
technological disasters

Topic 4.2.2

Impact of technological
disasters

Sub-Component 4.2: Technological Disasters

Topic 4.2.1: Occurrence of technological disasters

Content:

- Includes occurrence and nature of disasters resulting from human intent, negligence, error or from faulty or failed technological applications.

Examples:

- Nuclear meltdowns and pipeline or tanker leakages that result in significant harm to the environment, including potentially significant consequent impacts on humans

Scope:

- Identification and characterization of the different types of events including information on type of disaster, location, magnitude date of occurrence and duration. Where pertinent because of repeated episodes, the frequency of these technological disasters can also be critical in guiding policy-making and the development of deterrents.
- Inclusion in this sub-component, a technological disaster should be categorized using the same criteria as the [CRED EMDAT](#).



Sub-Component 4.2: Technological Disasters

Topic 4.2.1: Occurrence of technological disasters

Relevance:

- Technological disasters impact human lives, habitats and ecosystems in different ways, depending on the nature and intensity of the disaster. Their effects can be short term or may have significant or unknown duration. In the case of technological disasters, there is sometimes no precedent for a given disaster. The full magnitude of such disasters can sometimes neither be fully anticipated nor measured.

Exclusion:

- Information on the environmental media that are impacted is included under Sub-component 1.3: Environmental Quality, covering air, water, soil and noise.



Sub-Component 4.2: Technological Disasters

Topic 4.2.2: Impact of technological disasters

Includes the specific impacts on humans and damage to the ecosystems and to the economy, arising from technological disasters.

Impacts include environmental damage, radiation-related conditions and diseases or other health impacts, property damage, loss of livelihoods, services and housing, social and economic disruption.

Statistics:

- Number of people killed, injured, rendered homeless, or affected, as well as economic loss.

Economic loss: Damage to buildings and other economic assets, number of transportation networks affected, economic disruption or loss of revenue to commercial services, and utility disruption.

Physical loss or damage: The magnitude of the impact of the event or disaster on the quantity and quality of land, crops, livestock, aquaculture, biomass.

- If available, estimations of the loss of work days and of the economic cost in monetary terms (e.g., loss of wages or costs of treatment) and external assistance received for disaster relief.

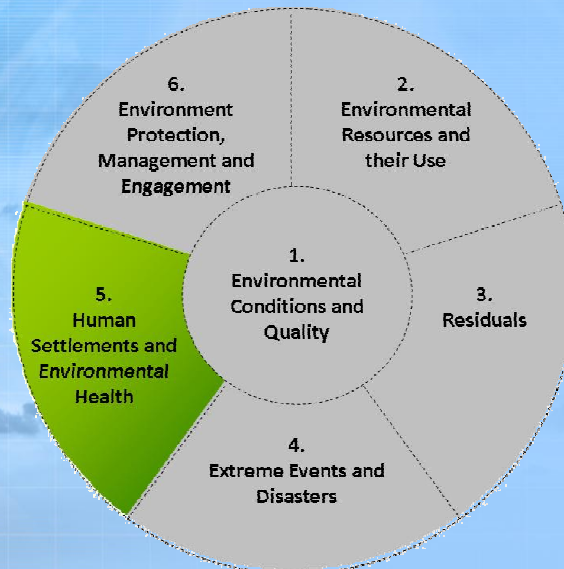




Questions, comments for Component 4 ?



Component 5: Human Habitat and Environmental Health



Contents of Component 5

- Contains statistics on the environment in which humans live and work : living conditions and environmental health.
- These statistics are important for the management and improvement of conditions related to human settlements, shelter conditions, safe water, sanitation, and health, particularly in the context of rapid urbanization, increasing pollution, environmental degradation, disasters, extreme events, and climate change.

