



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)**

Name:	Mahbubul Alam
Organization & country:	Conservation International
Name:	Rosimeiry Portela
Organization & country:	Conservation International

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?**

The chapter is well-written and clear. What I found absent is a reference on **counterfactuals**, which I understand is addressed on the ES chapter, where it is treated a biophysical issue and referred as 'reference level'. Though I generally agree with that choice, I also think that a cross-reference needs to be made here, for conceptual purposes, as ultimately alternative counterfactuals will have an impact on the economic value of a given resource/asset.

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

See comment above.

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

In chapter 8 the acronym EA was used for ecosystem asset, but I saw people using EA for ecosystem accounting (e.g. EO4EA). Relatedly, I've found EAA used for Ecosystem Accounting Area; is it different from EAU - Ecosystem Accounting Unit? Need to use consistent terminology to avoid confusions.

## 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?**

The text is comprehensive and clearly written. I especially like Table 9.2: Summary of valuation methods for exchange values by broad type of ecosystem service. I appreciate the balance text on valuation for provisioning, regulating and cultural services, but would recommend expanding the text on the regulation and especially cultural ones, which are more likely to be absent/undervalued than provisioning ones in the context of accounting because of methodological hurdles.

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

**9.2.7:** The point of using transaction price is to some extent to avoid stated preference kinds of techniques. Because stated preference doesn't involve transactions, it's rather an expression of interest to pay. There's a whole list of well documented reasons (consumer surplus, welfare etc.) why stated preference should not be treated as a SNA compatible technique. In section 9.30 it is recommended only to use this technique for establishing non-use values. But I think that's not a justification; non-use values (e.g. option value, bequest value) themselves are SNA incompatible. So my suggestion is to reconsider stated preference in this section.

**9.19:** Add benefit transfer as an additional technique, since an additional section is being written on it.

**Table 9.2:** A few points for consideration:

- (1) Alongside description of methods in column 3 an example of each would go well.
- (2) Replacement cost can also apply to provisioning services, not just regulating. For example, using alternative energy in place of firewood.
- (3) I also think we can make this table more useful for users/analysts; instead of provisioning, regulating, cultural columns, a more useful presentation would be to list specific services (at least key services) against each technique. The table will be longer but it will be a useful checklist for users.
- (4) Again, my suggestion is to remove stated preference from the list

**9.29.** Resource rent and residual value seem to be used here interchangeably, but there is a difference between the two – in the former case ES is the final product and the price is known (e.g. resource rent of logged timber, where price of timber is known); and in the latter case ES is an input to production and it's value is derived using residual valuation (e.g. water an irrigation input to ag production and its unit value is not known rather derived using NRTW approach).

**9.31.** Residual valuation is a sophisticated technique that requires quite a bit of care and judgment. In a recent case study in Cambodia\* in the context of irrigation water, it was noted that residual value is sensitive to: (1) specification of the production function, (2) market and policy conditions that determine opportunity cost of inputs, and (3) quantity

of water used. For example, in the specification of production function if any input is omitted, it is wrongly attributed to water (because the value of water is the residual value that remains after deducting costs). It was also noted that residual value is highly sensitive to opportunity cost of labor, so this input needs to be carefully measured and incorporated in valuation model. These limitations/considerations can be added to section 9.31.

\* “Valuing the ecosystem services provided by forests in Pursat Basin, Cambodia” – A World Bank WAVES case study led by Conservation International (June 2020).

### **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?**

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

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

Each country will decide their own rates for discounting but still there needs to be some firm recommendations on the type of discounting to be used for specific services, prescriptive for which services and descriptive for which.

Discounting is the largest factor in climate regulation but wasn't discussed enough in the main text. If social discounting is recommended for climate regulation, a firm recommendation needs to be made based on a globally accepted standard (see Nordhaus 2017; PNAS 114 (7): 1518-1523)

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

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

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

**10.1:** In the past I always wondered about the use/application of monetary asset accounts, this section touches upon this question. There is a great utility of monetary asset accounts to assess the wealth of natural capital assets alongside other forms of capital. My suggestion is to expand this section/add a new one on how countries that are doing ecosystem accounting can actually use monetary asset accounts. We could also review its compatibility with Wealth of Nations principles and see how this can potentially add value.

**Table 10.1:** The 5 class classification of changes in monetary assets is fairly complex. There's also a fine line between changes attributable to degradation, conversion or catastrophic losses. I understand the benefit of having this granularity but also think there is a value in simplicity - may be by reducing these classes into 2/3 broad categories and leave it up to the analyst to disaggregate as needed.

**10.2.5:** My understanding is that ecosystem assets are measured in terms of area, not volume. If it's meant ecosystem services quantities, even then volume is not the right metric b/c not all services are measured in volumes (e.g. water quality)

**10.35:** I think another summation ( $\sum$ ) is missing in the equation to represent each EA type. Currently we have one  $\sum$  for services and one  $\sum$  for years. Please consider decomposing the equation into 2/3 parts, in its current form it's difficult to comprehend all the variables altogether. Also, recommend using t and T for more intuitive symbols of time.

**10.50:** Future price changes is a good recommendation made here. However, using relative scarcity for this price change will be challenging to estimate. I think an easier solution would be to adjust for inflation based on historical rates.

**10.61:** Regarding asset life it is important to make the recommendation that whatever, lifetime is used, it should be consistent all across ES used. Otherwise aggregations and tradeoffs will not be comparable.

**10.68:** Sensitivity analysis is okay to assess rigor in scientific studies, but there is a risk in using sensitivity in accounting and public sector analysis – that policy makers will be confused and accept them with scepticism.

**Annex 10.1:** Climate regulation was introduced here but missing in the main text. Given its importance and complexity in calculating asset value it is worth discussing in sections related to asset life, discounting, price etc.

### 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?**

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

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

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