

**8th Annual meeting of the Committee of Permanent Representatives to the United Nations Environment Programme
Eighth Meeting**

Nairobi, 25 - 29 October 2021

Agenda Item 3: Programme performance review of UNEP's Programme of Work 2020-2021.

Sub-Programme on Healthy Productive Ecosystems

Additional information requested by permanent representatives of Mexico and Argentina on the National Capital Accounting (NCA) work, especially the methodology used for NCA in UNEP supported initiatives, how was this agreed and to what extent does it include monetary valuation of natural capital

UNEP detailed response is provided bellow.

For further information please feel free to liaise with the head of the Ecosystem Services Economics Unit a.i. Salman Hussain Salman.Hussain@un.org

1. The System of Environmental-Economic Accounting (SEEA)¹ is the internationally agreed framework for NCA that integrates economic and environmental data to provide a more comprehensive and multipurpose view of the interrelationships between the economy and the environment, as they bring benefits to humanity.
2. The SEEA is comprised of:
 - a. SEEA Central Framework² adopted by the UN Statistical Commission as the first international standard for environmental-economic accounting in 2012. The Central Framework looks at “environmental assets”, such as water resources, energy resources, forests, fisheries, etc., their use in the economy and returns back to the environment in the form of waste, air and water emissions
 - b. The SEEA Ecosystem Accounting (SEEA EA)³ complements the Central Framework and constitutes an integrated and comprehensive statistical framework for organizing data about habitats and landscapes, measuring the ecosystem services, tracking changes in ecosystem assets, and linking this information to economic and other human activity. Ecosystem accounts enable the presentation of indicators of the level and value of “ecosystem services” in a given spatial area. The United Nations Statistical

¹ <https://seea.un.org/>

² <https://seea.un.org/content/seea-central-framework>

³ <https://seea.un.org/ecosystem-accounting>

Commission adopted the SEEA Ecosystem Accounting at its 52nd session in March 2021⁴.

3. The SEEA frameworks are endorsed by the United Nations Statistical Commission⁵ (UNSC) and developed by the United Nations Committee of Experts on Environmental-Economic Accounting (UNCEEA)⁶. UNSC is the highest body of the global statistical system bringing together the Chief Statisticians from member states from around the world. The UNCEEA functions as an intergovernmental body to provide overall vision, coordination, prioritization and direction in the field of environmental economic accounting and supporting statistics.
4. Mexico and Argentina are represented at UNSC and UNCEEA by Julio Santaella, President of INEGI, and Marco Lavagna, Director-General, INDEC, respectively. Generally, all the countries represented at the UNSC had a common position in support of the SEEA EA and are also supportive of SEEA overall. The two most vocal countries in ECLAC in support of the SEEA EA adoption were Mexico and Colombia. A regional webinar was organized in January 2021 to discuss the methodology in detail, to which the Chief Statistician of Argentina participated.
5. The adoption of SEEA EA is a major step forward in international uptake of NCA. In news releases the Secretary-General of the United Nations, António Guterres said: *"The adoption of this economic and environmental framework is a historic step towards transforming the way how we view and value nature. No longer will we allow mindless environmental destruction to be considered as economic progress."* The Executive Director of UN Environment, Inger Andersen said: *"This is a major step forward. The new framework can be a game changer in decision-making. By highlighting the contribution of nature, we now have a tool that allows us to properly view and value nature. It can help us bring about a rapid and lasting shift toward sustainability for both people and the environment."*⁷
6. SEEA EA framework is structured according to five ecosystem accounts, these are:
 1. **ECOSYSTEM EXTENT** accounts record the total area of each ecosystem, classified by type within a specified area (ecosystem accounting area). Ecosystem extent accounts are measured over time in ecosystem accounting areas (e.g., nation, province, river basin, protected area, etc.) by ecosystem type, thus illustrating the changes in extent from one ecosystem type to another over the accounting period.

⁴ <https://unstats.un.org/unsd/statcom/52nd-session/documents/decisions/Draft-Decisions-Final-5March2021.pdf>

⁵ <https://unstats.un.org/unsd/statcom>

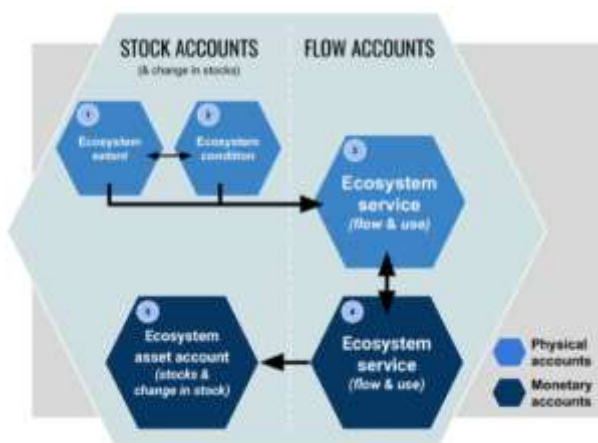
⁶ <https://seea.un.org/content/un-committee-experts-environmental-economic-accounting-unceea>

⁷ <https://seea.un.org/content/ecosystem-accounting-news>

2. ECOSYSTEM CONDITION accounts record the condition of ecosystem assets in terms of selected characteristics at specific points in time. Over time, they record the changes to their condition and provide valuable information on the health of ecosystems.

