

**National workshop:**

Generating environment, climate change  
and disasters indicators for use in policy  
decision-making in Grenada

17 -19 Oct 2022



**ECLAC's methodology to produce  
environment, climate change and  
disaster indicators**

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Statistics Unit](#)

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Economic Commission for Latin America and the Caribbean \(ECLAC\)](#)

## 1

Principles for constructing indicator sets

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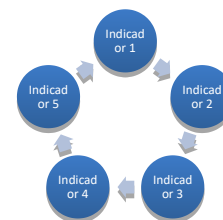
## 2

Methodological road map for constructing indicators

Stage I: Preparation

Stage II: Design and construction of indicators

Stage III: Institutionalization



## 3

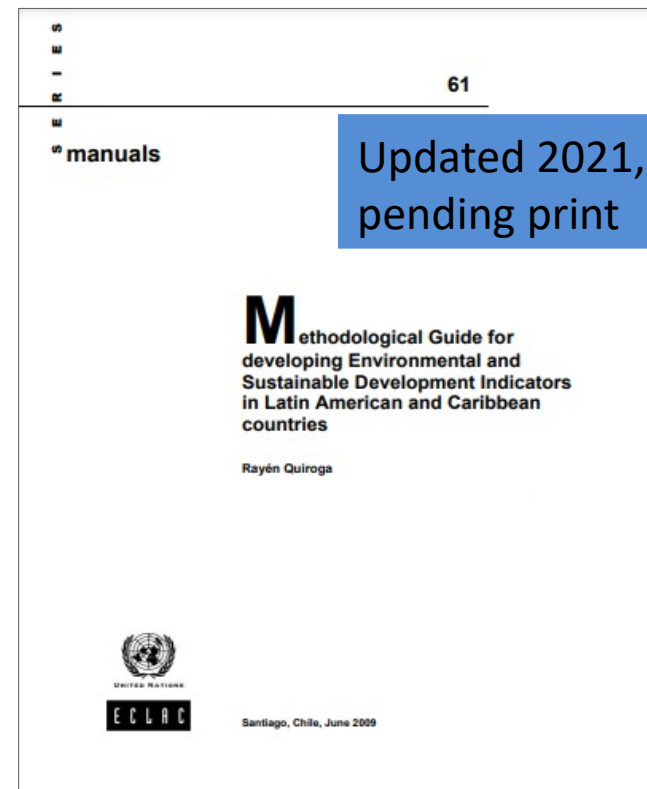
Products resulting from the indicator-building process



## Methodological Guide to develop Environment and Sustainable Development Indicators in Latin American and Caribbean countries

It is based on an **inter-institutional collaborative** work approach to build and agree on the technical specifications of relevant and quality **indicators set** that describe or quantitatively report on the situation and trends of:

- **Environment as a whole**
- **Components of the environment** (water, air quality, forest, ecosystems and biodiversity, renewable energy and energy efficiency, agri-environmental, residuals, environmental health, environmental management, etc.)
- **Multi-Domain processes:**
  - Climate change
  - Disasters



Download:

<https://www.cepal.org/en/publications/37890-met-hodological-guide-developing-environmental-and-sustainable-development>

