Statistics Canada
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Framework for Developing Environmental Statistics

Presentation to the

UN Committee of Experts on

Environmental-Economic Accounting

June 25, 2009

Background

- How the project came about
- Summary of strategy and activities to date
  - Produce a “think piece” to introduce the idea and to start initial discussions
  - Solicit support for the Framework from key stakeholders, especially relevant policy departments
  - If successful in obtaining buy-in, proceed with further development of Framework components

Canadian Context

- Existing environmental statistics are ad hoc and have varying degrees of data quality
- Data collection and reporting: largely conducted for individual policy initiatives
  - Difficult to integrate data from different programs (classifications and definitions used, inconsistent methodologies, etc.)
  - Important data gaps which prevent a complete evaluation of the environmental issues/challenges
- Current gaps and challenges related to basic environmental statistics also have impacts on the development of Statistics Canada's Environmental Accounting Programme.
  - Environmental Accounting Programme does not meet/satisfy the Policy needs
  - statistical requirements are broader than the environment-economic accounts.

Key Messages

- Desire to engage senior managers of policy departments and central agencies
- Framework document is a starting point; Statistics Canada's first effort to capture users' attention and start a dialogue about potential gains in terms of improving the integration of environmental datasets
- Emphasis on the role of the statistical agency and quality standards
  - Quality of the datasets
  - Quality of the execution of statistical activities
- Focus in on responding to information needs of Policy

Proposed Framework

- Previous Statistics Canada “frameworks”
  - Pressure-state-response (’70s to ’80s)
  - Environmental accounting (early ’90s)
  - Natural capital (late ’90s-early 2000)
- Based current paper on the *ecosystems* approach

High-level objective	Measuring and monitoring of environmental quality				
Key target variables	Freshwater ecosystem quality	Marine ecosystem quality	Terrestrial ecosystem quality	Air quality	Water quality

Framework and SEEA

- Major advancements in environmental-economic accounting reflected in SEEA
  - good starting point for elaborating Framework components
- Framework's emphasis on governance and role of national statistical agency in quality assurance
  - improved datasets for use in the production of the SEEA accounts

Identifying sub-components

High-level objective	Measuring and monitoring environmental quality				
Key target variables	Freshwater ecosystem quality	Marine ecosystem quality	Terrestrial ecosystem quality	Air quality	Water quality
EXAMPLES of sub-components (stocks and flows)	•Freshwater species diversity •Extent and number of invasive freshwater species •Stocks of freshwater resources •Extraction of freshwater resources	•Marine species diversity •Extent and number of invasive marine species •Stocks of marine resources •Extraction of marine resources	•Terrestrial species diversity •Extent and number of invasive terrestrial species •Stocks of terrestrial resources •Extraction of terrestrial resources	•Ambient concentrations of air pollutants •Air pollution by source •Greenhouse gas emissions	•Ambient concentrations of water pollutants •Water pollution by source and type of pollutant • Water withdrawal by purpose

Linking the Framework to Policy

Example of an Environmental Policy Issue: Climate Change					
High-level objective	Measuring and monitoring environmental quality				
Key target variables	Freshwater ecosystem quality	Marine ecosystem quality	Terrestrial ecosystem quality	Air quality	Water quality
Drivers			Land-use change	Greenhouse gas emissions	
Impacts	▪Water availability ▪Biodiversity	▪Rising sea levels ▪Biodiversity	▪Deforestation ▪Habitat loss ▪Biodiversity	▪Average temperatures ▪Meteorological systems	▪Water renewal ▪Water balance
Mitigation			▪Reforestation ▪Sustainable agricultural practices	▪Clean fuels ▪Renewable and alternative energy	
Adaptation	▪Redirecting water systems, waterways ▪Alternative irrigation systems	▪Changes to navigation routes ▪Restructuring seawalls	▪Land use	▪Adjustments to agricultural cycles (planting, harvesting, etc)	▪Water use changes ▪Altering water treatment systems

Feedback from partners: Canada

- General support for the initiative; understanding of the rationale by key Policy departments
- Need further assessment of:
  1. Rationale for choosing the ecosystem approach over other frameworks
  2. Weaknesses and knowledge gap in the current statistical system that the framework will seek to address, particularly Policy information needs
  3. Linkages within framework components and across other frameworks

Feedback from partners: Canada

- Need further assessment of:
  4. International context: ongoing and emerging priorities; compatibility with international standards; consistency with work by international bodies
  5. Potential impacts on data collection agreements with provinces and territories
- What is Statistics Canada's long-term vision and plan of action with respect to the framework?

Next steps

- High-level follow-up discussion with federal policy departments
  - Establish Statcan's role, responsibility and required resources
- Development the action plan for broader stakeholder consultations
  - Science & research community and academia
  - Provincial/territorial and local governments
- Elaboration of the framework components: data requirements and gaps assessment
  - Which priority area(s) to focus on?

Discussion

- Do other countries share similar experiences with respect to the challenges in producing environmental statistics?
- How are environmental statistics integration and data quality assurance carried out?