Multilateral Environment Agreements (MEAs) & Related Initiatives

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Outline

- Introduction
- Rio Earth Summit & Agenda 21
- MEAs and FDES
- Millennium Ecosystem Assessment
- International Indicators/Indices

Introduction

- Purpose: a review of the many global developments, particularly multilateral environmental agreements (MEAs), since the publication of the UN FDES
- MEAs can have global or regional scopes. This presentation focuses on global MEAs.

1992 Rio Earth Summit and Agenda 21

- Many important MEAs developed out of the decisions at Rio and the *Agenda 21 Programme of Action*
- The notion of Sustainable Development becomes mainstream
- Chapter 40 calls for:
  - Improved coordination and capacity building for sustainable development statistics
  - UNSD and all countries to develop indicators for sustainable development and promote their use
  - UNSD to promote use of satellite accounts to the national accounts system, (i.e. SEEA, http://unstats.un.org/unsd/envaccounting/seea.asp)
  - Improvement of data in particular areas, such as:
    - urban air, freshwater, land resources (including forests and rangelands), desertification, soil degradation, biodiversity, the high seas and the upper atmosphere;
    - demographic factors, urbanization, poverty, health and rights of access to resources;
    - women, indigenous peoples, youth, children and the disabled, and their relationships with environment issues.
  - National and international institutions to make use of new data collection and analysis technologies, including remote sensing and GIS
  - Government institutional changes, where appropriate, to improve integration of environmental information under a common framework
- Also some general and specific international data requirements are outlined in topical chapters
  - For example, chapter 11 on Deforestation calls for collection and compilation of data on: Land classification and land use, forest cover, areas suitable for afforestation, endangered species, ecological values, traditional/indigenous land use values, biomass and productivity, ...

MEAs and FDES (1|6)

- World Heritage Conv. (1972)
  - Designations of cultural and natural heritage, including natural sites "of outstanding universal value from the point of view of science, conservation, or natural beauty"
- CITES (1975) and **C**onv. On **M**igratory **S**pecies (1980)
  - Require regular monitoring and reporting on trade in flora and fauna
  - Species and trade databases
- **UN C**onv. On the **L**aw **o**f the **S**ea (1982)
  - Has provided specific legal definitions for issues related to territorial waters and exploitation of marine resources
- **UN C**onv. **C**ombat **D**esertification (1994)
  - Article 10: "enhance national climatological, meteorological and hydrological [statistical] capabilities and the means to provide for drought early warning" and (as elaborated in Article 16) apply international standards for collection and exchange of information
- Stockhom Conv. on **p**ersistent **o**rganic **p**ollutants (2001)
  - Global monitoring plan: objective is to evaluate whether POPs are actually being reduced or eliminated
  - UN monitoring guidance provides list of substances to be monitored and methodological recommendations
- Rotterdam Conv. (2004) on hazardous pesticides and industrial chemicals
  - Currently manages database on regulatory actions on controlled chemicals and pesticides

CITES, CMS & FDES

Components of The environment	Information categories			
	Social and economic activities, natural events	Environmental impacts of activities/events	Responses to environmental impacts	Inventories, stocks and background conditions
1. Flora				
2. Fauna				
3. Atmosphere				
4. Water (a) Freshwater (b) Marine water				
5. Land/soil (a) Surface (b) Sub-surface				
6. Human settlements				

MEAs and FDES (2|6)

- Montreal Protocol (1987)
  - Article 7 requires each party to submit annual data (or best possible estimates) on production, exports, and imports separately for all controlled substances
  - Implies that all 196 parties are compiling from one or more of the following:
    - A licensing and monitoring system
    - Customs data
    - Direct information through surveys/self-reporting of importers, exporters and producers
    - Other estimation

Montreal Protocol & FDES

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MEAs and FDES (3|6)

- Ramsar Convention (1975)
  - Integrated framework for wetland inventory, assessment and monitoring:

