



DEPARTMENT OF ECONOMIC AND SOCIAL AFFAIRS
STATISTICS DIVISION
UNITED NATIONS



System of
Environmental
Economic
Accounting

System of Environmental-Economic Accounting— Ecosystem Accounting

Global Consultation on the complete document: Comments Form

Deadline for responses: 30 November 2020

Send responses to: seea@un.org

Name:	Environmental Economic Accounts Section Environment Statistics Section Global Geospatial Information Management Section
Organization & country:	UNSD

The comments 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: seea@un.org.

All documents can be found on our website at: <https://seea.un.org/content/global-consultation-complete-draft>

In case you have any questions or have issues with accessing the documents, please contact us at seea@un.org

General comments

Question 1: Do you have comments on the overall draft of the SEEA Ecosystem Accounting?

Overall the document represents tremendous progress to the development of an agreed framework for ecosystem accounting. It manages to integrate, in a coherent framework using accounting rules, concepts that span many different disciplines from science to geospatial information, environmental economics and national accounts. It represents a culmination of a very inclusive process and provides a balanced view on the measurement of ecosystem services and ecosystem assets in physical and monetary terms.

It would be good to clarify that the document is a conceptual document and does not provide practical guidance for implementation which should be supported by supporting manuals/documents/trainings. In addition, it is also useful to mention that countries are expected to prioritize which accounts to compile depending on their needs and priorities.

The draft overall is well-written and structured, internal consistency across chapters can be improved. This is understandable as the different sections were written at different times. Although a lot of inconsistencies have been addressed some remain and would require an additional read through at the end. Coherence should be ensured in particular when discussing ecosystem capacity, maintaining ecosystem functions, ecosystem resilience, degradation, ecosystem services, option values

Terminology across the chapters and coherence of concepts and definitions: Definitions of key terms could be improved / strengthened.

Spatial considerations:

- The spatial nature of ecosystem accounting should be further emphasized.
- Reference should be made to the global statistical geospatial framework (GSGF) and try to bridge the terminology and concepts used in the GSGF with the concepts and definition used in the statistical space. An Annex could be developed to explain these relationships.
- Consistency of terminology across chapters should be ensured (e.g. Chapter 13 refers to “spatially disaggregated”, Chapter 14 refers to “disaggregation to administrative units” while the Working Group on Geographic Information of the IAEG-SDGs refers to this methodology as “disaggregation by geographic location”. These seem to be the same concepts, just using different terminology. Geospatial information, spatial units and other ways of referring to geospatial information are also used interchangeably.

Comments by sets of chapters

Question 2. Do you have comments on Chapters 1-2 of the draft SEEA Ecosystem Accounting?

Chapter 1 could start with providing a better explanation of why ecosystem accounting, possibly linked to policy cycle / main types of policy instruments rather than starting in para 2 with the what? It may be good to have a separate section 1.1. on why SEEA ecosystem accounting? And a section 1.2 on what is SEEA EA?

Some of the text which time bound (e.g. number of countries implementing the SEEA) should be removed as this is likely to change quite quickly in the coming years.

Some of the text in Section 1.2.3 (para 1.16 and 1.18) belong more to the implementation section. In this section it may be useful to elaborate some of the concerns that countries may have on the implementation of the monetary accounts.

Section 1.4.2 - it may be useful to elaborate how the SEEA (SEEA CF and SEEA EA) together constitute the framework to measure the environment and its relationship with the economy and provide a complement to the SNA that measures the economy. Align the language with the update of the SNA and consider the SEEA as an extension of the SNA rather than "satellite".

Chapter 2 provide a good overview of the framework, sometimes it is too theoretical to completely grasp it. It may be good to write the chapter more to the point.

It may help to show a stylized version of the accounts (as in Section 2.3 of the SEEA Central Framework) to show the accounts and tables for the SEEA EA – how they extend from the SNA (and possibly SEEA CF)

In Para 2.56, it would be helpful to define non-anthropocentric values and how to distinguish these values from intrinsic values.

