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environmental-economic accounting

Report of the Committee of Experts on Environmental-Economic Accounting

Note by the Secretary-General

In accordance with Economic and Social Council decision 2021/224 and past practices, the Secretary-General has the honour to transmit herewith the report of the Committee of Experts on Environmental-Economic Accounting. In the report, the Committee describes the progress that it has made over the past year as well as its future activities. The discussion is organized according to the five areas of the Committee's work: coordination and communication; methodological development for normative standards and other research; development of databases; implementation and statistical capacity-building; and business accounting. In particular, the Committee describes the implementation strategy for the System of Environmental-Economic Accounting (SEEA) Ecosystem Accounting, including the establishment of three subgroups – on forest, carbon and ocean accounting – of the SEEA Ecosystem Accounting Technical Committee, as well as the formal establishment of an area E, on business accounting. Action to be taken by the Commission is set out in paragraph 59 of the report.

* E/CN.3/2022/1.



Report of the Committee of Experts on Environmental-Economic Accounting

I. Introduction

1. At its fifty-first session, held from 1 to 3 and 5 March 2021, the Statistical Commission adopted decision 52/108 (see [E/2021/24-E/CN.3/2021/30](#), chap. I, sect. B), in which it:

(a) Expressed its appreciation for the work done by the Committee of Experts on Environmental-Economic Accounting over the past year, particularly in finalizing the revised System of Environmental-Economic Accounting (SEEA) Ecosystem Accounting, and recognized the significant contributions of the Chair, Bureau, editorial board and editor, as well as the countries, agencies and stakeholders that participated in the revision;

(b) Commended the inclusive and transparent process for developing the SEEA Ecosystem Accounting, which brought together a wide range of stakeholder communities and saw broad participation in the multiple rounds of global consultations on issue papers, individual draft chapters and the complete draft of the SEEA Ecosystem Accounting;

(c) Agreed to remove “Experimental” from the title of the revised SEEA Ecosystem Accounting, to adopt chapters 1 to 7 describing the accounting framework and the physical accounts as an international statistical standard, to keep all chapters together in one document, with chapters 8 to 11 describing monetary valuation and integrated accounting for ecosystem services and assets and chapters 12 to 14 describing the applications and extensions, and to regularly evaluate and report on the usefulness and pertinence of the accounts;

(d) Recognized that chapters 8 to 11 of the SEEA Ecosystem Accounting describe internationally recognized statistical principles and recommendations for the valuation of ecosystem services and assets in a context that is coherent with the concepts of the System of National Accounts for countries that are undertaking valuation of ecosystem services and/or assets, and requested the Committee to promptly resolve the outstanding methodological aspects in chapters 8 to 11 as identified in the research agenda;

(e) Requested the Committee to make clear the different statuses of chapters 1 to 7, 8 to 11 and 12 to 14, both in the introduction and in the chapters themselves;

(f) Encouraged countries to implement the SEEA Ecosystem Accounting depending on their priorities, and, recognizing the challenges to compiling the accounts in practice, requested the Committee to continue to develop compilation tools which make use of global data sources and to create an implementation strategy and methodological and implementation guidance materials for countries in support of continued capacity-building;

(g) Welcomed the progress of the Committee in mainstreaming the use of SEEA in policy, including climate change, circular economy, sustainable finance and biodiversity policy, and particularly encouraged the Committee to engage in the monitoring framework of the post-2020 global biodiversity agenda and participate in the proposed expert group under the auspices of the secretariat of the Convention on Biological Diversity to provide the connection between the biodiversity and official statistical communities;

(h) Supported the proposal to establish a working group to draft a methodological document for ocean accounting, SEEA Ocean, in support of the SEEA

Central Framework and the SEEA Ecosystem Accounting, given the high policy demand for ocean accounting and the global importance of the ocean economy, and noted the importance of adequate funding for this activity;

(i) Supported the formation of a working group on business accounting and SEEA and the preliminary road map, noting the benefits to both the public and private sectors in aligning SEEA and private natural capital accounting approaches, exchanging data and jointly managing resources, and recognized the importance of participation from both national statistical offices and the private sector alike, as well as the need for adequate funding to make sufficient progress in this area of work;

(j) Welcomed the update provided on the statistical framework for measuring the sustainability of tourism, and, noting the interest from countries in this work, agreed to the finalization process for the document, including the Committee's review prior to final consideration by the World Tourism Organization Committee on Statistics for its subsequent presentation to the Commission.

