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**Meeting of the Expert Group on  
International Statistical Classifications  
New York, 6-8 September 2017**

**Update on the on-going work on classifications related to Environmental-Economic  
Accounting**

UNSD



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*Prepared by UNSD with the support of groups working on the classifications*

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## 1 Introduction

The UN Committee of Experts on Environmental-Economic Accounting (UNCEEA) at its 12<sup>th</sup> meeting in June 2017 recommended reporting the work on classifications related to environmental-economic accounting to the Expert Group on International Statistical Classifications meeting in September 2017.

This information paper, prepared by UNSD with input from the respective groups, is intended to inform the Expert Group on the work carried out on the following three classifications:

1. Classification of Environmental Activities (CEA) and in particular the Classification of Resource Management (CReMA) and its link with the Classification of Environmental Protection Activities (CEPA) – work lead by Eurostat;
2. Classification of Biodiversity Expenditures – work led by UNDP as part of the BIOFIN initiative; and
3. Classification of Ecosystem Services and its link to the land cover classification – work in coordination between EEA, US EPA, Eurostat, UNSD, academia and selected NSOs.

The work under all three classifications is in the initial phase at this point in time. Hence, this paper serves to update the members of the Expert Group on the process and plans on how to review the classifications, rather than the classifications themselves.

The Expert Group on International Statistical Classifications is invited to take note of the upcoming review process and provide comments on procedural matters that need to be considered for the work.

## 2 Classification of environmental activities<sup>1</sup>

### *Background*

An operational, policy relevant and comprehensive classification of environmental activities is central to the overall implementation of the environmental-economic accounting, including development of resource management expenditure accounts and streamlining the compilation methods for the already existing environmental-economic accounts.

In the context of preparing the 2012 System of Environmental-Economic Accounting Central Framework (SEEA CF), adopted by the UN Statistical Commission in March 2012, the international statistical community sought to develop an integrated and comprehensive classification of environmental activities (CEA). The integrated classification should encompass both a classification of environmental protection

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<sup>1</sup> Text on classification of environmental activities was reviewed by Monika Wozowczyk and Arturo De La Fuente (Eurostat).

activities (CEPA) and a classification of resource management activities (CReMA). The most recent version of the CEA discussed at global level is presented in Annex 1 of the SEEA CF.

The process of the CEA development highlighted a number of conceptual issues which could not be resolved prior to the completion of the SEEA 2012. Even though the CEPA is a well-established classification and recognized by all international statistical agencies, the concept of resource management and classification of related activities necessitate further development and discussion within the statistical community. The status of the classification of the environmental activities relating to resource management has therefore been indicated as '*interim*' in SEEA CF. Consequently, the two matters: (i) the definition of resource management and (ii) classification of environmental activities have been added to the SEEA CF research agenda.

### *Scope of work*

Eurostat as the custodian of the CEPA classification co-ordinates the process of the CEA revision under the SEEA CF research agenda with the long-term aim of ensuring comparability of the EU and international concepts and compilation methods for monetary environmental accounts, and taking into account possible impacts arising from the work on implementation of other projects under the European Strategy for Environmental Accounts.

A task force has been established by Eurostat, composed of the data compilers from a number of EU Member States, with the task to review all relevant statistical matters and strike a sound balance between conceptual development of the classifications of environmental activities and the limitations faced by the EU data compilers in their practical implementation.

The Task Force will seek to review the existing classifications of environmental activities and propose a uniform structure of the functional classification for monetary environmental accounts. In the long-term perspective, the Task Force will consider the following aspects:

- the need for a coherent and comprehensive classification of environmental protection and resource management;
- the need to ensure coherence within the whole of the environmental accounts;
- the policy needs and priorities of the European Strategy for the Environmental Accounts;
- related statistical functional classifications, e.g. COFOG, and customized classifications used for reporting of monetary data for environmental policy purposes, e.g. Biofin;
- the needs for co-ordinated efforts with regard to the on-going statistical work on related issues included in the SEEA CF research agenda.

In order to ensure that the views of the entire global statistical community are considered, in parallel to the discussions at the Task Force, Eurostat will consult other countries compiling monetary environmental accounts and international statistical organizations, and regularly report on progress to relevant expert groups on the environmental-economic accounting and on statistical classifications.

## *Way forward*

In the short-term, over 2017-2018, Eurostat would like to draw upon the country experience with practical implementation of the classifications CEPA and CReMA, especially on the experience built over the last years in Europe where reporting of data using CEPA and CReMA is obligatory for 30 countries. In the long-term, (at the earliest) by 2019, they plan to develop a revised and integrated international classification (integrated in the sense of CEPA and CReMA together).