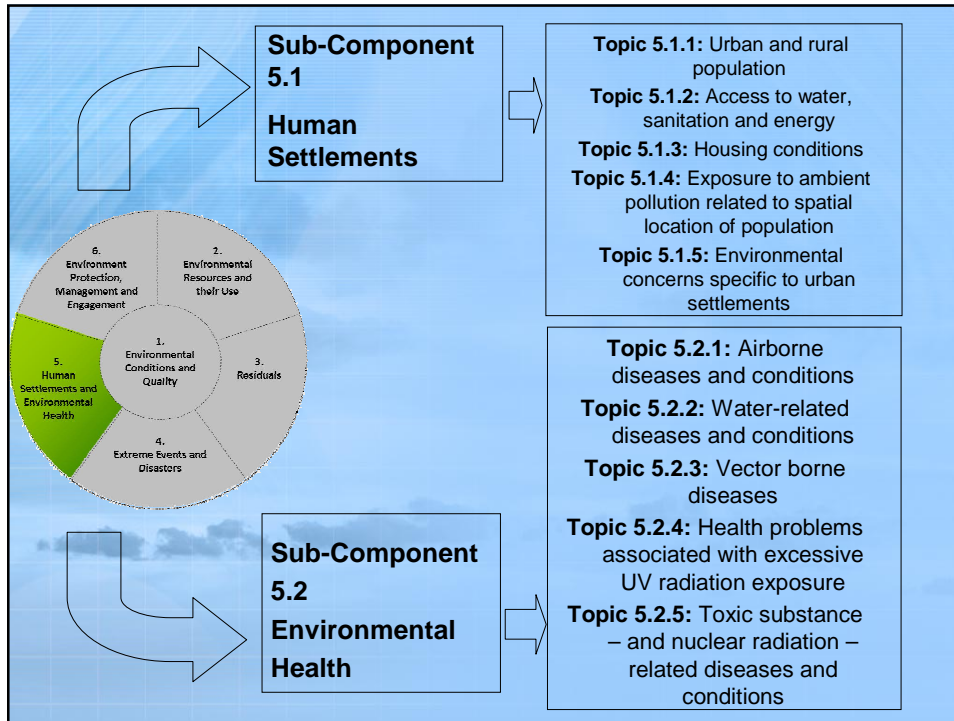


Component 5: Human Settlements and Environmental Health

- Includes statistics on basic services and infrastructure of human settlements.
- Refers to the human population that resides in a settlement, the physical elements (e.g., shelter and infrastructure), services (e.g., water, sanitation, waste removal, energy and transport), and the exposure of humans to potentially deleterious environmental conditions.

Relevance:

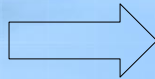
- Statistics on human settlements are required by policy makers, analysts and civil society in order to inform on how humans live and work in these settlements, how they transform the landscape and the supporting ecosystems, and in turn how this affects human wellbeing and health.



Component 5: Overview		
Component 5 Human Settlements & Environmental Health	Sub-Component 5.1 Human Settlements <i>(five topics, 27 statistics)</i>	Topic 5.1.1: Urban and rural population Topic 5.1.2: Access to water, sanitation and energy Topic 5.1.3: Housing conditions Topic 5.1.4: Exposure to ambient pollution related to spatial location of population Topic 5.1.5: Environmental concerns specific to urban settlements
	Sub-Component 5.2 Environmental Health <i>(5 topics, 22 statistics)</i>	Topic 5.2.1: Airborne diseases and conditions Topic 5.2.2: Water-related diseases and conditions Topic 5.2.3: Vector borne diseases Topic 5.2.4: Health problems associated with excessive UV radiation exposure Topic 5.2.5: Toxic substance – and nuclear radiation – related diseases and conditions

Sub-Component 5.1: Human Settlements

Sub-Component 5.1 Human Settlements



Topic 5.1.1: Urban and rural population

Topic 5.1.2: Access to water, sanitation and energy

Topic 5.1.3: Housing conditions

Topic 5.1.4: Exposure to ambient pollution related to spatial location of population

Topic 5.1.5: Environmental concerns specific to urban settlements

Sub-component 5.1: Human Settlements

Sources:

- Censuses
- Surveys
- Administrative records
- Remote sensing



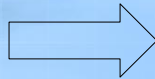
Institutional partners of the NSO include:

- Housing and urban planning authorities
- Health and transportation authorities
- Research institutions
- Presenting the statistics spatially using maps and geospatial statistics adds important value to the information being produced.

Sub-Component 5.1: Human Settlements

Topics 5.1.1 – 5.1.5

**Sub-Component
5.1
Human
Settlements**



Topic 5.1.1: Urban and rural population

Topic 5.1.2: Access to water, sanitation and energy

Topic 5.1.3: Housing conditions

Topic 5.1.4: Exposure to ambient pollution related to spatial location of population

Topic 5.1.5: Environmental concerns specific to urban settlements

Sub-Component 5.1: Human Settlements

Topic 5.1.1: Urban and rural population

Includes:

- Rural, urban and total population, including population density.
- These statistics should include geospatial information regarding specific geographic distributions in the country.

Relevance:

- Depending on the carrying capacity of ecosystems, human settlements and their use of environmental resources will affect environmental conditions, as well as human wellbeing and health.
- In combination with housing, water and sanitation statistics, they can provide telling determinants of the environmental sustainability of human settlements and environmental health.
- Statistics on the location of human settlements can be found both in traditional demographic statistics, and geospatial information sources.

Sources:

- Censuses
- Household surveys



Sub-Component 5.1: Human Settlements

Topic 5.1.2: Access to water, sanitation and energy

Includes:

- Access to water, sanitation, waste removal services and energy in urban and rural areas.
- Access to these basic services can have a positive effect on human health and wellbeing, thereby contributing to improved environmental quality.
- Relevant statistics on this topic include population using an improved drinking water source, as well as population using an improved sanitation facility.

Relevance:

- Collection of data on improved drinking water source as defined by MDG framework is relevant and useful for monitoring progress toward achieving the MDGs, and is required as numerators for MDG indicators 7.8 and 7.9 respectively.