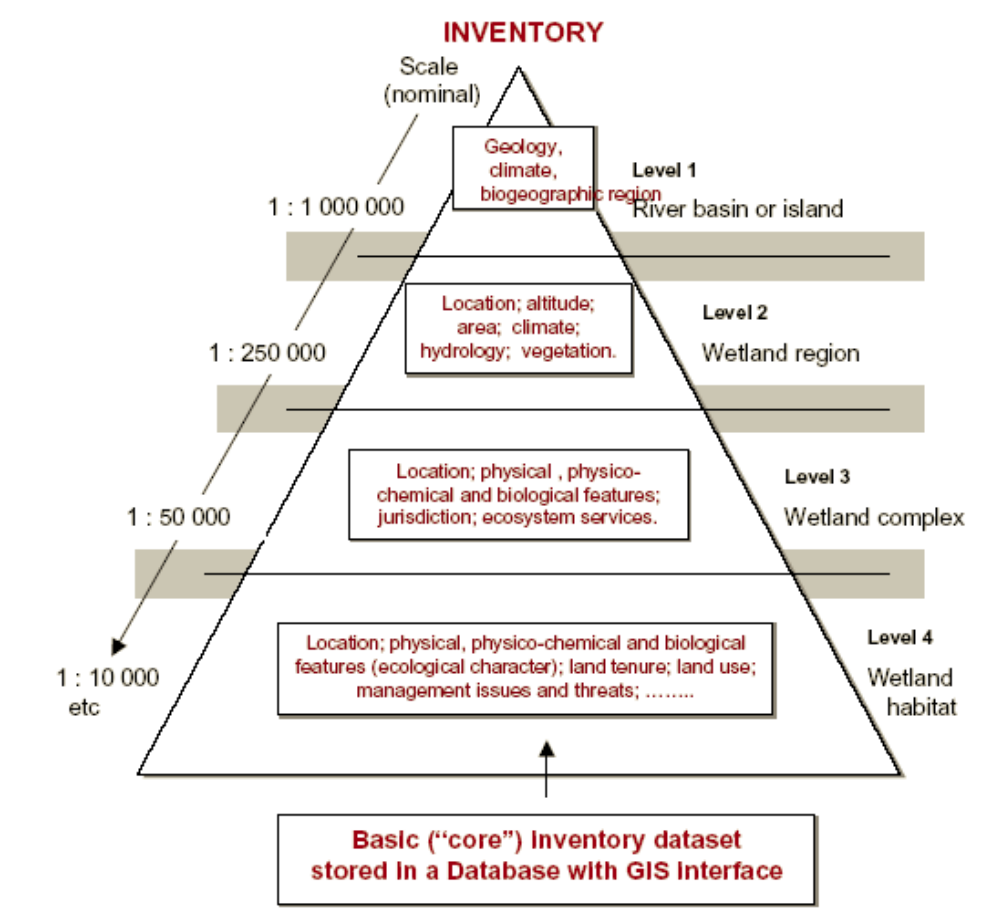
Wetland Inventory: the collection and/or collation of core information for wetland management, including the provision of an information base for specific assessment and monitoring activities.

Wetland Assessment*:* the identification of the status of, and threats to, wetlands as a basis for the collection of more specific information through monitoring activities.

Wetland Monitoring*:* the collection of specific information for management purposes in response to hypotheses derived from assessment activities, and the use of these monitoring results for implementing management. The collection of time-series information that is not hypothesis-driven from wetland assessment is here termed *surveillance* rather than monitoring

- Emphasis on indicators on **biological, chemical and physical** components of the ecosystem
- Differentiates between ecosystem indicators and early warning indicators.