The product of the Task Force, with suggestions for a comprehensive classification and practical classification rules, will be further discussed with a wider statistical community e.g. in the London Group, striving to achieve a wider consensus among environmental accountants. The revision of the classification will be presented to the UNCEEA as part of the SEEA CF research agenda, as well as to the Expert Group on International Statistical Classifications. The final goal is to have the revised classification adopted by the UN Statistical Commission and included as a reference statistical classification in the international family of economic and social classifications.

The first meeting of the Task Force is scheduled for 14-15 September 2017 in Luxembourg. Eurostat envisage up to three meetings in 2018, depending on the project time frame and priorities agreed by the Task Force.

## **3 Classification of biodiversity expenditures<sup>2</sup>**

### *Background*

Following discussions in 2016 at the UNCEEA annual meeting, an informal group of experts was set up to:

1. review a draft classification system of biodiversity expenditures developed by the Biodiversity Finance Initiative (BIOFIN);
2. improve the alignment of the BIOFIN methodology with SEEA; and
3. advise on the inclusion in the work programme-UNCEEA Technical Committee.

A webinar was organized in March 2017 to discuss these issues and to agree on the scope of work - the basis on which this concept note was drafted. The group agreed on the importance of investing in this work stream and concluded that while different initiatives share the same objective, they collect, treat and use biodiversity data in ways that are not always consistent. The group agreed to draft a proposal with an initial focus on methodological alignment. Initial findings were presented at the 2017 UNCEEA annual meeting where a broad consensus on the merit of the initiative was reached.

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<sup>2</sup> The text on the classification on biodiversity expenditures was reviewed by Massimiliano Riva (UNDP).

### *Scope of work*

Multiple approaches (see section on key references below) are being developed to measure and assess biodiversity expenditures and ecosystem accounts. Although the goals are relatively similar – i.e. tracking how much is being spent on biodiversity outcomes – differences in approach, definitions, methodologies, and implementing agencies may lead to a lack of comparability and duplication of efforts. Despite slightly different needs, the quality and impact of these efforts may be greatly increased by improved alignment and/or cross-sector validation of the methodologies used.

The main objective of this UNCEEA initiative is to build consensus over a system of classification for biodiversity actions, expenditures and cost-items that can inform better development planning and financing decisions. As such, the work should result in methodological options for aligning the different approaches used to measure biodiversity expenditures, making them comparable and more comprehensive.

### *Way forward*

The next steps are:

1. Agree on the objective and scope: determine options for aligning different approaches for measuring biodiversity expenditures-developing a system of classifications;
2. Produce a concept paper to be submitted in October for further consideration;
3. Produce a case study analysis based on the experience of Mexico;
4. A compilation guideline for countries to use is developed and piloted in 2018-2019;
5. Coordination established with the Eurostat taskforce working on the CPEA/CRema classification.

### *Key references*

- System of Environmental-Economic Accounting (SEEA) contains internationally agreed standard concepts, definitions, classifications, accounting rules and tables for producing internationally comparable statistics on the environment and its relationship with the economy. The SEEA framework follows a similar accounting structure as the System of National Accounts and uses consistent concepts, definitions and classifications to facilitate the integration of environmental and economic statistics.
- Biodiversity Finance Initiative (BIOFIN) is a global partnership addressing the biodiversity finance challenge in a comprehensive manner. Managed by UNDP, it offers an innovative methodology to measure biodiversity expenditures, assess financial needs and identify the most suitable finance solutions to improve biodiversity outcomes. The conduction of expenditure reviews and the costing of national biodiversity strategies are intrinsically linked to accounting practices and may lead to the introduction of biodiversity budget coding and tagging. The project is currently active in 30 countries. It produced intermediate guidance on the categorization of biodiversity

expenditures based on 9 categories. Parallel initiatives managed by UNDP and UNEP have produced climate expenditure reviews.

- Convention of Biodiversity (CBD) Financial Reporting Framework: The financial reporting framework, adopted by decision XII/3, is intended for use by Parties for providing baseline information and reporting on their contribution to reach the global financial targets, under Aichi Biodiversity Target 20.
- Sustainable Development Goals (SDG)-Indicators of Goal 15-Life on Land: global indicators were developed by the Inter-Agency and Expert Group (IAEG-SDGs) and agreed upon at the 48th session of the UNSD commission held in March 2017. Indicator 15.A.1-Official development assistance and public expenditure on conservation and sustainable use of biodiversity and ecosystems and 15- is related to the measurement of expenditures in biodiversity. UNEP is the lead agency responsible to derive a methodology for 15.A.1 and the related 15.B.1.
- Rio Markers: Five statistical policy markers exist to monitor external development finance for environmental purposes within the OECD/DAC, these are: Biodiversity, Climate Change Adaptation, Climate Change Mitigation and Desertification. The Rio markers are applicable to Official Development Assistance and have been recently expanded to other official flows (non-concessional developmental flows, excluding export credits).