2. The work of the Committee is organized according to five broad areas of work, with members of the Bureau leading the related parts of the programme of work, as agreed in the Committee's terms of reference. The areas of work are as follows: area A, coordination and communication, led by Statistics Canada; area B, methodological development for normative standards and other research, which is divided into two sub-areas (area B1, SEEA Central Framework, led by Statistics Netherlands, and area B2, SEEA Ecosystem Accounting, led by Eurostat); area C, development of databases, led by the Organisation for Economic Co-operation and Development (OECD); area D, implementation and statistical capacity-building, jointly led by the Economic and Social Commission for Asia and the Pacific (ESCAP) and Statistics South Africa; and the newly established area E, business accounting, led by the National Institute of Statistics and Geography of Mexico.

3. In the present report, the Committee describes progress made during the past year and its programme of work for the period 2022–2025. Action to be taken by the Statistical Commission is presented in section VII.

II. Area A: coordination and communication (led by Statistics Canada)

4. The working group on coordination and communication focuses on fostering collaboration between initiatives related to environmental-economic accounting and implementing practical strategies to promote the use of the SEEA with regard to emerging policy issues. Those efforts demand collaboration between national statistical offices, line ministries and the international community. The working group has focused its programme of work on the following six main areas, which are driven by current international priorities related to environmental challenges where the accounts can provide valuable insights at the intersection of the environment and the economy: biodiversity, climate change, the circular economy, the ocean, the sustainability of tourism and sustainable finance.

5. In recent years, the number of international committees, working groups and task forces related to environmental-economic accounting has increased greatly. To facilitate better collaboration and minimize duplication, the working group will undertake a landscape assessment in 2022 of the various groups in the space. An overview of the landscape will allow the working group to better understand where entry points and potential linkages between efforts exist, where synergies can be harnessed and where the participation of SEEA-related experts can provide added value. The landscape assessment will be maintained over time and will facilitate the

development of a strategy to create better linkages among various groups and to bolster the presence of the SEEA community in policy initiatives. For example, the assessment will be used to understand how the working group can best contribute to sustainable finance initiatives and develop a more concrete programme of work on the topic.

Biodiversity

6. The fifteenth meeting of the Conference of the Parties to the Convention on Biological Diversity is scheduled to be held in Kunming, China, from April to May 2022 and is expected to adopt the post-2020 global biodiversity framework and its monitoring framework. In the lead-up to the Conference of the Parties, the Subsidiary Body on Scientific, Technical and Technological Advice, at its twenty-fourth meeting, discussed the need for alignment with the SEEA in order to mainstream biodiversity into national statistical systems and strengthen national monitoring systems and reporting. The Subsidiary Body also reflected on the role of the Statistical Commission, the Group on Earth Observations Biodiversity Observation Network, the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services, the Biodiversity Indicators Partnership and other relevant organizations in supporting the operationalization of the global biodiversity framework and its monitoring framework. In addition, the meeting included, in a draft recommendation to the Conference of the Parties, a decision to establish an ad hoc technical expert group to advise on the further operationalization of the monitoring framework for the post-2020 global biodiversity framework.¹

7. The recognition of the role of the SEEA as an important statistical framework in support of the monitoring framework and the indicators therein, as well as the role of the national statistical offices in developing and implementing the framework, provides a unique opportunity for the SEEA community to help to shape the monitoring framework and develop nationally owned statistical information that is mainstreamed into the national statistical system. To foster collaboration between the focal points for the Convention on Biological Diversity in countries and national statistical offices, the Statistics Division of the Department of Economic and Social Affairs of the Secretariat, jointly with the Secretariat of the Convention on Biological Diversity, the Group on Earth Observations Biodiversity Observation Network and the World Conservation and Monitoring Centre of the United Nations Environment Programme, has organized a series of webinars presenting the relationship between the SEEA and the provisional monitoring framework. The series has also included in-depth webinars on ecosystem extent, condition and services accounts and the indicators resulting from the accounts.

8. Efforts have already been made to align the proposed headline indicators in the monitoring framework for the post-2020 global biodiversity framework with the statistical frameworks developed under the Commission, including the Sustainable Development Goals, the SEEA Framework for the Development of Environment Statistics. The indicator group established under the SEEA Ecosystem Accounting Technical Committee has reviewed and provided input on the draft monitoring framework and is now preparing metadata for those headline indicators that are derived from the SEEA. The Committee's participation in the forthcoming expert group established by the Conference of the Parties provides an important opportunity to promote the use of common standards related to data and methods, in particular on the monitoring of goals and targets for which the SEEA is recognized as the underlying methodological basis for the compilation of headline indicators. More

¹ See <https://www.cbd.int/doc/c/9849/459f/b9fe0e74c9e1f25dd90dee23/sbstta-24-1-03-en.pdf>.

broadly, the Committee's participation will play a role in building greater collaboration between national statistical offices, line ministries and the scientific community.