# 1

## Principles for constructing indicator sets

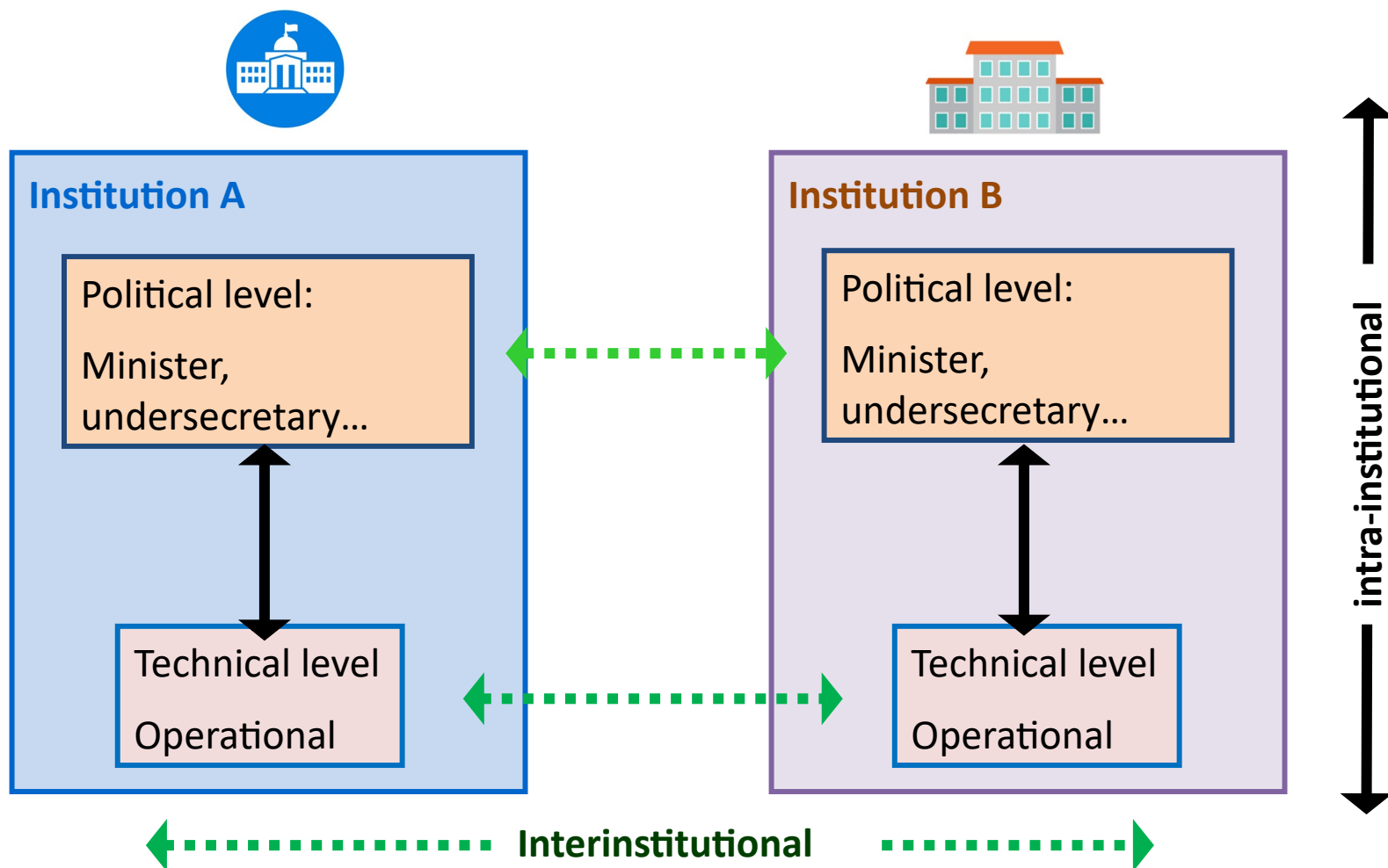


- ▶ Engage **producers**, processors, compilers and **users** of environmental and multi-domain indicators
- ▶ **Inter-institutional team** with work plan, goals and established leadership
- ▶ **Capacity building** for common methodology, concepts and tools to better construct the indicator set



# Principle 2: Inter-institutional coordination and cooperation

## Clear organization of cooperation among institutions and levels



# Principle 3: Demand-driven indicator sets

## Decision making and interventions

### 1. Identification of the most important and critical decisions

(Reports or profiles of environment, development sustainability, the situation of climate change and/or occurrence and impact of disasters in the territory)

### 2. Identification and selection of the most useful potential indicators

(Draft list of potential indicators)

### 3. Verification of statistical feasibility of the potential indicators

(verification of existence, quality and statistical series and primary data systematization)

### 4. Assessment of primary statistical sources for datamining:

- Surveys and Censuses
- Quality ground monitoring stations and programs (air, water, soil, etc.)
- Remote sensing
- Administrative records
- Estimates
- Scientific research

Building **demand-driven** indicators for decision-makers, **we make better use of limited resources**

Why are indicators important?

