Designing environmental questionnaires, validating data

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Source of environmental statistics

- Monitoring systems
- Remote sensing
- Administrative records
- Statistics
- Surveys
- Specific surveys

Sources

- Environmental statistics based on combination of data from different sources
- Data produced mainly not for environmental purposes
- Need for
  - further breakdown
  - re-classification
  - estimations

Monitoring systems

- 1.1.1: Atmosphere, climate and weather – temperature, precipitation
- 1.1.4: Soil characteristics – nutrient content
- 1.3.1: Air quality
- 1.3.2: Freshwater quality

- Statistical methods are used for aggregation – mainly not by NSO
- More and more data is available, not only official – e.g. social meteo, observation of events (storms, disasters etc)

Remote sensing

- 1.2.1: Land cover
  - different classifications
    - Land cover monitoring sytems use different classification and level of details
- 1.2.2: Ecosystems and biodiversity
  - determine habitats
- 1.3.1: Air quality
  - satellite-based monitoring
    - not as accurate as ground-level but better spatial coverage

Administrative records

- 1.1.2: Hydrographical characteristics & 1.1.3: Geological and geographical information
  - remote sensing might be used as well – for changes
- 2.1: Mineral Resources
- 2.2: Energy Resources
- 4: Extreme Events and Disasters

Validation of data from monitoring systems and administratve records

- Purpose of the data is not for statistics
- Coverrage
  - Level of details
  - Spatial details
  - Units (threshold, holders of authorisation, territorial)
- Time frame
- Classification
- Methods of aggregation

Importance of meta data

Data can be used as statistics or cross-checking of other (more reliable) data

Statistics

- Processed, validated data
  - 6.1: Environmental Protection and Resource Management Expenditure Environmental protection expenditure
  - 3.1.1: Emissions of greenhouse gases – GHG inventory
  - 2.6.2.a: Total water abstraction [for agriculture]
    - (three different sources)
  - 5.1: Human Settlements
    - Population census, yearly population (based on administrative data)
  - 5.2: Environmental Health
    - 5.1.1-5.1.3 Diseases
  - Sentiment indicators – opinion about environment, green spaces…
  - Statistics related to resource efficiency – natural, mineral, energy

Surveys (not for environmental purposes)

- Data used for environmental purposes from different surveys
  - Individual data or low level aggregation
    - 3.3.2: Management of waste – hazardous waste, recycled waste, export/import of waste
    - 2.5.1: Timber resources

Designing Questionnaires

- Collect data on fields of environment that are not covered by other sources
- Give more specific breakdown on environmental issues

- Ease of understanding
  - Use different wording than methodology
- Reduce burden
  - Create linkages to other sources
  - Check use of collected data
- Follow changes
  - in technology, standards, and regulations

Specific surveys

- 5.1.2: Access to selected basic services
  - Water and waste water
    - Settlement level
    - Abstraction, pipe system, provided water, generated waste water, ww treatment plants
  - Municipal waste
    - Settlement level
    - Waste collection, separate collection, treatment, treatment plants, street cleaning
- Environmental protection expenditure & environmental goods and services
    - E.P expenditures (for services, own expenditures), e.p. investments, environmental goods and services – RENEWAL of the questionnaire

Researches, estimates

- Researches can be used for areas that are not coverd by statistics or administrative data
  - Soil
  - Ecosystem (services)
- Researches are often not reproduced every year
- Estimates for
  - elements – use of proxy data
  - breakdowns – correlation with other variables

Indicators

- Environmental indicators
  - SEEA
- Indicator systems
  - SDG
  - Climate change
  - Green growth
  - Quality of life