9. The International Union for Conservation of Nature adopted two resolutions on natural capital as part of its World Congress. In resolution 57, on accounting for biodiversity,² members were called upon to: (a) support the development of the SEEA to describe accounting for biodiversity at the ecosystem, species and genetic levels, as well as its implementation; (b) apply the accounts to derive indicators of biodiversity change (e.g. monitoring for the post-2020 global biodiversity framework, the Goals, etc.) and for the production and organization of data on biodiversity and ecosystem services; (c) support national statistical offices in implementing the SEEA; and (d) implement and apply SEEA accounting for biodiversity in all relevant aspects of their work. The Union also adopted resolution 62,³ entitled "Towards a Policy on Natural Capital", in which a series of non-binding principles on natural capital was proposed. The resolutions represent, importantly, recognition by the scientific community of the importance of implementing the SEEA and further mainstreaming natural capital into policy.

Climate change

10. Area A continues to prioritize mainstreaming the SEEA into climate change initiatives. Climate change is one of the most pressing challenges for the globe, and efforts to address it continue to increase in number and importance, as evidenced by the number of new announcements made by world leaders at the twenty-sixth session of the Conference of the Parties to the United Nations Framework Convention on Climate Change, held in Glasgow, the United Kingdom of Great Britain and Northern Ireland. By means of the linkages work that area A undertakes, the working group will develop a better understanding of the various initiatives, committees and working and expert groups in that space. The objective of the working group is to facilitate connections between the various efforts to produce climate change indicators and statistics, as well as to promote collaboration and the use of the SEEA in the statistical community with regard to the development of climate change indicators. In this context, the working group will collaborate with the Expert Group on Environment Statistics to support work on climate change indicators using the SEEA, where feasible.

11. It is expected that a proposal for a new Group of 20 Data Gaps Initiative will be presented to the Group of 20 finance ministers and central bank governors in early 2022. In the new Initiative, there is a call to improve data availability and provision, including on environmental issues, to better inform decisions, and note is taken of the work by the International Monetary Fund (IMF), in close cooperation with the Financial Stability Board and the Inter-Agency Group on Economic and Financial Statistics, towards a possible new Group of 20 Initiative.⁴ Key proposals include addressing Group of 20 data gaps related to air emissions, energy, government subsidies and national climate mitigation and adaptation expenditures. The SEEA provides a good methodological basis for addressing some of the data gaps. The Committee will be involved in assisting the Inter-Agency Group and the Group of 20 countries in making progress towards closing the gaps. Work on the Initiative would be supported by both by the SEEA Central Framework (area B1) Technical Committee and the working group on development of databases (area C). On the basis of the

² See https://portals.iucn.org/library/sites/library/files/resrecfiles/WCC_2020_RES_057_EN.pdf.

³ See <https://www.iucncongress2020.org/motion/062>.

⁴ See <https://www.consilium.europa.eu/media/52732/final-final-g20-rome-declaration.pdf>.

experience of the first Initiative launched by the Group of 20 finance ministers and central bank governors in 2009, it is expected that the Initiative will provide all countries with a tremendous incentive to develop climate change indicators directly related to economic dimensions.

12. IMF recently created a climate change dashboard that includes several indicators derived from the SEEA and that uses global SEEA databases as a data source. In addition, members of the Committee have created a task team devoted to estimating global quarterly SEEA air emission accounts to provide more timely disaggregated data for the dashboard (see para. 43). The working group will support efforts to increase dialogue between IMF and national statistical offices related to the compilation of the dashboard and the use of the SEEA for climate change metrics.

13. In addition, the working group is continuing to coordinate with the Economic Commission for Europe (ECE) with regard to engaging in activities to advance the use of the SEEA for climate change indicators through such efforts as an ECE high-level seminar on climate action. Activities in coming years will include engaging with international groups, such as the United Nations Framework Convention on Climate Change, the Intergovernmental Panel on Climate Change and the Expert Group on Environment Statistics, to facilitate communication and collaboration.