It would be helpful to explain Sections 2.4.2. and 2.4.3 in a less theoretical fashion and provide some examples to clarify it.

-In figure 2.4, TEV features prominently, but isn't elaborated in the text at all, while intrinsic/relational/(non)-anthropocentric values are. Suggest to balance the figure with the text as appropriate.

Question 3. Do you have comments on Chapters 3-5 of the draft SEEA Ecosystem Accounting?

The Chapters provide a good overview of ecosystem extent and ecosystem condition. Below is a set of detailed comments:

- The reference to WES may be confusing to readers, as it is associated with a map of ecosystems which seems to be an alternative to IUCN GET. It is important to emphasize the IUCN GET is the reference **classification**, and WES is an **approach** that allows to delineate ETs.
- There is a numbering inconsistency within 3.2 – 3.5
- The difference between the two factors of thematic resolution and spatial scale (para 3.37-3.38) is not clear; as written, it seems that the thematic resolution is completely dependent on spatial scale.
- Given the diverse audience, it may be helpful to open section 3.4.2 by briefly describe the purpose and functions of a reference classification in 3.52.
- In section 3.5.2, the role of the land data in the extent accounts could be made more explicit—while it is clear that they are not sufficient to delineate ecosystem

assets on their own, it's unclear if they *should* be used, rather than *can* be used for the basic extent accounts.

- Paragraphs 3.82 and 3.83 are more fundamental and do not speak solely to organising data about socio-economic/other characteristics. It would be worth considering moving this up, highlighting it in some way or possibly expanding it.
- Link with the geospatial information terminology should be further strengthened, especially concerning terminology and concepts. For example the notion of “Spatial Unit” would be called “geography” in the geospatial context representing a country boundary or an administrative unit or in a geographically standardised manner, such as grids etc. A discussion of these concepts, under the concept of “Common Geography” is found within the Global Statistical Geospatial Framework (http://ggim.un.org/meetings/GGIM-committee/9th-Session/documents/The_GSGF.pdf), as adopted by both UN-GGIM by its decision 9/106 and the Statistical Commission by its decision 51/123. The concept of Basic Spatial Unit is introduced later in the chapter but may be beneficial to potentially defining this sooner and introduce the concept of the geographic hierarchy.
- It may be appropriate to be more tentative in recommending a grid size of 100m². The situation of small island developing states (SIDS) should be mentioned in the text as they potentially have a land mass equivalent to a few squares would call for more granularity. In addition it should be mentioned that remote sensing data are becoming increasingly available at finer resolution and the computing power is becoming increasingly available thus possibly allowing measurements at smaller scale depending on the situation.
- 3.63: *“The high resource costs involved in ground assessments mean that the delineation of EAs will involve the mapping of ecosystem assets within an EAA using geographic information systems (GIS) platforms and techniques”*. While cost is a valid driver, there are more important and relevant benefits that would also apply – like the need to reliably and sustainably organise and cross-reference data? Using a Geospatial Information System (GIS) should be considered an essential step to enabling the management of geospatial information, noting that all relevant ecosystem data is by its nature geographic, and therefore can be described and represented by geospatial information, which in turn can be managed in a GIS. The GIS just provides the tools to integrate, manipulate, and analyse the many data sources.
- 3.83 Instead of flagging that an NSDI should be established, refer to the Integrated Geospatial Information Framework (<http://igif.un.org>) which has replaced the NSDI as a leading policy for the strengthening of geospatial information management at the national, regional and global level. The IGIF Overarching Strategic Framework has been adopted by UN-GGIM in 2018, and the IGIF Implementation Guide in 2020.
- It would be good, using the IUCN classes to define what constitute natural ecosystems. This would be particularly helpful in particular for compiling indicators. One possibility would be to swap tables 4.1 and 4.2 which would allow to have a breakdown into managed vs natural expansion after compiling the change matrix
- A.3.15: If vegetation and animals are mentioned so should be other critical components, such as microorganisms.