## 4 Classification of Ecosystem Services<sup>3</sup>

### *Background*

The need for an international classification of ecosystem services was identified as a priority research agenda of the System of Environmental-Economic Accounting (SEEA) Experimental Ecosystem Accounting (SEEA-EEA) at the 11th meeting of the United Nations Committee of Experts on Environmental-Economic Accounting (UNCEEAA) in June 2016.

The classification of ecosystem services is an important aspect of measurement since classifications can provide important guidance to ensure that an appropriate breadth and depth of measurement is undertaken or, at least, that individual measures are understood within a broader context. The classification will allow for a comprehensive, mutually exclusive measurement of ecosystem services ensuring comparability at different spatial and temporal scales at a country or international level. Increasing demand to obtain a better understanding of the contribution of ecosystems to the economy and human well-being calls for a harmonized approach to classifying ecosystem services, to better assess the trade-offs related to the sustainable management and use of ecosystem assets for the purposes of benefitting the economy and society.

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<sup>3</sup> Text on classification of Ecosystem Services was reviewed by Carl Obst (consultant), Anton Steurer (Eurostat), Charles Rhodes and Dixon Landers (US EPA), and Jan-Eric Petersen (EEA).

## *Overview of existing classifications*

Already, several structures for classifying ecosystem services have been developed using different approaches and terminology<sup>4</sup>. The most common utilised classification of ecosystem services in a SEEA-EEA context are the Common International Classification of Ecosystem Services (CICES)<sup>5</sup>, and the two US Environmental Protection Agency products: the Final Ecosystem Goods and Services Classification System (FEGS-CS)<sup>6</sup> and the National Ecosystem Services Classification System (NESCS)<sup>7</sup>.

The CICES classification was developed, among other things, in support of environmental accounting and has consequently been applied, primarily in Europe for various purposes, including assessments, mapping and accounting of ecosystem services. CICES used the UN's Millennium Ecosystem Assessment (MA) and The Economics of Ecosystems and Biodiversity (TEEB) classifications as starting points.

The Final Ecosystem Goods and Services Classification System (FEGS-CS), developed by the US Environmental Protection Agency (US EPA) to identify stocks of final ecosystem services, and is based on a strict definition of final ecosystem services, with each ecosystem service explicitly linked to an environmental type and a defined beneficiary.

The National Ecosystem Services Classification System (NESCS), also developed by US EPA, to classify the flows of final ecosystem services from environmental types as defined by the FEGS-CS to economic uses and users. NESCS offers a modular capacity that may enable it to link to classifications of economic activities.

At the time of drafting the 2012 SEEA-EEA, the ecosystem service classification known to the drafters was the CICES. Immediately following its public release, the existence of other classification systems developed by the US EPA, FEGS-CS and NESCS, became known to the SEEA project. The classification systems of CICES, FEGS-CS and NESCS can be seen as complementary. The CICES focuses on defining services following a hierarchical structure based on ecosystem service types, types of uses, and types of flows. The NESCS provides a systemic approach to classification including nested hierarchical structures for types of ecosystems, types of ecological endpoints, types of uses and types of users/beneficiaries. The FEGS-CS provides a systemic approach to classification including types of ecosystems and types of use-beneficiary combinations.

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<sup>4</sup> For more information, please refer to section 2 of the NESCS report which provides a review of ecosystem services classification literature.

<sup>5</sup> Available at <https://cices.eu/>

<sup>6</sup> Available at <https://www.epa.gov/eco-research/final-ecosystem-goods-and-services-classification-system>

<sup>7</sup> Available at <https://www.epa.gov/eco-research/national-ecosystem-services-classification-system-framework-design-and-policy>

### *Description of issues*

These approaches to ecosystem services classification are distinct but there is an ongoing discussion on the potential overlaps, differences and complementarities. A resolution of the discussion on a classification for ecosystem accounting purposes is required.

Beyond making progress on the purpose, structure and scope of an ecosystem services classification, an essential requirement of this research is that the most commonly discussed and measured ecosystem services are described in a consistent way, using agreed upon terms for each service. At present, different experts use different descriptions and varying terms for what might be similar ecosystem services. This variation is considerably limiting the potential for the measurement community to make clear progress through exchanges of experience, and limiting the transfer of knowledge to new participants.