## Indicators help demonstrate:

The scope and magnitude of an issue

The resources needed

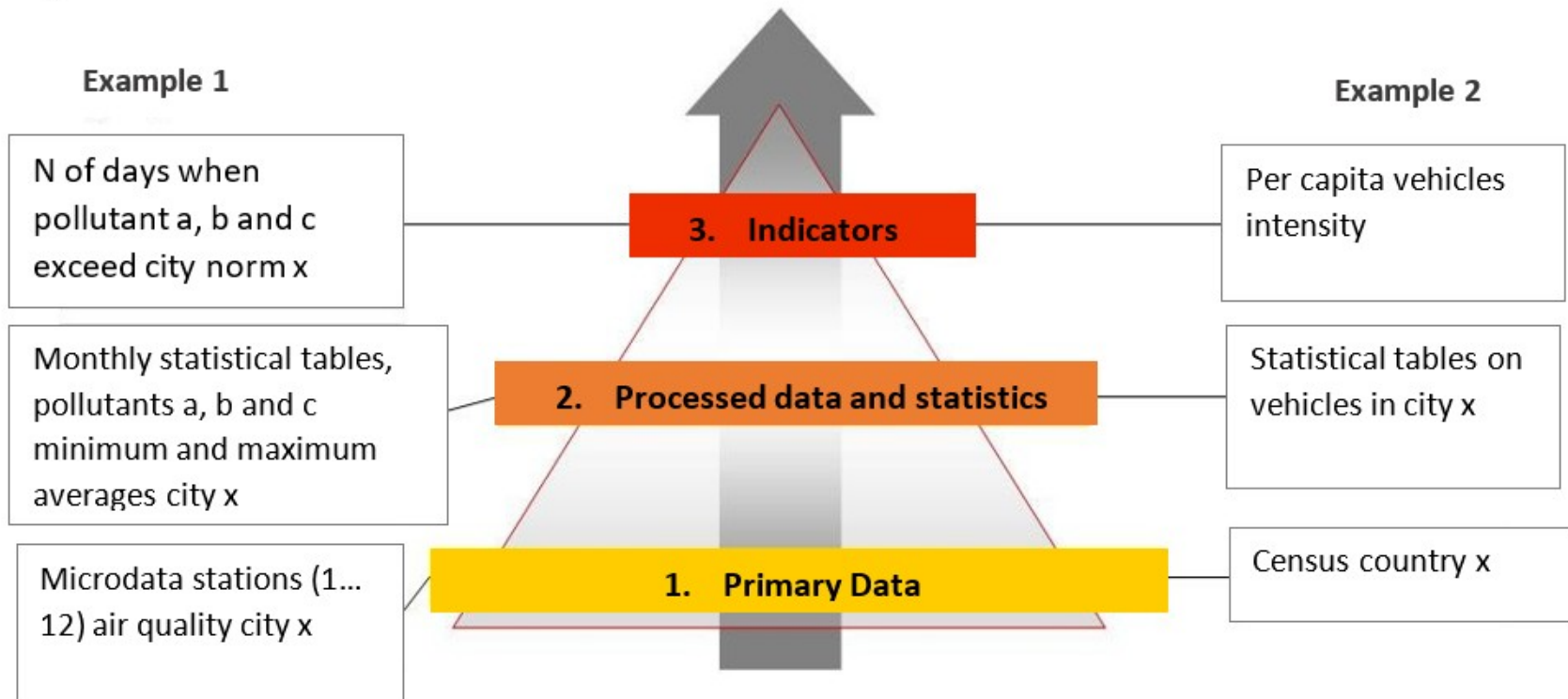
The measure of progress

The gaps in data available

Opportunities for convergence



# Principle 4: Selection of information and coordination of processes



# Principle 5: Manageable number of indicators (modular progressive approach)

- ▶ Each indicator (design, construction, publication, update) requires:
  - ▶ a strong investment of time
  - ▶ energy
  - ▶ dedication (knowledge, coordination, creativity, consultation, decision, consensus building)
- ▶ The first set of indicators should be manageable with available resources
- ▶ Each indicator counts and must contribute to the whole set

**Don't forget :  
Less is more!!!**



- ▶ Protect the **quality of the primary data**
- ▶ **Describe fully** each indicator using the Methodological Sheet
- ▶ **Carry out consultations** with agencies and scientific experts to understand the value of each of the indicators and its main implications.
- ▶ Sustain critical working attitude and **frequent evaluations** of the indicators.





- ▶ Indicators should be displayed in an **attractive and easily understood by the users.**
- ▶ **Give sufficient time and trained staff** to the design phase of the platform of the indicators
- ▶ Carefully select the **appropriate language** used and the presentation for the indicator
- ▶ **Proper selection** of the publication media
- ▶ **Plan and spend time on the launching** of the indicators, complete with media coverage and institutional backing

# Principle 8: Flexible attitude/Perseverance

- ▶ **There are always** methodological, institutional, financial, capacity and primary information **challenges** to face during the work:
  - ▶ Deal with changes
  - ▶ Review
  - ▶ Improve
  - ▶ Remove
- ▶ Identify and develop new potential indicators at any time during their work.
- ▶ Avoid inflexibilities of any sort