- Table 4.2: mock-up numbers would illustrate better how the matrix work than the zeros.
- The FDES could serve as input in the measurement of some of the variables in the condition accounts
- Paragraph 4.28 conflates a natural reference extent with a "natural condition". In addition, the extent to which a natural reference extent is a common ambition of ecosystem accounting is debatable and would depend on policy demand and national context.
- Spatial versus thematic aggregation of the condition indicators is somewhat unclear and needs to be aligned between Chapters 5 and 13.
- In case of conversions, rather than switching the reference condition during the accounting period, it may be easier to assess condition only based on those areas not converting. This avoids any strange break in series.
- Table 5.7 still has some inconsistencies and should be further developed.
- The section on environmental pressures is somewhat unclear and more specific guidance on which pressures and when can be used to measure ecosystem condition would be highly appreciated.
- Clarify ranking of the reference condition options outlined in Annex 5.1.

Ensure that marine and freshwater perspectives are appropriately reflected (i.e. making sure that not everything is terrestrially focused and that where there is a difference ecologically that this is reflected).

The treatment of aquifers in Chapter 3 could be improved.

Clarify what would be the approach to adding additional ET below the EFG level for anthropogenic ecosystems.

Question 4. Do you have comments on Chapters 6-7 of the draft SEEA Ecosystem Accounting?

We welcome the development on Chapters 6-7 that provide the underlying conceptual foundation on the physical ecosystem services flow accounts c

We support the development of a reference list of ecosystem services. A suggestion is to develop a correspondence table to map the reference list with the existing ecosystem services classification such as CICES and NESCS and TEEB.

We support the conceptual approach to the treatment of biomass provisioning which focus on measuring ecosystem contribution. While we acknowledge that in some case studies gross biomass harvested was used as proxy for measurement issues, efforts should be made to the greatest extent possible to separate the extent of human inputs and management from the gross measure to identify the net contribution from ecosystems. This is very important as using gross biomass may produce perverse results with managed ecosystems providing the highest ecosystem services. This should be mentioned in the text.

With regard to the treatment of water supply, it seems that the discussion in Chapter 6 is incomplete. Chapter 6 points to Chapter 7 for further elaboration on how to record a combination of water-related flows, but we could not find such discussion in Chapter 7.

We support the use of the use of the term "cultural service". Although we understand that there are some issues with the term, we do not think it is up to the statistical community to propose a new term which has been used for a long time by the ecosystem services community. We would be happy to adopt any terms that becomes common use.

The discussion on ecosystem capacity seems to be relatively long (4 pages) considering that such concept was not embedded in the construct of the physical ecosystem services flow account. Since the concept of capacity cuts across the concepts of condition, services and monetary accounts, an alternative proposed is to further such discussion in section E which focus on application and the linkage of information from various core accounts.

Our preference is to define capacity irrespective of demand, so that we could use it as an indicator of over / under use.

Spatial dimension for each ecosystem services could also potentially be elaborated for each ecosystem service.

Para 6.93. We suggest to introduce a footnote referring to the IPCC 2006 Guidelines and their 2019 revision.

Para 6.96: the stock based method is analogous to the methodologies of FAO-FRA which could be referenced in a footnote.

Para 6.97: we suggest to introduce the text in bold and red: 'Within this measurement boundary, for a single ecosystem, the minimum service that can be supplied is zero when the **increase of the** stock of carbon (measured using the scope just described) is zero'.

The ecosystem services supply and use accounting table (e.g. table 7.1) is now presented at the level of EFG (IUCN level 3) which make the table unwieldy as there are 89 EFGs. Possibly the table at the biome level (IUCN level 2) could be used for dissemination and international reporting.

Some of the conceptual discussion on aggregation in the condition chapter could be relevant for this chapter on services.

The treatment for non-use values would benefit from further clarification and the links to ecosystem services in an accounting context should be established.

We find that Annex 6.1. which describes the logic chains for selected ecosystem services useful and suggest such description to be extended to all ecosystem services in the

reference list. Part of this Annex could also potentially be an online supplement depending on the size and completeness.

Development of Annex 6.2 on the correspondence between the ES reference list and selected other ES classifications and typologies, potentially as a living document in an online supplement.