Discussions are still ongoing on whether individual types of ecosystem services should always be neatly classified between those that contribute directly to economic units as final services or can also include those that reflect services provided between ecosystem assets as intermediate services. Given this, for accounting purposes, work on classification of ecosystem services should involve both the description of types or categories of ecosystem services and an understanding of the use of different types of services.

A complete listing of different types of ecosystem services that can be final services would be akin to establishing a classification of products generated by economic units such as the Central Product Classification.

These considerations on the role of classifications and the potential connections to types of ecosystem assets and related economic classifications, are important in developing agreed accounting structures both in the case of ecosystem services alone and in the context of integrating measures of ecosystem services within standard accounting structures such as input-output and supply and use tables.

### *Background on the process*

To move forward with the development process, substantive discussion has taken place at the following meetings since 2015 to address the need to harmonize aspects of current classification systems (CICES, FEGS-CS, NESCS) for ecosystem accounting:

- a. Forum of Experts in SEEA Experimental Ecosystem Accounting, New York, 28-30 April 2015<sup>8</sup>
- b. Expert group meeting – Towards a Standard International Classification on Ecosystem Services, New York, 20-21 June 2016<sup>9</sup>

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<sup>8</sup> Meeting report is available at [https://unstats.un.org/unsd/envaccounting/workshops/eea\\_forum\\_2015/Meeting\\_report.pdf](https://unstats.un.org/unsd/envaccounting/workshops/eea_forum_2015/Meeting_report.pdf)

<sup>9</sup> Meeting report is available at [https://unstats.un.org/unsd/envaccounting/workshops/ES\\_Classification\\_2016/Towards%20a%20Standard%20International%20Classification%20on%20Ecosystem%20Services%20-%20Final%20report.pdf](https://unstats.un.org/unsd/envaccounting/workshops/ES_Classification_2016/Towards%20a%20Standard%20International%20Classification%20on%20Ecosystem%20Services%20-%20Final%20report.pdf)

- c. Developing ecosystem service classification(s) for ecosystem accounting – taking stock & moving forward, Wageningen, 17-18 November 2016.

These meetings recognized that each of the above-mentioned classifications system have their strong points, but none seems to address all the requirements for ecosystem accounting. There has already been a very productive methodological exchange on these classification systems, although several conceptual issues still need to be resolved.<sup>10</sup> Further work is required to develop and agree on a coherent conceptual framework, terminology and criteria in order to guide the further development of a systematic ecosystem services classification for ecosystem accounting.

The outcome of these meeting has also contributed to the development of the Technical Recommendations of the SEEA EEA.<sup>11</sup> It is expected that the forthcoming release of the Technical Recommendations will provide a coherent conceptual framework for the ecosystem services classification to be built upon.

#### *Way forward*

The 12th meeting of UNCEEA in July 2017 in principle agreed with the proposed work programme to revise the SEEA EEA by 2020. A Technical Committee on SEEA-EEA has been established to oversee the revision process. It is envisaged that a sub-group of classification of ecosystem services under the SEEA-EEA Technical Committee will be established to resolve conceptual issues on classification of ecosystem services for the SEEA-EEA revision process.

The Expert Group on International Statistical Classification is invited to comment on the status of development of classification of ecosystem services, and to provide recommendations on the following questions:

- a. What are the generic descriptions of the properties and intrinsic nature of the ecosystem services that can be used as distinguishing characteristics for the description of the ecosystem services? Should these properties be defined by a product (like CPC – in terms of properties, intrinsic nature, principle of origin), activity (like ISIC) or functional classification (like CIOCOP)?
- b. Is it feasible that the ecosystem services are defined and structured in terms of a combination of properties of the services, ecological processes and the uses of these services? – For instance, the CPC uses the criterion of industrial origin, the input structure, technology and organisation of production characteristics of products to structure the CPC

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<sup>10</sup> Please refer to the agenda of the expert group meeting in New York 2016 for a list of issue to be resolved [https://unstats.un.org/unsd/envaccounting/workshops/ES\\_Classification\\_2016/agenda.pdf](https://unstats.un.org/unsd/envaccounting/workshops/ES_Classification_2016/agenda.pdf)

<sup>11</sup> Available at [https://unstats.un.org/unsd/envaccounting/ceea/meetings/twelfth\\_meeting/SEEA%20EEA%20Tech%20Rec%20Consultation%20Draft%20II%20v4.1%20March2017.pdf](https://unstats.un.org/unsd/envaccounting/ceea/meetings/twelfth_meeting/SEEA%20EEA%20Tech%20Rec%20Consultation%20Draft%20II%20v4.1%20March2017.pdf)

- c. Should the objective be a single all-encompassing classification of ecosystem services with relationships with other classifications and standards or should there be a system of connected classifications for purpose of ecosystem accounting?