# 2

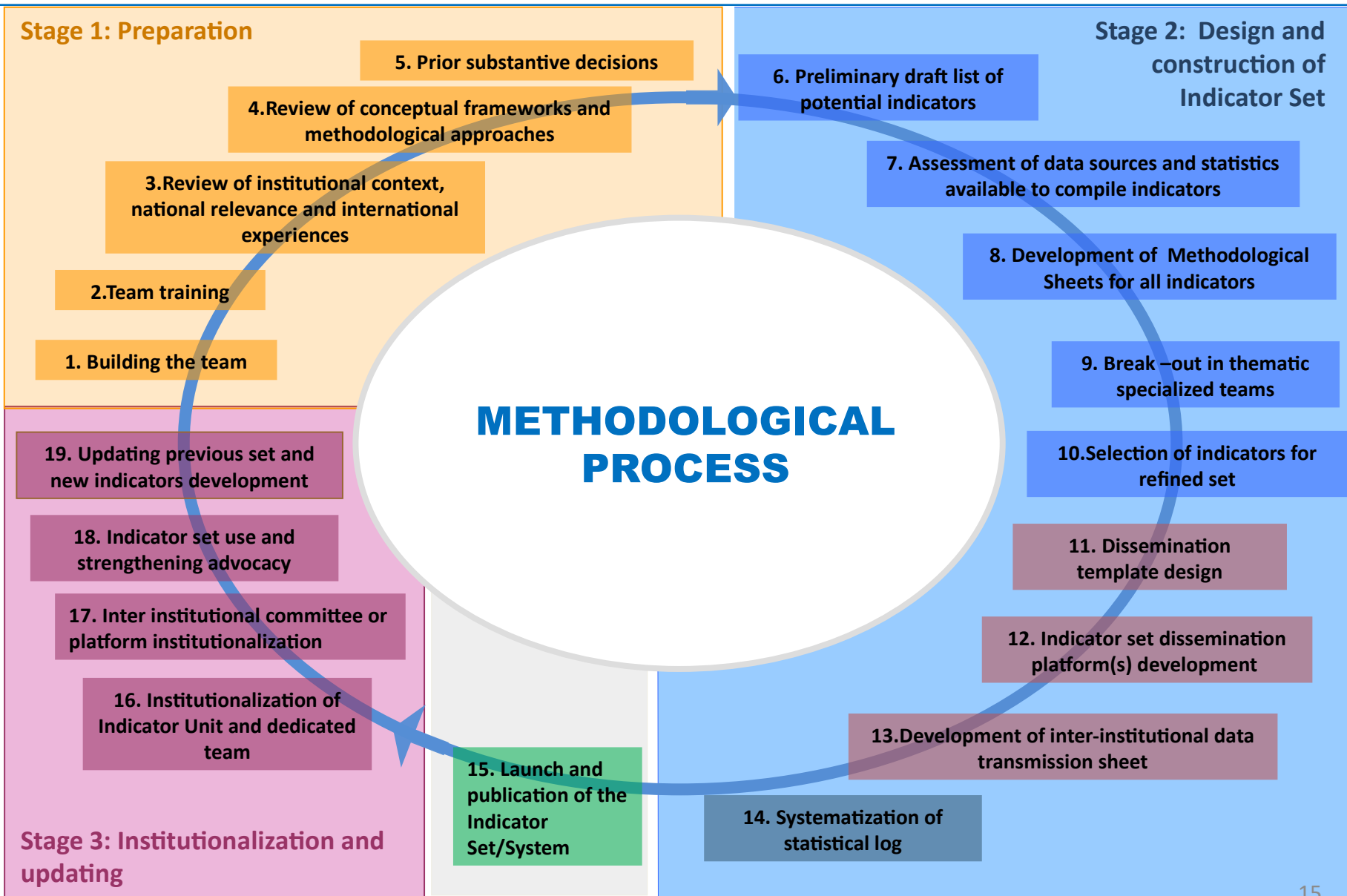
## Building indicators: Methodological road map