Sub-Component 5.1: Human Settlements

Topic 5.1.3: Housing conditions

Includes:

- Access of population to an adequate dwelling; the characteristics of the houses in which both rural and urban population live, including the quality of the houses (e.g., building materials) and location in either safe or vulnerable zones.
- Housing sufficiency statistics such as number and proportion of individuals or families that do not have access to an adequate dwelling, or live in a precarious dwelling and the homeless population
- Common statistics describing the quality and the location of houses in either safe or vulnerable zones include:
 - Urban population living in slums or informal settlements, as well as the number of dwellings with adequate building materials as defined by national or local standards.

Relevance:

- Housing access and conditions exert a direct effect on human wellbeing and health, and these data therefore serve as critical measures of those attributes.
- Housing condition statistics need to be described according to national conditions and priorities. Distribution of income directly influences the access to dwelling, the quality of the homes that different social groups can have, and their location.

Sources:

- Censuses
- Household surveys
- Urban planning and housing authorities



Sub-Component 5.1: Human Settlements

Topic 5.1.4: Exposure to ambient pollution related to spatial location of population

Includes spatially described statistics on human populations exposed to different levels of air and noise pollution.

Statistics for this topic include the number of people exposed to air or noise pollutants in specific areas and the proportion of the exposed population to the total population of the city or region

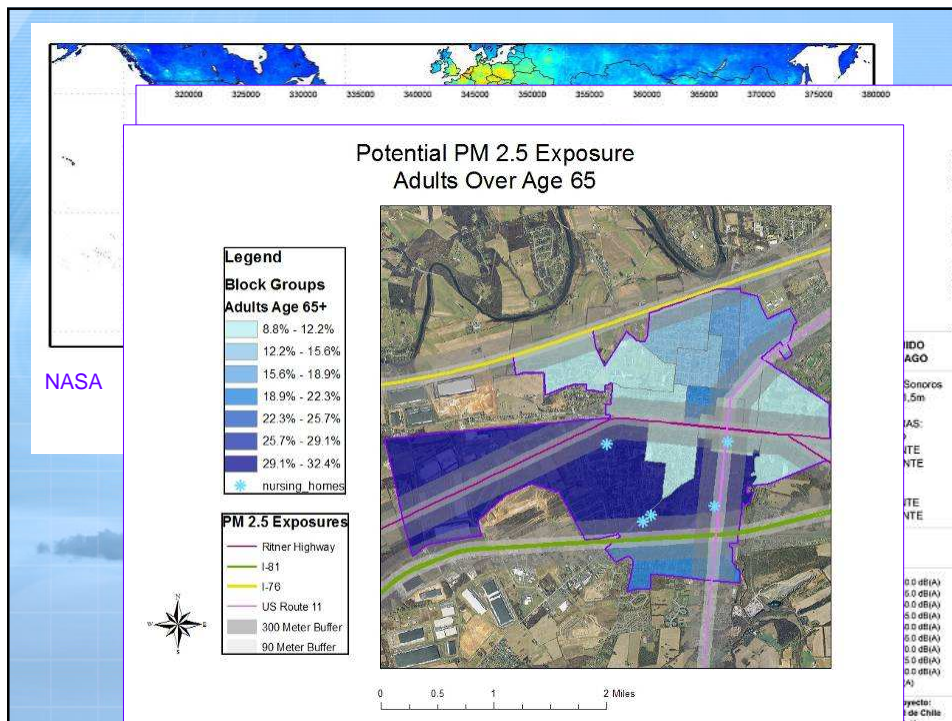
Topic overlays pollutant emission and exposure data onto geographic and demographic data to create a more detailed understanding of the location of populations currently being exposed to pollutants and those most at risk of future exposure.

Relevance:

- Location-specific geospatial information on ambient pollutant levels is important for environmental protection/environmental health policies

Sources:

- For Demographic statistics → NSOs carrying out Censuses and Surveys
- For Point pollution emissions → environmental authorities
- Geographic or cartographic authorities.



Sub-Component 5.1: Human Settlements

Topic 5.1.5: Environmental concerns specific to urban settlements

Content:

- Organizes issues of specific relevance to this part of the population.
- Depending on national and local conditions and priorities, additional environmentally relevant

Sources:

- Administrative records, and remote sensing; common partners of the NSO include municipal authorities, urban planning and housing authorities responsible for zoning, as well as transport authorities and urban research centres.



Sub-Component 5.2: Environmental Health

Sub-Component 5.2

Environmental Health



Topic 5.2.1

Airborne diseases and conditions

Topic 5.2.2

Water-related diseases and conditions

Topic 5.2.3

Vector-borne diseases

Topic 5.2.4

Health problems associated with excessive UV radiation exposure

Topic 5.2.5

Toxic substance- and nuclear radiation- related diseases and conditions



Sub-Component 5.2: Environmental Health

Content:

- Common measures of health problems of human populations include statistics on morbidity (incidence and prevalence) and mortality associated with specific types of diseases and conditions that are heavily influenced by environmental factors.
- Estimations of premature death, the loss of work days and estimation of the economic cost in monetary terms (i.e., loss of wages or costs of treatment).