Ramsar Conv. hierarchical approach to wetland inventory



from *An Integrated Framework for wetland inventory, assessment and monitoring*, Resolution IX.1, Annex E, p.9, http://www.ramsar.org/pdf/key_guide_framework_inventory_e.pdf

Ramsar Conv.: ecological relevance and early warning capability

HIGH ←	*Early warning capacity*			← *LOW*
Lack of ecological relevance		***Possible ecological relevance***	***Good ecological relevance***	
Sub-cellular (e.g. DNA) alterations	Physiological, e.g. respiration	Whole organism - Chronic, sub-lethal, e.g. reproduction, growth - Acute, lethal, i.e. mortality	Population level responses	Community-based responses

from Annex to Resolution VII.10 *Wetland Risk Assessment Framework*

MEAs and FDES (4|6)

- Basel Convention (1989)
  - Annual questionnaires to parties:
    - Status of information system for hazardous wastes
    - Exports, imports, and generation of hazardous (and other) wastes
    - Accidents and disposals with unintended results

MEAs and FDES (5|6)

- **C**onv. on **B**iological **D**iversity (1992)
  - Article 7:

(a) Identify components of biological diversity important for its conservation and sustainable use having regard to the indicative list of categories set down in Annex I;

(b) Monitor, through sampling and other techniques, the components of biological diversity identified pursuant to subparagraph (a) above, paying particular attention to those requiring urgent conservation measures and those which offer the greatest potential for sustainable use;

(c) Identify processes and categories of activities which have or are likely to have significant adverse impacts on the conservation and sustainable use of biological diversity, and monitor their effects through sampling and other techniques; and

(d) Maintain and organize data derived from identification and monitoring activities pursuant to subparagraphs (a), (b) and (c) above.

CBD Annex I: Identification and Monitoring

1. Ecosystems and habitats: containing high diversity, large numbers of endemic or threatened species, or wilderness; required by migratory species; of social, economic, cultural or scientific importance; or, which are representative, unique or associated with key evolutionary or other biological processes;
2. Species and communities which are: threatened; wild relatives of domesticated or cultivated species; of medicinal, agricultural or other economic value; or social, scientific or cultural importance; or importance for research into the conservation and sustainable use of biological diversity, such as indicator species; and
3. Described genomes and genes of social, scientific or economic importance.

CBD: 2010 Biodiversity Target (2002)

- Indicators (pending work marked in red)

Status and trends of the components of biological diversity	Trends in extent of selected biomes, ecosystems, and habitats Trends in abundance and distribution of selected species Coverage of protected areas Change in status of threatened species Trends in genetic diversity of domesticated animals, cultivated plants, and fish species of major socioeconomic importance
Sustainable use	Area of forest, agricultural and aquaculture ecosystems under sustainable management Proportion of products derived from sustainable sources Ecological footprint and related concepts
Threats to biodiversity	Nitrogen deposition Trends in invasive alien species
Ecosystem integrity and ecosystem goods and services	Marine Trophic Index Water quality of freshwater ecosystems Trophic integrity of other ecosystems Connectivity / fragmentation of ecosystems Incidence of human-induced ecosystem failure Health and well-being of communities who depend directly on local ecosystem goods and services Biodiversity for food and medicine
Status of traditional knowledge, innovations and Practices	Status and trends of linguistic diversity and numbers of speakers of indigenous languages Other indicator of the status of indigenous and traditional knowledge
Status of access and benefit-sharing	Indicator of access and benefit-sharing
Status of resource transfers	Official development assistance provided in support of the Convention Indicator of technology transfer