Stage I: Preparation

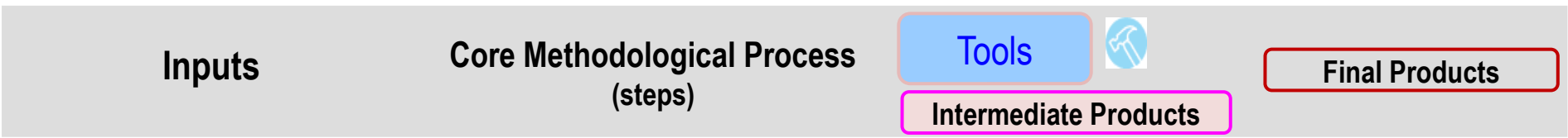
Stage II: Design and construction of indicator set

Stage III: Institutionalization and updating

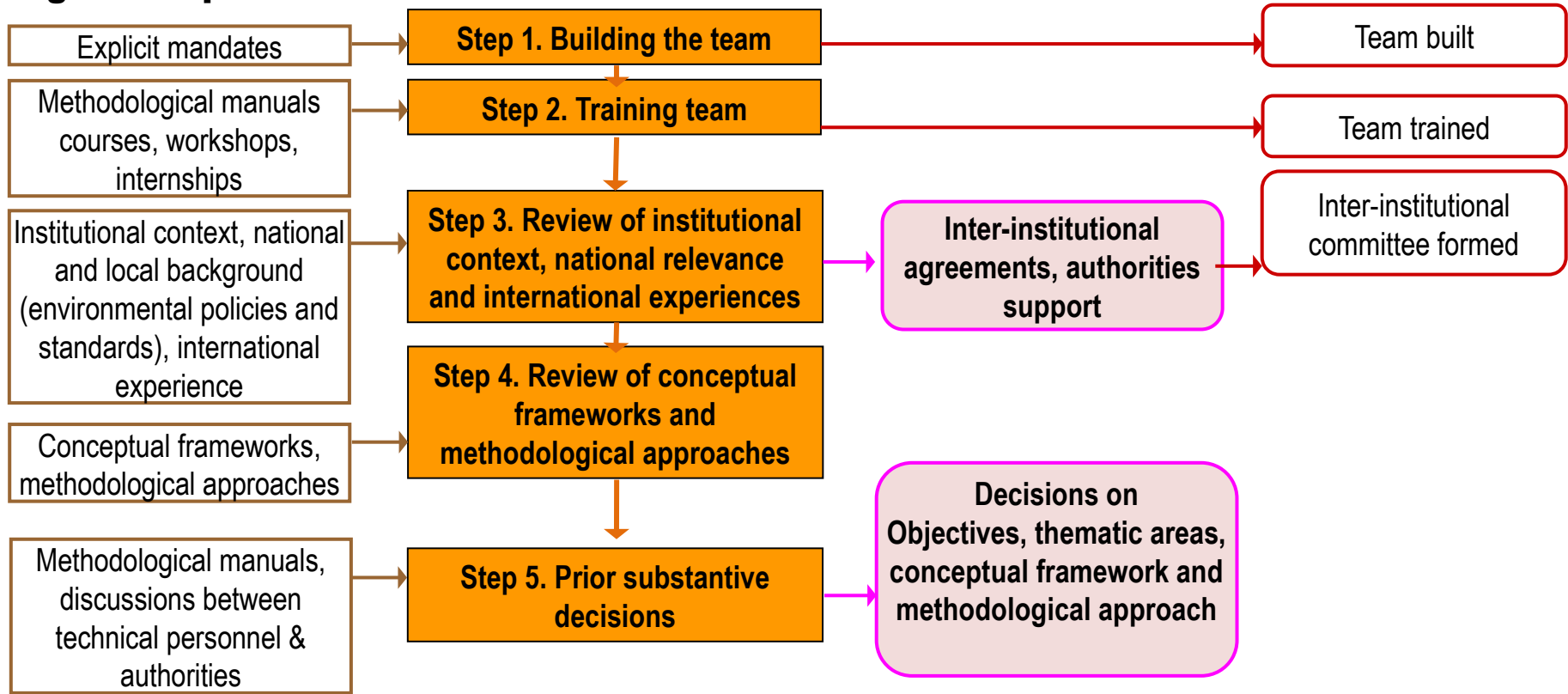
# 2. Methodological road map



# Stage I: Preparation

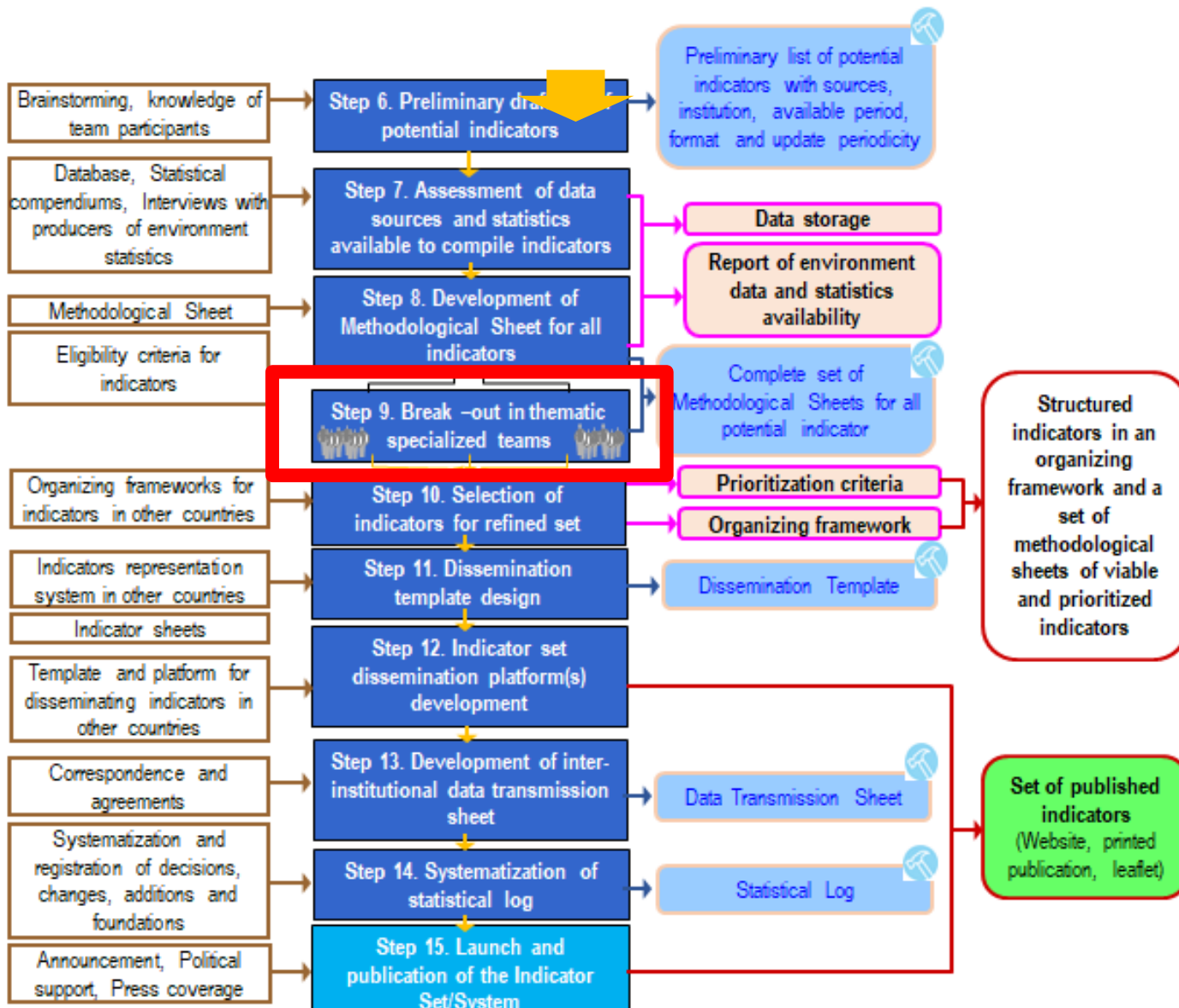


## Stage 1. Preparation





# Stage II: Design and development of indicators



# Stage II: Design and development of indicators

## Development of Methodological Sheet for all indicators

- ▶ **Key tool** in constructing the indicators set
- ▶ **Internal use**
- ▶ Contains **all the technical specifications** and its underlying variables
- ▶ **Clarifies technical content** and specificities
- ▶ Allows for a **common comprehension** and building process
- ▶ Informs about the design/construction **progress** of each indicator
- ▶ **Facilitates** the technical analysis of each indicator
- ▶ Content will be used in the dissemination template
- ▶ **Enables comparability** of the indicator over time and across space

Goal 13. Take urgent action to combat climate change and its impacts  
 Target 13.1. Strengthen resilience and adaptive capacity to climate-related hazards and natural disasters in all countries  
 Indicator 13.1.1. Number of deaths, missing persons and directly affected persons attributed to disasters per 100,000 population

**Institutional Information**

Responsible(s):  
 United Nations Office for Disaster Reduction (UNISDR)

**Definition and Rationale**

**Definition:**  
 This indicator measures the number of people who died, were missing or were directly affected by disasters per 100,000 population.