Scope:

- Environmental health can be defined as an interdisciplinary field that focuses on analysing the relation between public health and the environment.
- Primary epidemiological data can be selected and further processed for transformation into the environmental health statistics. The resulting statistics are usually produced using national and sub-national data. They include descriptive epidemiological data that can usually be updated on a yearly basis.

Exclusions:

- *Associated environmental statistics such as the emissions of pollutants to the environment can be found in Component 3: Residuals, while statistics on pollution concentration in air, water and soil can be found in Sub-component 1.3: Environmental Quality.*

Sources:

- The sanitary or health authority in a country
- Regulatory agencies
- Environmental protection agencies.

Sub-Component 5.2: Environmental Health

Topics 5.2.1 – 5.2.4

Sub-Component 5.2

Environmental
Health



Topic 5.2.1

Airborne diseases and conditions

Topic 5.2.2

Water-related diseases and conditions

Topic 5.2.3

Vector-borne diseases

Topic 5.2.4

Health problems associated with excessive UV radiation exposure

Topic 5.2.5

Toxic substance – and nuclear radiation – related diseases and conditions

Sub-Component 5.2: Environmental Health

Topic 5.2.1: Airborne diseases and conditions

Includes:

- All airborne diseases and conditions that are caused or worsened by exposure to unhealthy levels of pollutants (such as respirable PM, SO₂ or O₃).
- Health statistics on morbidity (such as incidence and prevalence) of these diseases or conditions, as well as measurement of the associated impact on the labour force and on the economic costs.
- Where available, the attributable portion and burden of diseases, premature deaths and DALYs (disability-adjusted life years) associated with pollution are to be included in this topic.

Examples of airborne diseases and conditions include:

- Upper and lower respiratory disease
- Obstructive pulmonary disease
- Asthma
- Allergic rhinitis



Sub-Component 5.2: Environmental Health

Topic 5.2.2: Water-related diseases and conditions

Includes:

- All water-related diseases and conditions that result from micro-organisms and chemicals in the water humans drink as defined by the WHO.
- Diseases caused by biological contamination such as gastroenteritis infections caused by bacteria, viruses and protozoa, and water borne parasite infections.
- Diseases and health problems associated with the (organic or inorganic) chemical contamination of water (e.g., from arsenic, cadmium, chromium, copper, etc.)
- Health statistics such as morbidity (incidence and prevalence) and mortality of these diseases or conditions, as well as measures of the associated impact on the labour force and on the economic costs.
- The attributable portion and burden of diseases, premature deaths and DALYs associated with water related factors.

Sub-Component 5.2: Environmental Health

Topic 5.2.2: Water-related diseases and conditions

Relevance:

- Water-related diseases and conditions are still a considerable public health problem in developing countries.
- Prolonged exposure to organic or inorganic chemical contamination of water (e.g., from arsenic, cadmium, chromium, copper, etc.) can provoke different health problems
 - Examples: increased risk of cancer, organ damage and malfunction, increased blood cholesterol and pressure, among others.



Sub-Component 5.2: Environmental Health

Topic 5.2.3: Vector-borne diseases

Includes:

- Vector borne diseases that are transmitted by vectors (e.g., insects and arachnids) that carry viruses, bacteria, protozoa and other pathogens, as defined by the WHO.
- Health statistics such as morbidity (incidence and prevalence) and mortality of these diseases or conditions, as well as measures of the associated impact on the labour force and on the economic costs.
- Attributable portion and burden of diseases, premature deaths and DALYs associated with vector-borne environmental factors.

Relevance:

- Some vector borne diseases are being directly affected by climate change, notably by the change in rain patterns and floods.
- Examples: common vector borne diseases include: malaria, dengue fever, yellow fever and Lyme disease.



Sub-Component 5.2: Environmental Health

Topic 5.2.4: Health problems associated with excessive UV radiation exposure

Content:

- Statistics on the incidence and prevalence of melanoma and other skin cancers, the incidence and prevalence of cataracts associated with excessive and prolonged UV radiation exposure.
- Statistics on work days lost and economic costs in monetary terms.
- The attributable portion and burden of diseases, premature deaths and DALYs associated with excessive UV radiation exposure.



Sub-Component 5.2: Environmental Health

Topic 5.2.5: Toxic substance –and nuclear radiation– related diseases and conditions

Includes:

- Diseases and conditions associated with exposure to toxic substances, residuals and/or waste that result from localized emissions.
- Toxic substances include toxic pesticides (e.g., pesticides that have teratogenic, carcinogenic, tumorigenic and/or mutagenic effects), and toxic industrial chemicals (e.g., lead, arsenic, mercury and nickel, among others).
- Toxic substance-related diseases and health problems include: chronic illnesses of the respiratory system (such as pneumonia, upper respiratory diseases, asthma and chronic obstructive pulmonary diseases), cancer, infertility, and congenital anomalies or malformations.

Sources of epidemiological data:

- The sanitation or health authority
- Nuclear regulatory agencies
- Environmental protection agencies.