Circular economy

14. Recognizing the strong interest in circular economy as a policy goal, the working group is actively engaging in two complementary efforts: (a) the task force on measuring circular economy, established by the Bureau of the Conference of European Statisticians; and (b) the OECD expert group on a new generation of information for a resource-efficient and circular economy. The task force is currently working on defining a measurement framework for circular economy that is closely linked to the SEEA and the framework for the development of environmental statistics and that is complemented by other sources of information. Task force findings have shown that the SEEA is suitable for measuring many of the drivers of the circular economy, such as the recycling and reuse of materials; goals at the macro and meso levels, such as waste reduction; and direct and indirect effects on issues such as climate change and biodiversity loss. Members of the working group from Statistics Canada and ECE are co-organizing a seminar in December 2021 on the circular economy that brings together countries and international organizations with experience in the measurement of the circular economy, with representatives from the policy sphere to discuss data needs, gaps and challenges, as well as successes.

15. Complementing the efforts of the Conference of European Statisticians task force is the OECD expert group on a new generation of information for a resource-efficient and circular economy. The expert group's work is aimed at improving the information base for resource efficiency and circular economy policies and is closely coordinated with the Conference task force. The expert group's current efforts involve developing a harmonized framework and indicators for monitoring progress; supporting policy development and evaluation; identifying major measurement gaps; and providing guidance on how to produce, use and communicate circular economy-related information.

Ocean accounting

16. The Division, ESCAP and the Global Ocean Accounts Partnership are collaborating on the development of an expert subgroup of the SEEA Ecosystem Accounting Technical Committee that would initiate planning related to SEEA Ocean

and its associated research agenda. In addition, ESCAP has worked with partners to continue to facilitate the development of ocean accounts through the piloting of projects in the region and the provision of technical support. Pilot projects are under way or planned in Palau and Samoa, covering topics including protected areas and waste flows to oceans. In collaboration with the Global Ocean Accounts Partnership, training on and pilot activities related to ocean accounting are also under way in Fiji, Indonesia and Viet Nam. Further progress on the pilot projects will be made in 2022.

17. Several international events were coordinated in support of ocean accounting and statistics. The second Global Dialogue on Ocean Accounting, which was held in April 2021 and was hosted by Fisheries and Oceans Canada, brought together global participants who discussed the status of ocean accounts and plans for moving them forward. ESCAP worked with the Global Ocean Accounts Partnership to lead an interactive dialogue on ocean accounting as part of the fourth Asia-Pacific Day for the Ocean, on 27 October 2021. Approximately 70 participants attended and heard about the policy demand for ocean accounts in Australia, Fiji, India, Indonesia, Palau, Thailand and Viet Nam.

Measuring the sustainability of tourism

18. The Committee has continued to support the programme of work on measuring the sustainability of tourism led by the World Tourism Organization, which involves the development of a statistical framework, the derivation of indicators – including those for monitoring tourism in the Goals – and pilot implementation in countries. Progress has been made in engaging with the policy community and implementing pilots in countries. More countries are joining the group of pilots implementing the statistical framework for measuring the sustainability of tourism, and the pilots have provided policy-relevant results⁵ while informing the relevance and feasibility of the framework. Expressions of interest have been received from countries in all regions, and some countries are in the process of expanding their existing pilots and/or integrating them into a more structured programme of work, often in collaboration with tourism policy stakeholders. The SEEA Central Framework Technical Committee will review the final draft of the statistical framework before final consideration by the Working Group of Experts on Measuring the Sustainability of Tourism and the Committee on Statistics of the World Tourism Organization and subsequent presentation to the Statistical Commission.

Communication

19. The SEEA website⁶ and the quarterly newsletter *SEEA News and Notes*⁷ continue to function as the Committee's main vehicles through which to reach stakeholders and the general public. Over the past year, the newsletter and the website have played an important role in keeping the community up to date and engaged. Communication-related efforts have been focused on a variety of topics and events, including the adoption of the SEEA Ecosystem Accounting, the Forum of Experts on SEEA Ecosystem Accounting and the Fifth Policy Forum on Natural Capital Accounting for Better Decision Making. The newsletter has served as a vehicle through which the statistical community can engage with other stakeholders. The newsletter audience grew by approximately 30 per cent in 2021. In addition, the

⁵ See <https://webunwto.s3.eu-west-1.amazonaws.com/s3fs-public/2020-09/Experiences-from-pilot-studies-in-Measuring-the-Sustainability-of-Tourism.pdf>.

⁶ <https://seea.un.org/>.

⁷ Available at <https://seea.un.org/content/seea-news-and-notes-archive>.

Division continues to expand the SEEA website's knowledge base and added more than 100 publications on the SEEA in 2021.