**Concepts:**  
**Death:** The number of people who died during the disaster, or directly after, as a direct result of the hazardous event.  
**Missing:** The number of people whose whereabouts is unknown since the hazardous event. It includes people who are presumed dead, for whom there is no physical evidence such as a body, and for which an official report has been filed with competent authorities.  
**Directly affected:** The number of people who have suffered injury, illness or other health effects; who were evacuated, displaced, relocated or have suffered direct damage to their livelihoods, economic, physical, social, cultural and environmental assets, indirectly affected are people who have suffered consequences, other than or in addition to direct effects, over time, due to disruption or changes in economy, critical infrastructure, basic services, commerce or work, or social, health and psychological consequences.

**Rationale and Interpretation:**  
 The Sendai Framework for Disaster Risk Reduction 2015-2030 was adopted by UN Member States in March 2015 as a global priority of disaster risk reduction. Among the global targets, "Target A: Substantially reduce global disaster mortality by 2030, taking the number of deaths attributed to disasters per 100,000 global population between 2020-2030 into account" and "Target B: Substantially reduce the number of affected people globally by 2030, taking the number of people affected by disasters per 100,000 population between 2020-2030 into account" will contribute to sustainable development and strengthen economic, social, health and environmental resilience. The economic, environmental and social perspectives would include poverty eradication, urban resilience, and climate change adaptation.

**Method of Computation and Other Methodological Considerations**

**Computation Method:**  
 Related indicators as of February 2020

$$I = \frac{(A + B + C)}{\text{Global Population}} \times 100,000$$

Where:  
 A: Number of deaths attributed to disasters;  
 B: Number of missing persons attributed to disasters; and  
 C: Number of directly affected people attributed to disasters  
 \* Detailed methodologies can be found in the Technical Guidance (see below the Reference section)

**Comments and limitations:**  
 The Sendai Framework Monitoring System has been developed to measure the progress in the implementation of the Sendai Framework by UNCTAD indicators. Member States will be able to report through the System from March 2024. The data for SDG indicators will be compiled and reported by UNISDR.

**Proxy, alternative and additional indicators:**  
 In most cases international data sources only record events that surpass some threshold of impact and use secondary data sources which usually have low uniformity or even inconsistent methodologies, producing heterogeneous datasets.

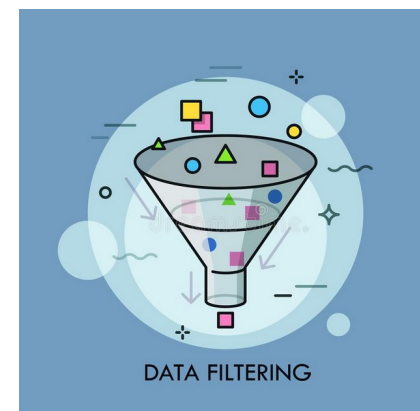
**Data Sources and Collection Method**

**Data sources and collection method:**  
 Data provided at national level is aggregated Sendai Framework Focal Points. In most countries disaster data are collected by fire ministries and national disaster loss databases are established and managed by special purpose agencies including national disaster management agencies, risk protection agencies, and

Info relating to disaster  
 2) developed a set of  
 3) Framework will be  
 4) represent important  
 5) progress analysis can be  
 6) can represent outliers)

## Criteria for selection of indicators (to be included in refined set)

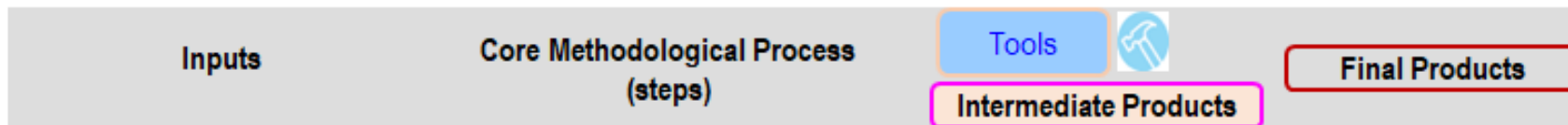
- ▶ Indicator **relevance and pertinence** to target or policy objective
- ▶ Statistical **feasibility**, availability of data series
- ▶ **Data quality** of underlying variables
- ▶ **Robustness**
- ▶ **Simplicity**
- ▶ **Clarity and user friendliness**
- ▶ **Directionality** safety
- ▶ **Integrity and coherence** between fields in the methodological sheet
- ▶ **Optimal** representation and **graphic design** for dissemination purposes