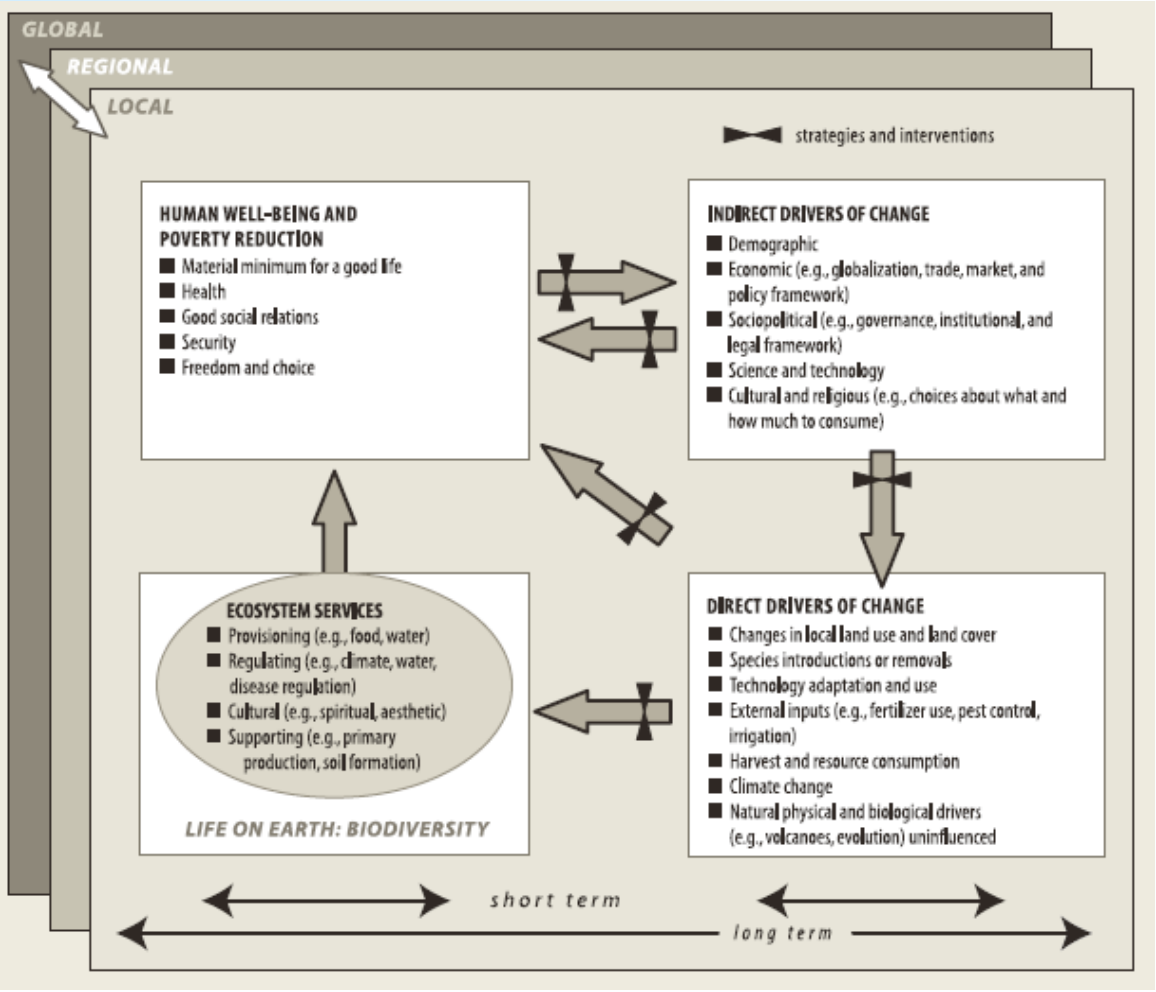
MEAs and FDES (6|6)

- UNFCCC (1994) / Kyoto Protocol (1997)
  - Under UNFCCC governments have agreed to gather and share information on greenhouse gas emissions and national policies
  - Article 5 of Kyoto commits Annex I Parties to have in place national systems for the estimation of greenhouse gas emissions by sources and removals by sinks (LULUCF) using the agreed methodological standards.
  - Article 7 of Kyoto requires Annex I Parties to submit annual greenhouse gas inventories, as well as national communications, at regular intervals, both including supplementary information to demonstrate compliance with the Protocol.
  - Bali Action Plan (2007) called for vulnerability assessments in connection with enhanced action on adaptation
  - COP in Bali also produced guidelines for responsibilities on global observing systems for climate and national reporting for variables such as air temperature, air pressure, precipitation, etc.
  - Copenhagen: coming Dec. 2009