20. Through the Division, the Committee focused heavily on promoting the launch of the SEEA Ecosystem Accounting to external stakeholders. The Department of Global Communications of the United Nations and the Department of Economic and Social Affairs produced two global press releases, and the United Nations Chief Economist, Elliott Harris, briefed the press. The Division collaborated to create an explainer video on the SEEA Ecosystem Accounting and to publish multiple news stories on the launch on both the United Nations News website and the main website of the Department of Economic and Social Affairs. The efforts created significant visibility for the launch of the SEEA Ecosystem Accounting across the world. Some 250 articles were published in 32 countries and territories, and over 3,000 social media posts were made regarding the launch. Articles and opinion pieces continue to be released even several months after the launch.

III. Area B: methodological development for normative standards and other research

21. An important component of the work of the Committee is the advancement of the research agenda of the SEEA Central Framework and the SEEA Ecosystem Accounting. The present section describes the progress of methodological development and implementation for both.

A. Area B1: System of Environmental-Economic Accounting Central Framework (led by Statistics Netherlands)

22. At its sixteenth meeting, held in June 2021, the Committee discussed the possibility of a revision of the SEEA Central Framework, to be carried out in parallel to the update of the 2008 System of National Accounts (SNA) and other macroeconomic standards. Taking into consideration the ambitious programme of work of the Committee, the resources available and the need for prioritization, the Committee concluded that the SEEA Central Framework was broadly up to date and did not need an immediate update. The Committee agreed to make further progress on the research agenda of the SEEA Central Framework and to reassess the need for a revision in 2023 in order to ensure its alignment with the update of the 2008 SNA and other macroeconomic standards and international classifications, as well as to address other emerging issues.

23. Three work streams have been prioritized for the work on the research agenda of the SEEA Central Framework in 2022–2023, taking into account the international agenda: (a) issues linked to classifications, in particular those currently being updated; (b) supporting the SNA update with regard to issues related to the SEEA; and (c) other issues in the research agenda, including the link between the SEEA Central Framework and the SEEA Ecosystem Accounting. In addition, the proposed new Group of 20 Data Gaps Initiative and circular economy are areas that the SEEA Central Framework Technical Committee will engage in.

24. The SEEA Central Framework Technical Committee has made considerable progress in its work on classifications and has provided input on the ongoing revision processes for the International Standard Industry Classification and the Central Product Classification to ensure that those classifications are fit for the purpose of compiling the SEEA. Two proposals were prepared for the International Standard Industry Classification revision process, one on climate change mitigation activities

and the other on ecosystem conservation, management and restoration activities. For the Central Product Classification revision process, the SEEA Central Framework Technical Committee identified several topic areas that were particularly relevant to the SEEA, including circular economy, waste products, specific environmental products and services, energy products and the alignment of the Standard International Energy Product Classification with the Central Product Classification and the classification of environmental activities, in particular with regard to climate change and biodiversity. The group prepared issue notes on those topics for the global consultation on Central Product Classification revision issues and will continue to play an active role in the process by preparing proposals for the topics in 2022.

25. The work on the SEEA Central Framework has been coordinated with the research agenda for the update of the 2008 SNA. A collaboration agreement between the Committee, the Advisory Expert Group on National Accounts and the Intersecretariat Working Group on National Accounts has been set up for those joint efforts. The Committee will focus its efforts on the issues being addressed by the subtask team on environmental-economic accounting of the SNA update task team on well-being and sustainability. In the agreement, cross-participation is envisaged between members of the subtask team and the Technical Committee as well as joint global consultation on SEEA-related issues. While the original intent was for the update of the 2008 SNA to incorporate some of the recommendations into the SEEA, fundamental issues that will have implications for the SEEA and that warrant discussion within the SEEA community have arisen. They include accounting for the economic ownership and depletion of natural resources, accounting for biological resources, recording of emission permits and treating the atmosphere as an asset.

B. Area B2: System of Environmental-Economic Accounting Ecosystem Accounting (led by Eurostat)

26. In March 2021, at its fifty-second session, the Commission adopted the SEEA Ecosystem Accounting, specifically its chapters 1 to 7 as an international statistical standard and chapters 8 to 11 as internationally recognized statistical principles and recommendations for valuation of ecosystem services and assets.⁸ Furthermore, the Commission encouraged countries to implement the SEEA Ecosystem Accounting and requested the Committee to develop an implementation strategy.

27. The final text (subject to official editing) of *System of Environmental-Economic Accounting: Ecosystem Accounting* was released in October 2021, along with three online supplemental materials.⁹ That version, which reflects the recommendations of the Commission at its fifty-second session, will be submitted for official United Nations editing and copy preparation while publication agreements are established among the agencies and will be published in early 2022. The supplemental materials provide a stylized example of ecosystem accounts, ecosystem services logic chains and a crosswalk of the ecosystem services reference list with other classifications and lists. The work of all the experts who contributed to and actively participated in the revision process is gratefully acknowledged.

