



DEPARTMENT OF ECONOMIC AND SOCIAL AFFAIRS  
STATISTICS DIVISION  
UNITED NATIONS



System of  
Environmental  
Economic  
Accounting

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## System of Environmental-Economic Accounting 2012 – Experimental Ecosystem Accounting Revision

### First Global Consultation on:

**Chapter 6: Ecosystem services concepts for accounting**

**Chapter 7: Accounting for ecosystem services in physical terms**

### *Comments Form*

**Deadline for responses: 20 August 2020**

**Send responses to: [seea@un.org](mailto:seea@un.org)**

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The comment form has been designed to facilitate the analysis of comments. There are six guiding questions in the form, please respond to the questions in the indicated boxes below. To submit responses please save this document and send it as an attachment to the following e-mail address: [seea@un.org](mailto:seea@un.org).

All documents can be also found on the SEEA EEA Revision website at:  
<https://seea.un.org/content/seea-experimental-ecosystem-accounting-revision>

In case you have any questions or have issues with accessing the documents, please contact us at [seea@un.org](mailto:seea@un.org)

## Questions related to Chapter 6

### **Question 1: Do you have comments on the concepts and definitions for ecosystem services, benefits and associated components of the ecosystem accounting framework?**

Chapter 6 provides definitions for ecosystem services and related concepts and describes a reference list of ecosystem services in an ecosystem accounting context. Chapter 7 describes the ecosystem services supply and use accounts in physical terms and addresses main issues with measurements.

Overall, the methodology described is well founded. We identified a few issues that we will comment along this document.

According to Chapter 6, “ecosystem’s processes and characteristics are not themselves flows of ecosystem services as defined in ecosystem accounting since this requires a connection to be made to users”. Therefore, the potential capacity of ecosystem’s to supply services is not considered, but only the actual flow to economic units.

We consider indeed that the best way to quantify some services (especially regulating and maintenance services and some cultural ones) would be taking into account the potential supply of ecosystems, weighted by the condition of these ecosystems.

We understand that this is an ongoing discussion, as section 6.2.8 “potential supply and ecosystem capacity” is still under construction. While we understand that the accounting of the potential capacity of ecosystems for providing ecosystem services might entail additional methodological and conceptual challenges, we expect to see a better consideration of such ecosystem potential once section 6.2.8 is further developed.

Related to this, we have further considerations:

Paragraph 6.14 states “While ecosystem accounting does not require the recording of non-SNA benefits, their description is needed such that the relevant ecosystem contributions can be defined and measured.”. We consider that non-SNA benefits must be indeed taken into account. The majority of services in the reference list (table 6.2) are regulating and maintenance services and most of them can provide non-SNA benefits.

We consider that it would be a contradiction not counting non-SNA benefits or intermediate services and at the same time, counting other supplies e.g. abstraction of water beyond ecosystem’s supply capacity (explanation is needed regarding how to consider ecosystems condition and resilience on this regard).

On the other hand, assessing ecosystem condition can be used for determination of baselines (as stated in Chapter 7, paragraph 7.63: “An ecosystem service measurement baseline is thus defined as the level of service supply with which a regulating or maintenance service provided by an ecosystem is compared in order to quantify the service”). We consider that this possibility was not addressed in these chapters and need further development.

**Question 2. Do you have comments on the content and descriptions in the reference list of selected ecosystem 'services'?**

We agree with the need to use the “complete and internationally agreed classification system for ecosystem services” when it will be available (paragraph 6.41). We also support the possibility that each country can complete their list of ecosystem services (given that the reference list is not exhaustive, paragraph 6.43)

All along the chapter 6 and in particular in the indicative list of ecosystem services types under table 6.1, we miss a reference to ecosystem services of disease control / disease regulation (as recognized under CICE categories, for example), which would comprise, for example, the role of ecosystems as buffering or mitigating the spread and expansion of zoonotic diseases.

**Question 3. Do you agree with the proposed treatments for selected ecosystem services described in Section 6.4 for biomass provisioning services, global climate regulation services, cultural services, water supply and abiotic flows?**

We agree with the fact that “focus is solely on the quantity of the biomass that is harvested or accessed...in gross terms, i.e., before harvest losses, felling residues and discarded catch are deducted”. These are relatively easy statistics that can be recorded at the level of ecosystem type, without losing spatially explicit information.

