



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 8: Principles of valuation for Ecosystem Accounting**

**Chapter 9: Accounting for ecosystem services in monetary terms**

**Chapter 10: Accounting for ecosystem assets in monetary terms**

**Chapter 11: Integrated and extended accounting for ecosystem services and  
assets**

### *Comments Form*

**Deadline for responses: 6 July 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 twelve 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 8**

**Question 1: Do you have comments on the principles proposed to underpin monetary valuation for the revised SEEA EEA, including the use of exchange values and net present value approaches?**

**Question 2. Do you have any suggestions for topics to include in Annex 8.1?**

-For a policy maker could be misleading basing decisions on ecosystem accounting because it replicates certain bias present in GDP measurement, while welfare values are difficult to estimate because could require a case-by-case study.  
Annex 8.1 should include a taxonomy of cases where it is appropriate (or sufficient) relying only on ecosystem accounting, when only on welfare values and when on both to make policy evaluation.

-Under topic 2.a is there a substantial reason to differ par V (non-market pricing) and par. VI (Valuing externalities/Estimating shadow prices)? If we want to split this topic, maybe it would be preferable to first identify the problem (market failure and externalities) and then refer to the conceptual framework to overcome the issue (non-market pricing/shadow prices).

**Question 3. Do you have any other comments on Chapter 8?**

- What might drive a non-virtuous interpretation of EEA is the separability of ES net future returns. Even if the methodological rationale for this assumption is well understood, more caution on this aspect should be spent. Section 8.27 stresses this aspect in vague fashion (“It is nonetheless recognised that since there are multiple services from a single ecosystem asset, determining the expected future flows for each service must involve consideration of the common supply context. Thus, factors influencing the future supply of one ecosystem service will be linked to the future supply of other ecosystem services.”). The common supply context cited it is related with potential substitution or complementarities between services or could be caused by policy interventions? Interpretation of trade-offs, despite the separability, must be better guided here in the monetary accounts (because more likely of being adopted and observed by policy makers than the biophysical accounts). How to address the trade-offs (relative price) existing in the supply of ES? This is an issue related with the production possibility frontier between goods that are not priced or that could be priced with different valuation methods, but highly relevant if we would like to avoid misleading use of EEA.

- Par. 8.2: Typos or rewording: “In ecosystem accounting, ~~the~~ further motivation for monetary valuation using a common monetary unit or numeraire is ~~to be able~~ to make consistent comparisons of different ecosystem services and ecosystem assets...”  
“Examples of these comparisons include comparing”; Please, reword as (comparisons => activities, exercises, or similar).

-Par. 8.21: "it must be recognised that transactions in ecosystem services are not recorded in the SNA and, indeed, ecosystem services lie outside the production boundary that defines the scope of measured gross domestic product. In some cases, ecosystem services contribute to the production of SNA benefits, i.e. those goods and services within the production boundary of the SNA. In these cases, the values of ecosystem services are implicitly within exchange values recorded in the national accounts. Examples include ecosystem services, such as pollination, that contribute to agricultural output."

As regard pollination, generally there is difference between wild and domesticated pollinators: the former are likely to be a costs for the farmer and thus included in the SNA, the latter no. So maybe it should be specified "such as pollination by domesticated honey bees".

-Par. 8.24: "This EA is considered to supply a number of ecosystem services to different users (e.g. timber provisioning services, air filtration services, recreation related services)." These ES cannot be supplied simultaneously: trade-offs are largely disregarded. In turn, 8.25 "For a given EA, the approach adopted for ecosystem accounting is to value ecosystem assets in monetary terms by aggregating the net present value (NPV) of expected future returns (of capital services) for each ecosystem service supplied by that EA." would lead to an overestimation of actual NPV of an EA.

Also,(condition i) under 8.25 "measuring the expected future returns for each ecosystem service" means summing up returns for all ecosystem services. A bit unrealistic: if provision is larger than sustainable yields, this will result in reduction in other services. Even Par. 8.27 only refers to synergies, not trade-off ("the service of air filtration and the service of timber provisioning are both provided by forests but are assumed to be able to be measured distinctly"). It is suggested, yet in this paragraph, to stress the fact that valuation in terms of sustainability should always be given looking at degradation accounts.

### **Questions related to Chapter 9**

**Question 4. Do you have comments on the range of valuation methods proposed for use in estimating exchange values of ecosystem services?**

-Par. 9.41: is it consumer expenditure approach different by travel cost? The suggestion is replacing the existing example with one dissimilar to the travel cost because confusing.

### Question 5. Do you have any other comments on Chapter 9?

- "In summary, the most convenient technique to apply for valuation is one based on a market price of the ecosystem services whether directly observed or using a price from a similar market". This sentence is incorrect and naive without explicating the context where could be absolutely true (that is only partially recalled in 9.25, where there is a vague reference to the "economically significant price" definition, assumed *per se* always valid also for ES). Despite private produced goods and services are supplied within imperfect markets and public goods are supplied applying a social price, the ecosystems provide a range of services. Even if a market exists, this could represent a price paid for a bundle of services that are not perfectly distinguishable (or separable) by consumers or producers. Moreover, instead than using "most convenient", it could be better "most straightforward".