28. The adoption of the SEEA Ecosystem Accounting has received significant interest and attention not only within the statistical community but also from policymakers and decision makers. The Secretary-General of the United Nations called the adoption a “historic step forward towards how we view and value nature”. The Executive Director of the United Nations Environment Programme called the

⁸ See [E/2021/24-E/CN.3/2021/30](#), chap. I, sect. B, decision 52/108.

⁹ See <https://seea.un.org/content/system-environmental-economic-accounting-ecosystem-accounting-white-cover-version>.

SEEA Ecosystem Accounting a “game changer in decision-making”. The Executive Vice-President of the European Commission, Frans Timmermans, said that the SEEA Ecosystem Accounting “moves beyond gross domestic product and takes better account of biodiversity and ecosystems in national economic planning. It is a major development in changing the way we think about prosperity and well-being”.

29. The focus of the work of the SEEA Ecosystem Accounting Technical Committee has shifted from the development of methodology to that of implementation. As requested by the Commission at its fifty-second session, in March 2021, the Technical Committee has developed an implementation strategy that involves building capacity in countries and developing materials to support implementation. Furthermore, in his report entitled “Our Common Agenda”,¹⁰ the Secretary-General urged Member States and others to begin implementation of the SEEA Ecosystem Accounting, recognizing its importance in going beyond gross domestic product, supporting a green and sustainable recovery and addressing the twin crises of biodiversity and climate change. To advance global implementation, the Committee has developed an implementation strategy for the SEEA Ecosystem Accounting, submitted to the Commission as a background document.

30. The overall objective of the implementation strategy is to scale up the uptake of the SEEA Ecosystem Accounting, which involves regularly producing SEEA ecosystem accounts and mainstreaming them into policymaking and decision-making. A suggested target is that of at least 60 countries implementing one or more SEEA ecosystem accounts by 2025. It will be monitored by the Global Assessment of Environmental-Economic Accounting and Supporting Statistics.

31. The strategy begins with an assessment of the various initiatives at the global and national levels that the SEEA Ecosystem Accounting can support, in particular green recovery, biodiversity and climate change, and further develops the need for integrated data to support the above-mentioned initiatives. The strategy takes a flexible and modular approach that includes policy priorities, data availability and institutional frameworks and covers implementation at various scales at the national and subnational levels. As such, implementation will not be a one-size-fits-all approach. Leveraging the opportunity to develop the accounts using alternative data sources, in particular Earth observation data and models, the strategy promotes an incremental approach to implementation whereby countries lacking detailed national data begin to generate the accounts using global data and models and gradually improve the estimates using national data when and where available. The strategy utilizes a regional or subregional approach involving United Nations regional commissions and multilateral development banks.

32. The strategy foresees five main activities to support implementation: (a) capacity-building programmes, including training, e-learning and in-country support; (b) the development of guidelines and material to support compilation, including those for biophysical modelling and valuation of ecosystem services and assets; (c) the strengthening of collaboration to leverage expertise and resources from all those involved in advancing the measurement and policy agenda on ecosystems and biodiversity; (d) data and tools; and (e) communication and advocacy to support dialogue among the key stakeholders in the production and use of the accounts.

33. With the shift in focus to implementation, all the subgroups of the Technical Committee that were established to support the revision process have been dismantled with the exception of the subgroup on indicators, which continues to provide support for the development of metadata for the headline indicators in the monitoring framework of the post-2020 global biodiversity framework. New subgroups are being

¹⁰ [A/75/982](#).

established with the objective of supporting the implementation of the SEEA Ecosystem Accounting. The Technical Committee decided to organize the work according to thematic accounts, that is, accounts that cover a specific topic or theme. The subgroups will develop agreed methodologies to compile ecosystem extent, condition and services accounts in physical and monetary terms on the basis of best practices. The rationale of organizing the work according to thematic accounts was grounded in three considerations: (a) a direct link to policies, given that policy decisions are usually taken with regard to specific thematic areas; (b) expertise, given that experts usually tend to focus on a particular thematic area, and bringing together experts in biophysical measurements and valuation would benefit the advancement of an integrated measurement agenda; and (c) data, given that data and models for measuring extent, condition and services are similar for each thematic area and across the various accounts. The Division has already initiated the process of setting up thematic working groups on forest, carbon and oceans, taking into consideration policy demand and data availability.