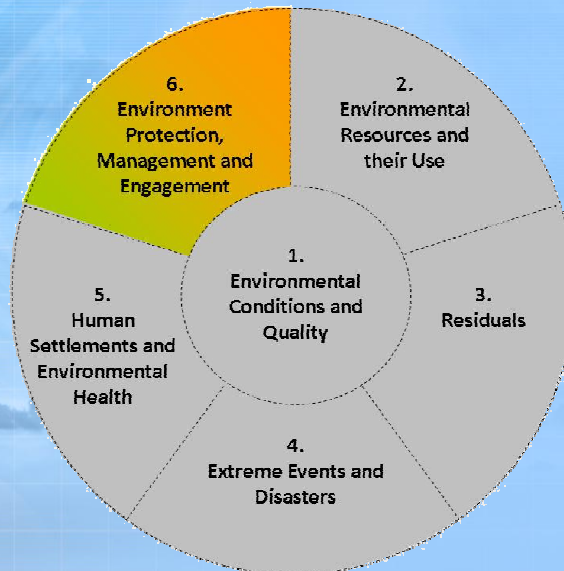




Questions, comments for Component 5?



Component 6: Environment Protection, Management and Engagement



Contents of Component 6

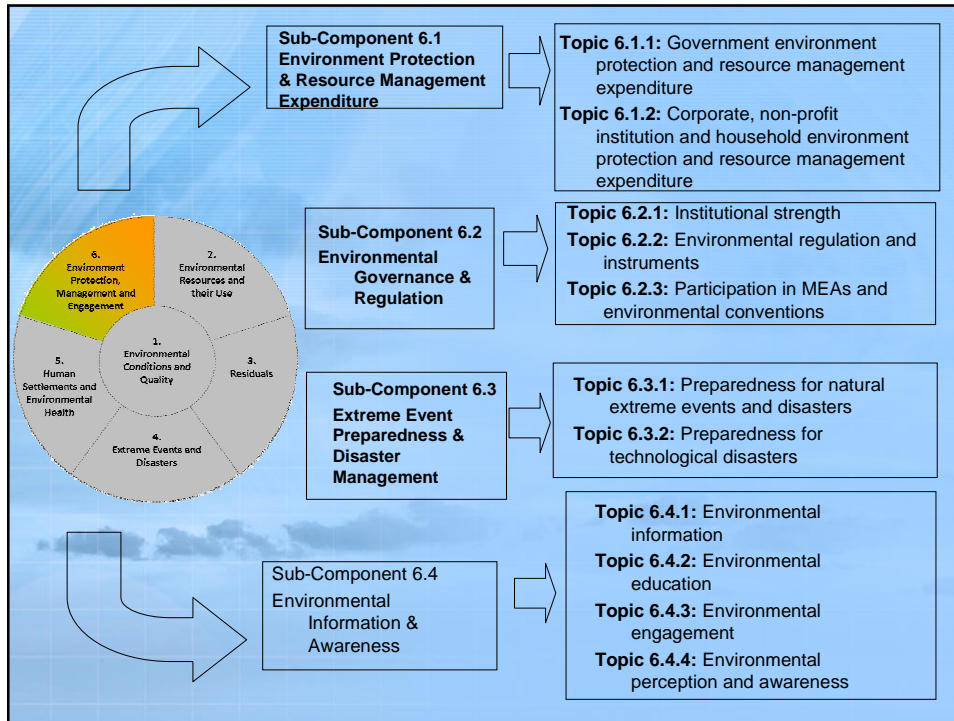
Organizes information on environment protection and resource management measures and expenditure with the aim of improving the environment and maintaining the health of ecosystems.



Component 6: Environment Protection, Management & Engagement

Contents:

- Statistics about environmental governance, institutional strength, enforcement of regulations and extreme event preparedness.
- Covers statistics on expenditure related to these activities
- Contains information on programmes and actions to increase awareness, including environmental information and education, as well as private and community activities aimed at diminishing environmental impacts and improving the quality of local environments.



Component 6: Overview		
Component 6 Environment Protection, Management and Engagement	Sub-Component 6.1 Environment Protection and Resource Management Expenditure (two topics, 8 statistics)	Topic 6.1.1: Government environment protection and resource management expenditure Topic 6.1.2: Corporate, non-profit institution and household environment protection and resource management expenditure
	Sub-Component 6.2 Environmental Governance and Regulation (three topics, 15 statistics)	Topic 6.2.1: Institutional strength Topic 6.2.2: Environmental regulation and instruments Topic 6.2.3: Participation in MEAs and environmental conventions
	Sub-Component 6.3 Extreme Event Preparedness and Disaster Management (two topics, 10 statistics)	Topic 6.3.1: Preparedness for natural extreme events and disasters Topic 6.3.2: Preparedness for technological disasters
	Sub-Component 6.4 Environmental Information and Awareness (four topics, 13 statistics)	Topic 6.4.1: Environmental information Topic 6.4.2: Environmental education Topic 6.4.3: Environmental engagement Topic 6.4.4: Environmental perception and awareness

Sub-Component 6.1: Environment Protection & Resource Management Expenditure

**Sub-Component
6.1**

**Environment
Protection &
Resource
Management
Expenditure**



Topic 6.1.1:
Government
environment
protection and
resource
management
expenditure

Topic 6.1.2:
Corporate, non-
profit institution
and household
environment
protection and
resource
management
expenditure



Sub-Component 6.1: Environment Protection and Resource Management Expenditure

Content:

- Groups environment protection and resource management expenditures according to their purpose
- Defines bearers of the expenditures as either general government, corporations, nonprofit institutions, and/or households.