Question 5. Do you have comments on Chapters 8-11 of the draft SEEA Ecosystem Accounting?

At the beginning of Section D, before Chapter 8, it would be good to elaborate the It would be good to provide in the introduction of this section a general context of the valuation that is presented in the SEEA Ecosystem Accounting, clearly outlining the decisions taken with regard to the valuation and that there are different views to valuation, including those that do not want to put values on the ecosystem services and ecosystem asset. This note should also indicate that it is not mandatory to do the valuation but if one desires to do so, the conceptual framework presented should be the reference. Further it should be noted that there may be issues in implementation and interpretation of the results.

These chapters are well aligned with SNA valuation principles. The tiering of valuation approaches could be emphasized more.

Further clarification of exchange values and their relationship with the national accounts is needed. Also it is important to ensure consistency of the presentation through the document, particularly in relation to individual valuation methods.

The preferred valuation methods for each ecosystem services should be clearly presented.

Further discussion is required whether certain conversions should be included in degradation cost when compiling and env. adjusted aggregate. Would also be helpful to have discussion on the recording of enhancement in the sequence of accounts.

Sections 11.55 and 11.56 regarding the definitions of land ownership should be reference the "Framework on Effective Land Administration" (E/C.20/2020/29/Add.1), inclusive of the existing references to the 2008 SNA.

Question 6. Do you have comments on Chapters 12-14 of the draft SEEA Ecosystem Accounting?

We welcome section E of the draft SEEA Ecosystem Accounting that aims to introduce the connection between the SEEA EA to other thematic areas, application and reporting framework. It is suggested to develop a preamble of Section E to provide context for this section and explain the rationale of Section E and to also explain that Section is not a statistical standard but it fits within the scope of applications and extensions of the SEEA EA.

We suggest the discussion on complimentary valuation is further elaborated and the approaches reviewed, in particular in Annex 12.1.

Chapter 13:

In the introduction of Chapter 13 it would be useful to specify that the thematic accounts represent an illustration of how accounts from both the SEEA Central Framework and the SEEA Ecosystem Accounts and information from the SNA – which often needs to be further disaggregated and agreed classifications need to be developed - can be combined to obtain integrated information that is useful for policy makers. The introduction should also clearly mention that there are more thematic accounts than those presented, including for example for protected areas, wetlands, etc. The ones presented in Chapter 13 provide just an example to the selected thematic accounts.

Titles of the different thematic accounts – it would be good to change the title into SEEA for biodiversity, SEEA Oceans, SEEA for Climate Change, etc. This will also make clear the scope of what the Chapter will cover.

Chapter 13 on biodiversity –

Further discussion is needed between statisticians and biodiversity experts to define the measurement scope of the SEEA for biodiversity, in addition to cover all SEEA EA. At this stage it is suggested that this section would provide a place holder for further work, present the species accounts and discuss the relevance of the SEEA EA for the monitoring framework of the Global Biodiversity Framework (GBF).

All sections should follow a common structure and approach and simply serve as placeholders for further elaboration.

Chapter 13 – Climate Change

Section 13.4.3 could refer to the ECE list of climate change-related indicators.

Para 13.63: the most commonly used term is 'Net ecosystem carbon balance'.

Specific suggestions on Chapter 14,

1) We suggest that the scope of chapter 14 could be extended to include the following types of SEEA indicators

- Indicators from sequence of economic accounts
- Expenditure-related indicators
- Indicators that are integrated combined across various SEEA accounts
- Indicators based on application of accounts, such as footprint

2) The monitoring framework of the post-2020 Global Biodiversity Framework and the Sustainable Development Goals cover several headline indicators that could be potentially

linked to the core accounts of SEEA EA. Consider their policy, it is suggested these indicators to be included in the indicator list from the core accounts the headline It is recommended to take a pragmatic approach and explain how the relationship between the SEEA and some well established indicators or indices developed by the scientific community.

3) There is strong demand to identify indicators for natural ecosystem and protected area coverage. Suggest the indicator list in chapter to cover these two areas as well.