34. To advance the research agenda on valuation, the Committee is working closely with the Intersecretariat Working Group on National Accounts to establish a group that will draft a guidance note on the main valuation principles in the SNA, in particular in the absence of directly observable market prices. The group will focus on several issues being discussed in the context of the well-being and sustainability of the SNA update and will use the discussions on valuation raised during the revision of the SEEA Ecosystem Accounting as a starting point.

35. To support the implementation of the SEEA Ecosystem Accounting, tools are being developed to facilitate the compilation of accounts. For example, as part of the European Union-funded Natural Capital Accounting and Valuation of Ecosystem Services project, the Division, the Basque Centre for Climate Change and UNEP launched Artificial Intelligence for Environment and Sustainability for SEEA (ARIES for SEEA) Explorer in April 2021. The ARIES for SEEA application is a tool that allows users to compile a suite of SEEA ecosystem accounts for any area in the world using global data sources and global models. It can be especially useful as a first step if national data are scarce or national compilation capacity is limited. In addition, in 2022, users will be able to improve the basic accounts by uploading national data and/or national models, which can be shared with other users. Advanced countries are encouraged to help to improve the repository of models in ARIES by sharing their own models in the future. The Division, in collaboration with the Basque Centre and UNEP, released an interoperability strategy for ecosystem accounting that advocates for eliminating data silos in favour of sharing and reusing data and models.¹¹ The interoperability strategy includes an outline of the current state of data interoperability of the SEEA, a vision for the future and proposed roles and responsibilities of data providers, modellers and hosting institutions.

36. The development of the SEEA Ecosystem Accounting has benefited greatly from contributions made through large projects, such as the recently concluded Natural Capital Accounting and Valuation of Ecosystem Services project, which piloted ecosystem accounting in five countries (see para. 50), and a project involving an integrated system of natural capital and ecosystem services accounting for the European Union, a project of the European Commission and the European Environment Agency led by Eurostat. The project involving the integrated system of natural capital and ecosystem services accounting has resulted in the production of European Union statistics and trends on the extent of various ecosystems, their condition and a number of ecosystem services in both physical and monetary terms.

¹¹ See https://seea.un.org/sites/seea.un.org/files/seea_interoperability_strategy.pdf.

The second phase of the project concluded in 2021 and resulted in a report,¹² and its third phase has begun.

37. Guidelines, technical reports and compilation tools have been developed as outputs of the Natural Capital Accounting and Valuation of Ecosystem Services project. The Division has developed guidelines for biophysical modelling for ecosystem accounting, submitted to the Commission as a background document. The guidelines provide an overview of data sources, methods and practical advice on the compilation of extent, condition and ecosystem services accounts in physical units. They also provide process-related guidance to statistical offices and agencies that are beginning to implement the SEEA Ecosystem Accounting. The process was overseen by an editorial board that was established to provide expert advice and guidance on the drafting of the text. Feedback from the board on the final draft of the guidelines was provided through global consultations held during 2021.

38. In October 2021, the Division, together with UNEP, released the technical report entitled *Policy Scenario Analysis Using SEEA Ecosystem Accounting*.¹³ The report is aimed at improving the effectiveness of decisions relating to sustainable development by highlighting how the use of the SEEA Ecosystem Accounting in scenario analysis models can provide policymakers with a better understanding of the interconnections between the environment and the economy. The report includes an overview of core concepts and dimensions in scenario design, a technical review of state-of-the-art methods and simulation models for scenario analysis and successful country examples.

39. An interim version of a technical report on monetary valuation of ecosystem services and assets for ecosystem accounting will be released in 2022 as a joint output of the Natural Capital Accounting and Valuation of Ecosystem Services project and a project on mapping and assessment for integrated ecosystem accounting.¹⁴ The report will provide an interim reference for countries that wish to undertake the valuation of ecosystem services and the compilation of monetary accounts. It will serve as the initial input in forthcoming discussions on compiling physical and monetary ecosystem accounts as part of the strategy.

C. London Group on Environmental Accounting (led by the Federal Statistical Office of Germany)

40. The London Group on Environmental Accounting plays an active role in advancing the methodologies of environmental accounting and providing a forum for sharing expertise in the field. The programme of work of the London Group for the upcoming years will be closely linked to the priorities and objectives established by the Committee as well as the update of macroeconomic standards and classifications. Topics related to the SEEA Central Framework that the London Group intends to address include the integrated monetary framework, classifications and delimitation issues and input-output calculations for consumption and footprint information. The London Group will also support the research agenda of the SEEA Ecosystem Accounting Technical Committee and focus on topics of implementation for extent, condition and ecosystem services (physical and monetary) and ecosystem asset accounts. Issues surrounding the monetization of ecosystem services may also be considered. The London Group may expand its programme of work, depending on

¹² See <https://ec.europa.eu/eurostat/en/web/products-statistical-reports/-/ks-ft-20-002>.

