Overview of Methodology Sheets for Freshwater, Coastal and Marine Resources, and Natural Disasters

United Nations Statistics Division

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Fresh water: Water Accessibility

- Proportion of population using an improved drinking water source (1)

    MDG indicator

    Methodology: WHO/UNICEF JMP

- Proportion of population served by the water supply industry (1)

    Methodology: UNSD/UNEP
                            Questionnaire

Fresh water: Water Availability

- Proportion of total water resources used (1)

    CSD and MDG indicator

    Methodology: modified according to International Recommendations for Water Statistics (IRWS)

Numerator: Water Abstraction (excl. seawater)?

Denominator: Total Water? Fresh Water? Renewable Fresh Water?

Fresh water: Water Availability

- Proportion of population using harvested rainwater (1)

    Methodology: WHO/UNICEF JMP

    Component of Proportion of population using an improved drinking water source

    Only if it used together with an improved source

  Suggestion: move to water accessibility

- Ratio of external water resources to total renewable water resources (1)

    Methodology: IRWS

  Suggested new title: Water Dependency

Fresh water: Water availability

- Total annual renewable water resources per capita (1)

    Methodology: IRWS

- Change in surface water discharge (3)

    Methodology: FAO, Global Runoff Data Center (GRDC)

Problems: Change? Availability of reliable hydrological monitoring?

Fresh water: Water availability

- Annual groundwater recharge (3)

   Methodology: FAO, International Groundwater Resources Assessment Center (IGRAC)

Problems: same as previous indicator

- Urban water supply from dams (3)

   Methodology: incomplete

Problems: Storage capacity? Discharge? Abstraction or use? Population served? Per capita?

Fresh water: Water availability

- Proportion of population using water from boreholes for domestic use in rural/urban settings (1)

  Methodology: WHO/UNICEF JMP

  Component of indicator Proportion of population using an improved water source

Suggestion: match title with the other water accessibility indicators and move to water accessibility

Fresh water: Water quality (pollution)

- Emissions of organic water pollutants (BOD) total/per worker (3)

  Methodology: World Bank from case studies

Problems: has to be estimated from laboratory analysis of samples of waste water before discharge or emission coefficients. Data availability and estimation methodology is problematic.

Fresh water: Water quality (pollution)

- Biochemical oxygen demand in water bodies (CSD) (3)
- Chemical oxygen demand in water bodies (3)
- Average annual concentration of total phosphorous in lakes and rivers (3)
- Average annual concentration of total dissolved solids/sediment flux in lakes and rivers (3)
- Average annual concentration of total nitrogen in lakes and rivers (3)
- Average annual concentration of dissolved oxygen in lakes and rivers (3)
- Presence of faecal coliforms in freshwater (CSD) (3)

Methodology: UNEP GEMS

Problems: quality of measurements. Time series. What is the recommended variable? How many stations? Criteria for selection? Metadata?

Fresh water: Water use

- Total annual water use per capita (1)
    Methodology: IRWS

- Proportion of freshwater used by economic activity (1)
    Methodology: IRWS

- Water use intensity by economic activity (CSD) (1)
    - Methodology: IRWS

Fresh water: Water management issues

- Developed national and river basin integrated water resource management plans (1)

- Wastewater treatment (CSD) (1)

  Methodology: UNSD/UNEP, IRWS

- Proportion of population connected to wastewater collection system (1)

  Methodology: UNSD/UNEP

Fresh water: Water management issues

- Volume of treated wastewater for domestic use (3,4)

    Methodology: needs development

Question: only domestic use?

- Volume of wastewater disposed into wetlands (3,4)

    Methodology: needs development

Indicator needs clarification

Coastal and marine resources: Urbanization of coastal areas

- Percentage of total population living in coastal areas (CSD) (1)

    Methodology: CIESIN

Relevance: change to population density?

Coastal and marine resources: Coastal and marine pollution

- Proportion of coastal areas affected by pollution (3)

    Methodology: needs development

Problems: how to aggregate water quality measurements to area?

- Coastal water quality (3)

    Methodology: monitoring stations

Problems: selection of variables, selection of monitoring stations, time series

- Number and area of marine aquaculture sites (1)

    Methodology: FAO

Coastal and marine resources: Coastal erosion/sedimentation

- Coastal area lost to erosion (3)

  Methodology: needs development

Coastal and marine resources: Marine biodiversity

- Number of marine species, threatened and extinct (1)

    Methodology: IUCN

Problems: methodology sheet refers to fish species

- Change in area of mangrove forest (1)
    Methodology: FAO

- Proportion of marine area protected (CSD) (1)

    Methodology: WCMC

Problems: territorial sea area

Coastal and marine resources: Marine biodiversity

- Total and per capita marine fish catch (1)
      Methodology: FAO

- Total and per capita marine aquaculture fish catch (2)
      Methodology: FAO

Suggestion: change title to Total and per capita mariculture fish production

- Proportion of fish stocks within safe biological limits (CSD, MDG)
      Methodology: FAO

Problems: no country data

Coastal and marine resources: climate change

- Annual sea level change (3)

    Methodology: monitoring

Problems: annual? Meters?

Coastal and marine resources: poverty eradication

- Proportion of population making a living from marine resources (3)

    Methodology: FAO

Problems: employed? Subsistence fishing?

Natural disasters and environmental performance: exposure to natural disasters

- Percentage of population living in hazard prone areas (CSD) (1)

    Methodology: UNISDR

- Frequency of extreme events (3)

    Methodology: exists for natural disasters at CRED

Problems: what is an extreme event? Difference between extreme event and natural disaster?

Natural disasters and environmental performance: impacts of natural disasters

- Human and economic loss due to natural disasters (CSD) (1)

    Methodology: CRED

Natural disasters and environmental performance: early warning systems

- Proportion of population having access to information on natural disasters from early warning systems (2)

    Methodology: UNISDR

Suggestion: change title to proportion of population with access to early warning systems

Natural disasters and environmental performance: Adaptive capacity

- Public expenditure on disaster reduction and related measures as a percentage of GNI (3)

     Methodology: SNA, COFOG

Issues: public or total? Planned or actual spending? Prevention or recovery?