Relevance

- Can be used as one measure of the public and private engagement in protecting, restoring and managing the environment towards its more sustainable use.
- Important for policy makers, analysts and civil society in order to determine the current and desired levels of engagement and commitment from the government and the private sector.



Sub-Component 6.1: Environment Protection and Resource Management Expenditure

Scope:

- Environment protection activities include protection of ambient air and climate, wastewater management, waste management, protection and remediation of soil, groundwater and surface water, noise and vibration abatement, protection of biodiversity and landscapes, protection against radiation, and research and development for environment protection.
- Resource management activities include reducing withdrawals of natural resources (including through the recovery, reuse, recycling, and substitution of natural resources); restoring natural resource stocks (increases or recharges of natural resource stocks); general management of natural resources (including monitoring, control, surveillance and data collection); and production of goods and services used to manage or conserve natural resources.

Covers management of mineral and energy resources; timber resources; aquatic resources; other biological resources; water resources; research and development activities for resource management



Sub-Component 6.1: Environment Protection and Resource Management Expenditure

Topics 6.1.1 – 6.1.2

**Sub-Component
6.2
Environment
Protection and
Resource
Management
Expenditure**



Topic 6.1.1:
Government
environment
protection and
resource
management
expenditure

Topic 6.1.2:
Corporate, non-profit
institution and
household
environment
protection and
resource
management
expenditure

Sub-Component 6.1: Environmental Protection & Resource Management Expenditure

Topic 6.1.1: Government environment protection and resource management expenditure

Content:

- **Government** expenditure primarily aimed to protect the environment and manage resources.
- Government (local, regional and central) expenditure to protect the environment is usually calculated by identifying and aggregating the expenditures considered to be primarily for environment protection and resource management purposes.
 - These expenditures can be found by examining official government finance statistics found in government budgets and/or administrative reports on actual government expenditure incurred.

Institutional partners:

- The official institutions in charge of reporting government expenditure (e.g., internal revenue services) and the national and sub-national level institutions (e.g., municipalities).
- The resulting statistics will usually be at the national level, and can sometimes be disaggregated by functional governmental entities or by governmental levels.
- National accounts and government finance statistics are typically the divisions in the NSOs which need to be involved when developing these figures.
- These statistics are expressed in monetary units, typically with annual periodicity, depending on the availability of resources.

Sub-Component 6.1: Environmental Governance and Regulation

Topic 6.1.2: Corporate, non-profit institution and household environment protection and resource management expenditure

Includes:

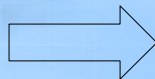
- **Corporate, non-profit institution and household** environmental expenditure whose primary aim is to protect the environment and manage its resources.
- Reference classification CEPA and RMA

Types of data:

- Statistics on environment protection and resource management expenditure for corporations, non-profit institutions and households usually require the use of specific surveys of establishments in different sectors and industries, and households.
 - Key elements that affect the quality of statistics being produced through this type of source include:
 - The existence of updated and precise establishment registers, sampling procedures and questionnaire quality.
 - The technical capacity of individual establishments to respond adequately to environment protection and resource management questions.

Sub-Component 6.2: Environmental Governance and Regulation

**Sub-Component
6.2
Environmental
Governance and
Regulation**



Topic 6.2.1:
Institutional
strength

Topic 6.2.2:
Environmental
regulation and
instruments

Topic 6.2.3:
Participation in
MEAs and
environmental
conventions



Sub-Component 6.2: Environmental Governance and Regulation

Content:

- Setting and enforcing standards and norms -> successful national environmental governance. Requires institutional strength, as well as regulatory capabilities.
- A nation's participation in MEAs and global environmental conventions -> describing national participation in the global commitment to protect the environment.
- Information, education and perception elements -> make stakeholders aware of and be given incentives to comply with, norms and standards.
- Sector or industry-based voluntary agreements for environmental management and protection

Relevance:

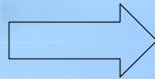
- Provides a holistic view of a country's efforts towards sustaining and protecting the environment, policy makers, analysts and civil society require statistics on environmental governance and regulation at the national level.
- The magnitude of these activities can inform about the extent of institutional development, the availability of resources, and the existence and enforcement of regulating and market instruments whose primary purpose is to protect, regulate and manage the changing environment.



Sub-Component 6.2: Environmental Governance & Regulation

Topics 6.2.1 – 6.2.3

Sub-Component
6.2
Environmental
Governance &
Regulation



Topic 6.2.1:
Institutional
strength

Topic 6.2.2:
Environmental
regulation and
instruments

Topic 6.2.3:
Participation in
MEAs and
environmental
conventions

Sub-Component 6.2: Environmental Governance and Regulation

Topic 6.2.1: Institutional strength

Includes:

- Statistics on environmental institutions and their resources organized according to the main environmental authority (name, budget and staff), and other relevant environmental bodies (names, budget and staff).