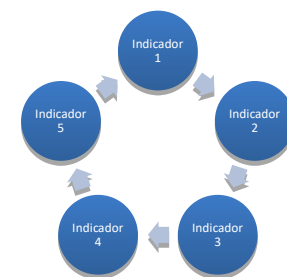
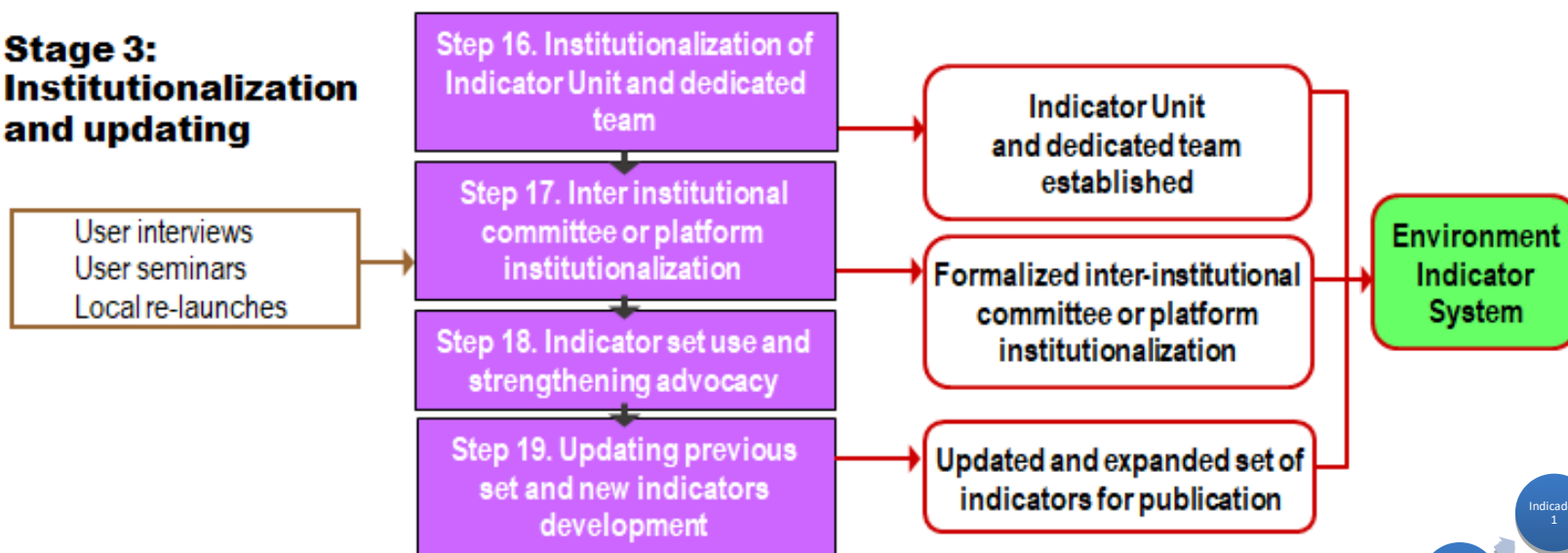
No single indicator can report the full complexity of environmental or multidomain phenomena.

However, each indicator selected must provide sufficient statistical value to justify its place in the indicator set/system.

# Stage III: Institutionalization and updating of indicators



## Stage 3: Institutionalization and updating

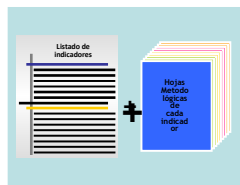


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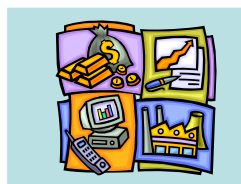
# Products resulting from the indicator-building process



1. Developers of first set of indicators ➡ Indicators Unit  
Operations, team and resource allocation in annual program of work and regular budget



2. First set of Indicators  
Set of MS and dissemination template and platform Published or ready to be published



3. National environment/climate change/disasters indicator system  
Institutions, dedicated teams, resources, network and equipment



4. Inter-institutional committee or formal mechanism  
To organize and facilitate data sharing, regular updating and further development of new indicators

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**Thank you for your attention!**

<https://www.cepal.org/en/topics/environmental-statistics>