- In Chapter 9 there are several references to Chapter 6 and 7, describing definitions, treatments and measurement boundaries for ecosystem services in biophysical terms. Unfortunately, Chapter 6 and 7 have not circulated yet, neither is available an outline of their content. Without these Chapters, it is difficult to properly understand the integration between biophysical and monetary supply and use account tables for ecosystem services, described in Chapter 9. Hopefully, this integration will become clearer after the circulation of the draft Chapters 6 and 7. For a proper revision of the draft chapters yet to be circulated, the consequentiality between chapters should be taken into account.

- The acronym SUA is already used in Chapter 9, but its definition is given only in Chapter 11, §11.2. It would be helpful to define the SUA acronym at its first mention in the text.

-Par. 9.2, 9.4: we should clarify the meaning of the term "transaction". The amount of ecosystem services not entering transactions (or will do in future) is still lacking of valuation, even if they have a value (in spite of a price).

- Par. 9.11: "In some cases, the exchange value of an ecosystem service will be estimated directly rather than by using separate price and quantity estimates." It is important to highlight again here that some ecosystem services exchange values are already considered in the SNA. This leads to pay even more attention to interpretation of the general framework of SEEA-EEA.

-Par. 9.20: "techniques based on revealed preference theory are grouped separately in categories four and five." Can be difficult to understand for those not familiar with such methodologies since revealed preference are then split in stated and, once again, revealed (Fig. 1).

-Par. 9.21: It is suggested to rephrase: "However, within a SEEA context, the general aim is to estimate values for multiple ecosystem services across multiple ecosystem assets and ecosystem types, if this is the actual case and considering inherent trade-offs among competing ecosystem services."

-Par. 9.31 (and 9.29, 9.26, 9.22): "the estimate is also subject to errors in calculating the value of all the 'paid' inputs." One big challenge is to correctly compute extra-profits in case of monopoly or oligopoly conditions (par. 9.25), otherwise there is the risk to over-

estimate ecosystem services contribution. Of course, institutional arrangement is also crucial.

### **Questions related to Chapter 10**

**Question 6. Do you have comments on the definitions of entries for the ecosystem monetary asset account including ecosystem enhancement, ecosystem degradation and ecosystem conversions?**

- The changes in value that are recorded under the entry "ecosystem conversions" are explicitly aligned with the corresponding biophysical changes in ecosystem extent, as described in Chapter 4. On the contrary, for what concerns the "ecosystem enhancement" and "degradation" entries, in Chapter 10 there is no explicit reference to the biophysical accounts of ecosystem condition described in Chapter 5. The link between the monetary asset account for ecosystem enhancement and degradation, and the corresponding biophysical accounts of ecosystem condition, should be better elucidated.

-Par. 10.2.5 *Other changes in the volume of ecosystem assets*: It would be worth distinguish between irreversible and reversible changes (the latter may imply that after some years the expectation of future ecosystem services may gradually recovery under certain conditions, e.g. windstorm abating trees but give space for younger trees growing quickly).

**Question 7. Do you have comments on the recommendations concerning the selection of discount rates for use in NPV calculations in ecosystem accounting?**

Click here and start typing (The length of your response is not limited by this text box.)

**Question 8. Do you have comments on Annex 10.1 describing the derivation and decomposition of NPV?**

-“However, in valuing future flows of ecosystem services, assuming constant unit prices may not be valid in view of the wider interconnections and factors that will influence an ecosystem asset and which will affect future values. Therefore, where possible, future price changes should be taken into account, for example due to the effects of changing relative scarcity of resources or specific ecosystem characteristics”. This is a very important aspect about the usage and scope of EEA and appears too vague in the text.

**Question 9. Do you have any other comments on Chapter 10?**

-It is not clear if § 10.4 "Measuring ecosystem capacity", that is currently in preparation, will be circulated for revision in a more advanced draft version of Chapter 10. Although not intended to describe accounts for ecosystem capacity, this paragraph appears of particular importance, since the assessment of ecosystem capacity affects the estimate of the future ecosystem services provision. Thus, it appears important to circulate this paragraph among reviewers.

**Questions related to Chapter 11**

**Question 10. Do you have comments on the proposed structure of the extended balance sheet that integrates the monetary values of ecosystem and economic assets?**

Click here and start typing (The length of your response is not limited by this text box.)

**Question 11. Do you have comments on the approaches to assigning the ownership of ecosystem assets that underpins the structure of the extended sequence of institutional sector accounts?**

-“Thus, ecosystem assets (grouped by ecosystem type) are treated as additional producing units alongside the current set of industries (agriculture, manufacturing, etc.). Given that an extended SUA would generally be compiled at national level (or for a large administrative region), it might be sufficient to introduce just one additional column to cover the production of all ecosystem services by all ecosystem assets.” Despite understanding the rationale for this suggestion, it seems a naïve interpretation of the insertion of EEA in the SNA because the aggregation in a single column would result in a number that mix very different goods and services provide by diverse ecosystems (some abundant and some vulnerable).

**Question 12. Do you have any other comments on Chapter 11?**

- Comments on the Draft Glossary May2020: It is suggested to align the definition of "cultural services" with the one reported in the Millennium Ecosystem Assessment (2005): "Non material benefits people obtain from ecosystems through spiritual enrichment, cognitive development, reflection, recreation, and aesthetic experience". This definition appears clearer than the one currently included in the Glossary.