3. & 4. ECOSYSTEM SERVICES flow accounts (physical and monetary) record the supply of ecosystem services by ecosystem assets and the use of those services by economic units, including households.

5. MONETARY ECOSYSTEM ASSET accounts record information on stocks and changes in stocks (additions and reductions) of ecosystem assets. This includes accounting for ecosystem degradation and enhancement.



This diagram shows the different kinds of accounts that are developed and how they relate to each other, in order to develop the Ecosystem Accounts.

Three of the five types of accounts are spatially explicit **physical** accounts and are often represented as tables and maps.

7. The issue of monetary valuation of natural capital has been at times contentious. It is worth noting that 1-3 above are measured in purely physical terms (e.g. hectares, or tonnes) without monetary valuation. Nevertheless, a key aspect of ecosystem accounting is that it allows the contributions of ecosystems to society to be expressed in monetary terms so those contributions to society's well-being can be more easily compared to other goods and services we are more familiar with. Monetary estimates can provide information for decision-makers, for example for economic policy planning, cost-benefit analysis, and for raising awareness of the relative importance of nature to society. Ecosystem service values are derived by using a range of economic valuation techniques. This notwithstanding, the SEEA EA recognizes that the concepts and methods of ecosystem accounting cannot encompass all value perspectives concerning ecosystems. Hence, the data from ecosystem accounts should not be considered to provide a holistic, complete or full societal value of nature; or reflect all of the multiple value perspectives on ecosystems. Pages 176-178 of the SEEA EA provide a more detailed discussion of these issues.⁸

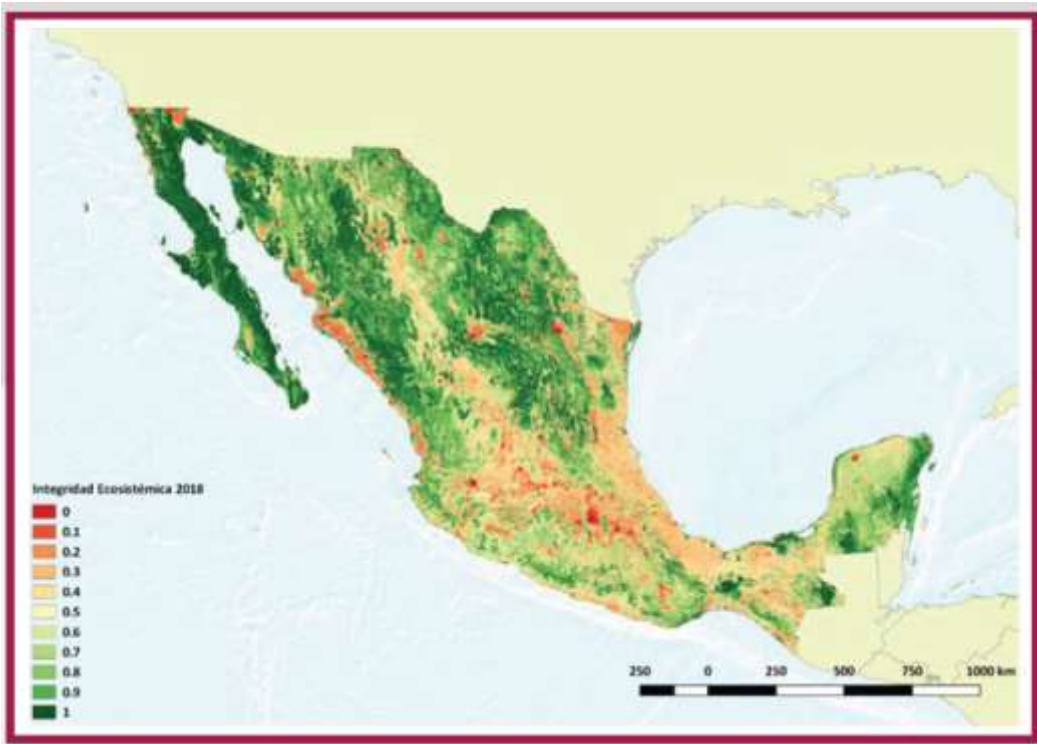
⁸ https://seea.un.org/sites/seea.un.org/files/documents/EA/seea_ea_white_cover_final.pdf