Scope:

- The information should be mainly descriptive, but can also include monetary statistics on budgets. It is usually compiled at the national level but should also cover sub-national authorities.

Institutional Partners:

- Environmental authority, internal revenue services, other environmentally relevant authorities, and other institutions where environmental regulations are enforced (e.g., local governments or sectoral authorities).



Sub-Component 6.2: Environmental Governance and Regulation

Topic 6.2.2: Environmental regulation and instruments

Includes:

- Information on social responses aiming to regulate and establish acceptable limits for protecting the environment.
- Entails direct regulation and economic instruments.
 - Direct regulation instruments include environmental and related laws, standards, limits and their enforcement capacities. They can be measured through statistics about regulated pollutants, licensing systems, applications for licences, quotas for biological resource extraction, as well as budget and the number of staff dedicated to enforcement of environmental regulations.
 - Economic instruments may be exemplified by the existence and volume of green taxes, green subsidies, eco-labelling and certification, as well as emission permits.

Information: mainly descriptive, but may also include quantitative data on budgets or emission permits traded.

[Example: List of regulated pollutants and their description](#),

Institutional Partners:

- Env.authority, internal revenue services, other relevant authorities, and other institutions where env.regulations are enforced (e.g., local governments or sectoral authorities).



Sub-Component 6.2: Environmental Governance and Regulation

Topic 6.2.3: Participation in MEAs & environmental conventions

Content:

- This topic includes information on a country's participation in different MEAs and other global environmental conventions.
 - Such conventions include the Montreal and Kyoto protocols.

Scope:

- The information to be produced in this topic is mainly descriptive, however, comparable time series can also be derived from these statistics.

Institutional partners:

- The environmental authority, along with other possible institutions in charge of MEAs or environmental conventions.

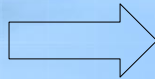
Please see Handout 5 on MEAs



Sub-Component 6.3: Extreme Event Preparedness and Disaster Management

Sub-Component 6.3

Extreme Event Preparedness and Disaster Management



Topic 6.3.1:
Preparedness for natural extreme events and disasters

Topic 6.3.2:
Preparedness for technological disasters



Sub-Component 6.3: Extreme Event Preparedness and Disaster Management

Content:

- Statistics describing extreme event preparedness and disaster management will be different in each country, depending on which type of extreme events and disasters usually occur or can potentially occur.
- Statistics detailing existence and strength of the disaster authority's facilities and infrastructure.
- Extreme event preparedness and disaster management expenditure: refers to any public or private expenditure whose primary purpose is to help inform, educate and protect the population from extreme events and disasters
 - **Examples:** The set up and maintenance of warning systems, monitoring stations and systems, signals, communication systems, emergency centres and shelters, etc.

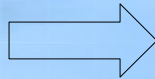


Sub-Component 6.3: Extreme Event Preparedness and Disaster Management

Topics 6.3.1 – 6.3.2

Sub-Component
6.3

Extreme Event
Preparedness
and Disaster
Management



Topic 6.3.1:
Preparedness for
natural extreme
events and
disasters

Topic 6.3.2:
Preparedness for
technological
disasters



Sub-Component 6.3: Extreme Event Preparedness & Disaster Management

Topic 6.3.1: Preparedness for natural extreme events & disasters

Includes

- Information about emergency management plans, as well as the expenditure on disaster preparedness, clean-up and rehabilitation.
- Statistics such as existence and description of national disaster plans; the type and number of shelters in place; the type and number of internationally certified emergency and recovery management specialists; the number of volunteers; the quantity of first aid, and emergency supplies and equipment that are stockpiled. The existence of early warning systems for all major hazards, as well as the expenditure on disaster prevention, preparedness, clean-up and rehabilitation.
- Statistics on corporate disaster preparedness vary according to size of enterprise, its location and historical profile for technological disasters.



Sub-Component 6.3: Extreme Event Preparedness & Disaster Management

Topic 6.3.1: Preparedness for natural extreme events & disasters

Relevance:

- Disaster impact varies with size of the enterprise relative to local area: same disaster may not have a substantial effect on a large industrial complex in a major city, but may reach tragic proportions in a one-factory town, where that enterprise is the main employer.

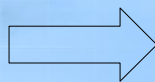
Data sources:

- National and sub-national authorities responsible for disaster management and assistance, emergency management agencies and municipalities.
- Global and regional meteorological forecasting agencies can also provide useful data on the spatial scale and likelihood of a crisis.
- NSOs can provide population data.
- Authorities responsible for flood and drainage control can provide flood and drainage control information.
- Agro-meteorological collaboration: provide joint forecast information (agriculture ministries and meteorological agencies) to complement data from each of their domains.