Millennium Ecosystem Assessment

- Proposed in 1998 in meetings between WRI, UNEP, UNDP, and the World Bank
- Goal is to establish scientific basis for actions needed to enhance the contribution of ecosystems to human well-being without undermining their long-term productivity
- 6 Synthesis reports, 5 global assessments, and a Framework for Assessment (2003)
- Reviews availability of data on:
  - (a) the contribution and importance of ecosystem services for human well-being
  - (b) the influences of human activity on the quality of ecosystems.
    - Examples:
    - dependence of a population on local fresh or marine water resources for protein and water treatment
    - dependence on global terrestrial and marine resources for absorbing carbon, among other functions,
    - effects of human settlements on local ecosystems
- Growing number of national governments incorporate ecosystem services statistics into policy decisions

Millennium Ecosystem Assessment Framework



From *Ecosystems and Human Well-being: A Framework for Assessment, Box 1.4, 2003* Millennium Ecosystem Assessment (http://www.millenniumassessment.org/en/Reports.aspx)

Millennium Ecosystem Assessment Framework (cont.)

- Framework principles:
  - Comprehensive of spatial and temporal dimensions (local – global, short term – long term)
  - Encompass accessibility and sustainability of natural resources and systems
  - Examines capacity of ecosystems
  - Integrated assessment of resources
- Similar to UN FDES and DPSIR-type frameworks but includes “feedback” or multidirectional relationships
- Ecosystem services categories instead of environmental components

International Indicators Sets and indices

- UN CSD Indicators
  - Published guidelines and methodologies
    - 1st ed. 1996, 3rd ed. (latest) 2007
    - 1st ed. developed using DPSIR-type framework
    - Latest edition uses theme approach
  - 96 indicators, with 50 selected as core set
- Many regional indicators sets
  - EU, EECCA, ECOWAS, Caribbean,…

Millennium Development Goal 7

- Has resulted in increased awareness and availability of data for the indicators
- However, there are still limited or no data available for several indicators in the MDGs database

7.A-Integrate the principles of sustainable development into country policies and programmes and reverse the loss of environmental resources

Proportion of land area covered by forest

CO2 emissions, total, per capita, and per $1 GDP (PPP)

Consumption of ozone-depleting substances

Proportion of fish stocks within safe biological limits

Proportion of total water resources used

7.B-Reduce biodiversity loss, achieving, by 2010, a significant reduction in the rate of loss

Proportion of terrestrial and marine areas protected

Proportion of species threatened with extinction

7.C-Halve, by 2015, the proportion of people without sustainable access to safe drinking water and basic sanitation

Proportion of population using an improved drinking water source

Proportion of population using an improved sanitation facility

7.D-By 2020, to have achieved a significant improvement in the lives of at least 100 million slum dwellers

Proportion of urban population living in slums

Demand for Composite indicators/indices?

- Ecological and carbon footprints
- WWF Living Planet Index (Biodiversity)
- Yale/Columbia Environmental Performance Index (EPI) and Environmental Sustainability Index (ESI)
- Ecosystem response/health indices
- Biomass indices

Thank you

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- Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal (www.basel.int/index.html)
- Convention on Biological Diversity (CBD) (www.cbd.int/)
- Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) (www.cites.org/index.html)
- Convention on the Conservation of Migratory Species of Wild Animals (CMS) (www.cms.int/index.html)
- Convention Concerning the Protection of the World Cultural and Natural Heritage (UNESCO World Heritage Convention) (whc.unesco.org/en/conventiontext/)
- Montreal Protocol on Substances that Deplete the Ozone Layer (ozone.unep.org/)
- Convention on Wetlands of International Importance especially as Waterfowl Habitat (Ramsar Convention) (www.ramsar.org/)
- Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade (www.pic.int/home.php?type=t&id=5&sid=16)
- Stockholm Convention on Persistent Organic Pollutants (chm.pops.int/)
- United Nations Convention to Combat Desertification in Countries Experiencing Serious Drought and/or Desertification, Particularly in Africa (UNCCD) (www.unccd.int/main.php)
- United Nations Convention on the Law of the Sea (www.un.org/Depts/los/convention_agreements/convention_overview_convention.htm)