8. UNEP has engaged with this process through the EU-funded Natural Capital Accounting and Valuation of Ecosystem Services (NCAVES)⁹ project which began in 2017 and ends this year. NCAVES has worked on the development of ecosystem accounts and their application to policy in Brazil, China, India, Mexico and South Africa. The results of country-level work have been a critical input into development of the final SEEA EA framework.
9. Argentina, represented by National Institute of Statistics and Censuses (INDEC), and Mexico, represented by the National Institute of Statistics and Geography (INEGI) participated in the Regional Training Workshop on the SEEA Experimental Ecosystem Accounting for Countries of Latin America and the Caribbean organized as part of the NCAVES project in Rio de Janeiro, Brazil, from 21 to 23 November 2018.¹⁰
10. In **Mexico**, the pilot ecosystem accounts are being developed by the National Institute of Statistics and Geography (INEGI) in close collaboration with SEMARNAT and other departments of the environmental sector, such as CONAFOR, CONGUA and CONABIO. The results from the NCAVES project in Mexico have been compiled in the final report, including extent, condition and monetary accounts. This report explains in detail the methods used, and the results obtained; the accounts are showcased by means of maps, tables, and graphs. An important part of this project, which is also explained in the report, was the coordination with the environmental sectors, to ensure the provision of data and the application of the accounts to inform decision making processes. The potential uses of the accounts in decision making processes are also explained in the report.¹¹
11. Mexico has successfully developed the **Ecosystem extent accounts**, these terrestrial accounts determine the spatial distribution of different ecosystem types designated on the basis of their ecological characteristics and their changes over time within the country. The extent accounts include the Ecosystem condition accounts, which present data and aggregates it in a structured way that describes the quality of ecosystem assets and how that might change over time and under pressure.

⁹ <https://seea.un.org/home/Natural-Capital-Accounting-Project>

¹⁰ <https://seea.un.org/events/regional-training-workshop-seea-experimental-ecosystem-accounting-countries-latin-america-and>

¹¹ <https://www.inegi.org.mx/contenidos/investigacion/cem/doc/docNCAVES.pdf>



12. The map shown above was developed using the condition accounts, it shows the integrity index for terrestrial ecosystems in Mexico in 2018. This kind of analysis can help to inform instruments such as environmental impact statements, land-use planning processes, the preparation or updating of management plans for protected natural areas or the identification of areas for payments for ecosystem services schemes. In addition, it will be possible to associate it to global commitments, such as the Nationally Determined Contributions (NDCs) or commitments to be made in the Post 2020 Global Biodiversity Framework.

13. Mexico also developed **ecosystem service monetary accounts**, for which several valuation methods are used. Please see the diagram below summarizing how the stocks are measured and their services and benefits they provide are valued.

Mexico focused on generating **monetary accounts** for the following **ecosystem services**:

- i. Provisioning services for selected crops (rice, beans, maize, wheat, sorghum, and soy)
- ii. Regulating services for carbon capture and sequestration (in biomass and soil).
- iii. Pollination regulating services for agricultural crops.
- iv. Provisioning and regulating services for residential and municipal water supply.

v. Cultural services for the nature tourism economy.



14. The values obtained for these ecosystem services are commonly excluded from conventional economic accounts and from economic consideration because either there is no market price associated with their use or they are mis-priced. Making these values explicit contributes to a better understanding of the contribution of nature and to a more efficient allocation of resources to avoid inefficient use and over-exploitation of the services. In line with the recommendations of the SEEA EA, the project focused on the identification of exchange values for ecosystem services to ensure consistency with the market valuation principles of the national accounts using the valuation methods that approximate market values depending on the ecosystem service being considered.
15. Another country in the region that is also working on Ecosystem Accounts under the framework of the NCAVES project is Brazil. Since 2017, The Brazilian Institute of Geography and Statistics (IBGE) in partnership with the Water Agency and the Forestry Service, have been developing Environmental Economic Accounts¹²:
- Ecosystem extent accounts which show the land use in Brazilian Biomes and how it has changed from 2000-2018
 - Biodiversity / Species Accounts highlighting the endangered species in Brazil from 2014
 - Experimental statistics on the valuation of water, ecosystem condition accounts (of water), as well as non-timber forest accounts assessing provisioning services in physical and monetary units
16. In the next couple of months, the results from the NCAVES project and the next steps for mainstreaming will be discussed during several forums both at global and national level.
- The Final Project National Forum in Mexico** will take place in November 2021 (*date tbc*) and is being hosted by INEGI.

¹² <https://seea.un.org/content/natural-capital-accounting-and-valuation-ecosystem-services-brazil>

- b) The **Brazilian final Project Forum**¹³, hosted by IBGE, will take place from 16th to 18th November 2021.
- c) The **Global Forum of Experts on SEEA Ecosystem Accounting 2021**¹⁴ will take place on 7th and 8th December and is organized by the United Nations Statistics Division (UNSD) in collaboration with the United Nations Environment Programme, and the World Bank. It will aim to bring together scientists, environmental economists, statisticians, national/environmental-economic accountants, geospatial experts from national statistical offices, ministries of finance and planning, ministries of environment and other government agencies, NGOs, academia and the private sector who are practitioners in developing and using environmental-economic accounts.

The main objectives of this Forum are:

- Share experiences and best practices in applying and compiling ecosystem accounts, in particular in the countries that have participated in the Natural Capital Accounting and Valuation of Ecosystem Services project;
- Discuss how to operationalize the SEEA EA implementation strategy and the interoperability of data for compilation of accounts; and
- Discuss opportunities and ways to mainstream the SEEA EA into national and global initiatives.

¹³ <https://seea.un.org/events/ncaves-brazil-national-forum>

¹⁴ <https://seea.un.org/events/forum-experts-seea-ecosystem-accounting-2021>