Sub-Component 6.4: Environmental Information & Awareness

**Sub-Component
6.4
Environmental
Information &
Awareness**



Topic 6.4.1:

Environmental
information

Topic 6.4.2:

Environmental
education

Topic 6.4.3:

Environmental
engagement

Topic 6.4.4:

Environmental
perception and
awareness

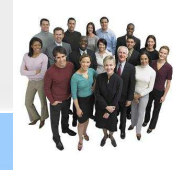
Sub-Component 6.4: Environmental Information & Awareness

Content:

- Covers information about diverse processes that contribute to increasing social awareness of environmental issues, thereby promoting pro-environmental engagement and actions by the public and decision-makers at both local and national levels.

Relevance:

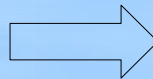
- Statistics relevant for policy makers, analysts and civil society to understand information and education programmes in their country and refine policies and programmes:
 - i.e.: activities are increasing or decreasing over time? potentially determine impact of information and education on public perception, awareness of environmental issues, and social engagement in pro-environmental actions.
- Understanding env.perceptions of the public and key local constituencies can also be useful for policy makers when shaping local and national environmental policies and programmes.



Sub-Component 6.4: Environmental Information & Awareness

Topics 6.4.1 – 6.4.4

Sub-Component
6.4
Environmental
Information &
Awareness



Topic 6.4.1:

Environmental
information

Topic 6.4.2:

Environmental
education

Topic 6.4.3:

Environmental
engagement

Topic 6.4.4:

Environmental
perception and
awareness



Sub-Component 6.3: Environmental Information & Awareness

Topic 6.4.1: Environmental information

Content:

- National env. information systems (e.g. existence of publicly accessible systems and number of users)
- Env. statistics programmes within national statistical systems (e.g., description of programme, number and type of environment statistics products, interagency platforms or committees).

Env. information includes quantitative, qualitative or geographically referenced facts representing the state of the environment and its changes, as described in FDES

- Quantitative environmental information: generally produced as data, statistics and indicators. Disseminated through databases, spreadsheets, compendia and yearbook type products.
- Qualitative environmental information: consists of descriptions (e.g. textual, pictorial) of the environment or its constituent parts that cannot be adequately represented by accurate quantitative or geographically referenced descriptors.
- Geographically referenced environmental information provides facts on the environment and its components using digital maps, satellite imagery and other sources linked to a location or map feature.



Sub-Component 6.3: Environmental Information & Awareness

Topic 6.4.1: Environmental information

Relevance:

- The production and dissemination of environment statistics within national statistical systems enables the production of robust environmental and sustainable development indicators (SDIs) to substantiate reports on the changing environment, and to guide policy making.
- Determining which institution is responsible for producing which types of information can be helpful in identifying information gaps, areas of overlapping responsibility or efforts, and areas where efficiency gains can be achieved.

Institutional partners:

- The environmental authority and the NSO, and other institutions where databases containing environmental information and reports containing environmental statistics and indicators are produced.

Information: mainly descriptive but can also include quantitative data on budgets. It is usually compiled at the national level.



Sub-Component 6.3: Environmental Information & Awareness

Topic 6.4.2: Environmental education

Includes:

- Specific actions associated with environmental education and the results they achieve in terms of the number of people participating in these programmes.
- Can include allocation of resources for education, the number and description of the education programmes in schools, and the number of students pursuing environment-related higher education.

Institutional partners:

- The ministry of education, ministry of environment or equivalent institution, and the NSO, along with other institutions, such as universities and non-profit institutions, where curricula on environmental education are developed and delivered.

Information:

- Qualitative, can include monetary data (ie.resources spent)
- Compiled at the national and sub-national levels.
- Source type: mainly administrative records.



Sub-Component 6.3: Environmental Information & Awareness

Topic 6.4.3: Environmental engagement

Includes:

- General public/specific group's perceptions and awareness of the environment through the measurement of knowledge, attitudes, values and actions (surveys).
- Encompasses people's perceptions about governments' environmental policies aimed at addressing pressing environmental concerns.
- Statistics produced through surveys designed for data collection on this topic.

Information: mainly qualitative, and are compiled at both the sub-national and national levels

Institutional partners: Environmental authority, NSO and other institutions that carry out perception surveys (ie: local governments, polling companies).



Sub-Component 6.3: Environmental Information & Awareness

Topic 6.4.4: Environmental perception and awareness

Includes:

- General public or a specific group's perceptions and awareness of the environment through the measurement of knowledge, attitudes, values and actions.
- It also encompasses people's perceptions about governments' environmental policies aimed at addressing pressing environmental concerns.
 - Increasingly, countries and international polling companies have been surveying the public to measure such information across society.

Information: mainly qualitative, compiled at sub-national and national levels.

Data collection is through surveys designed for this purpose.

Relevance:

- Knowledge about environmental issues influences people's attitudes (predispositions for action/participation in pro-environmental activities).



Institutional Partners:

- The environmental authority, NSO, and other institutions where environmental perception surveys are carried out (e.g., by local governments or polling companies).



Questions, comments for Component 6 ?



Thank you for your attention!

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