We agree with definitions of global Climate regulation services. All accounts made in this regard must be compatible with IPCC methodologies in order to avoid further workload to countries.

As related to Question 1, we consider that the cultural service named “maintenance of ecosystem service options” is compatible with the idea of considering potential services of ecosystem.

According to paragraph 6.82 “In general terms, if there is a clear contribution of ecosystem structures and processes then the flow can be treated as an ecosystem service. However, if there is no distinct role of ecosystem structures and processes the flow is treated as an abiotic flow. “. Afterwards, some examples of abiotic flows are provided. In particular, in paragraph 6.84 flows of energy from renewable sources are described:

- “Energy from biomass, including timber, maize used for ethanol, etc. Here the flow involves an ecological contribution ...
- “Energy from sources such as wind, solar, geothermal and tidal energy. Here the flows do not involve, or rely on, ecological processes and hence they are considered abiotic flows.
- “Energy from hydropower. For ecosystem accounting, it is considered that the source of the energy is related most strongly to the landscape structure and geomorphology (for example the fall in the river). Thus, while ecosystem services supplied by the surrounding landscape such as water regulation of base flows and water purification (in terms of sediment retention) are important final ecosystem services to be recorded, the supply of hydropower itself is considered an abiotic flow. “

We consider that the water supply to hydropower plants should be considered as an ecosystem service instead of an abiotic flow: in contrast to wind or solar energy, water can be linked to a specific ecosystem and the generation of this energy actually modifies the ecosystem itself.

**Question 4. Do you have any other comments on Chapter 6?**

According to table 6.1, the benefits of clean air are health outcomes, but according to paragraph 6.18 “it is generally agreed that the focus of measurement for accounting purposes should be on outputs produced by economic units (e.g., medical care) rather than on outcomes”. It is not clear, whether outcomes or outputs should be used according to the proposed methodology. On the other hand, it seems (by examples in Chapter 7, table 7.3), that accounts are made in this case based on pollutants concentration and ecosystem’s potential, more than on a service used by a certain population.

**Questions related to Chapter 7**

**Question 5. Do you have comments on the proposed recording approaches for ecosystem services supply and use tables described in section 7.2?**

The structure of the ecosystem services supply and use account is displayed in Table 7.1. And paragraph 7.22 summarizes main methodological principles:

“In addition to requiring matched supply and use entries, the following key features of supply and use accounting are applied:

- \_Supply is attributed to an ecosystem type. Where an ecosystem service is jointly supplied by a combination of ecosystems, then it is assumed that, if required, the supply can be allocated/apportioned to individual assets using spatial allocation methods or measurement conventions. This topic is discussed further in section 7.4.
- \_Use of final ecosystem services is attributed to an economic unit (business, government, household).
- \_Use of intermediate services is attributed to an ecosystem type.
- \_For any single transaction of an ecosystem service (i.e., where there is a supply-use pair) the magnitude of the flow will be the same for supply and use in terms of both quantity and monetary value.”

According to paragraph 7.16 “In concept, where compilation of ecosystem services is undertaken using fine level spatial data, it would be possible to present information on the supply and use of ecosystem services for each individual ecosystem”. We consider that

using fine level spatial data, basically related to ecosystem's condition, is possible for most of the services, but only if the potential capacity of ecosystems to provide services is accounted for most of them (otherwise, relating users to each ecosystem asset service will probably not be feasible). On the contrary, there are some cases where we agree to account actual flows (only what is used) like for biomass provisioning services and water supply services, if the maximum capacity of ecosystems' to provide those services is taken into account. Furthermore, also for "pollutants removal" services like air filtration, both ecosystem condition and amount of pollutants released should be considered.

**Question 6. Do you have any other comments on Chapter 7?**

As we mentioned for revision of Chapters 3-5, we understand the need of a reference Typology of ecosystem's classification. But other classifications are widely used e.g. SEEA, CICES but also EUNIS, LULUCF (from IPCC and the United Nations Framework Convention on Climate Change) or Corine Land Cover. It is important that the final typology used will allow correspondences with these different classifications in order to facilitate the work of countries that are already using them. Otherwise, we consider that the classification of EAs used for ecosystem accounting should be primarily based, as much as possible, on existing national ecosystem classification systems used for national monitoring and surveillance, in order to avoid duplicities and to maximise the availability of data and information. In fact, Paragraph 7.9 states "In practice, it is expected that countries will apply a national or regionally applicable classification of ecosystem types", which we fully agree with.