¹³ See <https://seea.un.org/content/policy-scenario-analysis-using-seea-ecosystem-accounting>.

¹⁴ The project, funded from the European Union Horizon 2020 research and innovation programme, is aimed at promoting the mainstreaming of natural capital accounting in States members of the European Union and Norway. See <https://maiaportal.eu/>.

long-term developments that become relevant to possible revisions of the SEEA or its application in the longer term.

IV. Area C: development of databases (led by the Organisation for Economic Co-operation and Development)

41. The Committee continues to move forward with the priority databases on air emissions, energy, land, material flow and water accounts. The working group on the development of databases is taking a pragmatic approach, which calls for disseminating national data where they exist and using estimation where official data are not available. Each of the priority accounts has a custodian agency that collects data and sets priorities and timelines for the compilation of the account, while the working group coordinates and monitors progress. Air emission and energy data collection templates are currently being developed, a departure from the Eurostat data templates used to compile the accounts for European Union countries. The data collection templates are aligned in scope and terminology with Statistical Data and Metadata Exchange (SDMX) for SEEA descriptions. The compilation of the new data templates for air emission accounts is being organized with OECD taking the lead for non-European Union OECD member countries and the Division leading the testing for other countries. The testing of the data templates for energy accounts is following a similar arrangement. The templates can be used for the collection of data between institutions in cases where Statistical Data and Metadata Exchange transfer is not possible. Data collection from countries utilizing the new templates will be developed as resources allow and depending on the outcomes of the testing phase. The landing page for the global databases will be housed on the main SEEA website.

42. The International Resource Panel of UNEP has updated the material flow database, which was scheduled to be released by December 2021. UNEP has developed a questionnaire for material flow data collection from countries excluding those reporting to Eurostat. Countries will receive a questionnaire filled in in advance with Panel estimates for validation and/or replacement with national data, if they exist.

43. Given the progress and efforts made with regard to the priority databases on air emissions and energy, the Committee is well placed to contribute to the proposed new Group of 20 Data Gaps Initiative (see para. 11). In particular, the output of the task team devoted to estimating global quarterly SEEA air emission accounts (see para. 12) is expected to contribute to the Initiative. On the basis of the methodology developed by the task team, it is expected that, in the absence of national estimates, Eurostat will estimate quarterly accounts for European Union countries, OECD will cover OECD countries that are not in the European Union and IMF will cover other countries that belong to IMF. Data at an aggregated level will be released on the IMF climate change dashboard, and country-level data may be provided to IMF experts for use.

44. The ARIES for SEEA application is being tested for the compilation of global SEEA databases for land and ecosystem accounts. In particular, discussions are under way on creating global land cover accounts using ARIES for SEEA that are consistent with the SEEA methodology. The Committee is also working to ensure that existing and future land accounts products are harmonized and properly communicated.

45. Efforts are in place to establish a sector hub at the Basque Centre for Climate Change that will provide a much-needed platform for ARIES for SEEA to make further progress on the interoperability of data and models in the domains of environmental-economic accounting and sustainability. The sector hub will be a joint collaboration between the Division, the United States Geological Survey, the Basque

Centre and the Donostia International Physics Centre. The sector hub will be established in support of the United Nations global platform on big data.

V. Area D: implementation and statistical capacity-building (led by the Economic and Social Commission for Asia and the Pacific and Statistics South Africa)

46. The working group on implementation and statistical capacity-building has identified several areas of focus for its programme of work. They include the development of a global fundraising plan, continued advocacy for and engagement in the SEEA with national Governments and through the regional commissions, and advancement and training on global and regional tools aimed at supporting SEEA implementation.

47. Funding is a key issue in maintaining progress on SEEA implementation. At the global level, the Division and regional commissions have limited capacity to provide technical support to countries that are interested or engaged in the implementation of accounts. In addition, international funding sources may not fully support account implementation as a specific output of project activities. Within countries, resource mobilization specific to environmental accounts remains a challenge not only for ensuring that sufficient and appropriate personnel are in place but also for facilitating capacity integration (e.g. working across environmental and statistical agencies and enabling the easy exchange of data). The working group will develop a fundraising strategy for implementation that addresses those challenges, potentially inviting additional members to the working group if needed.

48. Advocacy for the accounts globally and within national Governments is an important area for the working group's future activities. Advocacy relates directly to the issues noted above, such as the challenges related to in-country resource mobilization. Potential activities that the working group can facilitate through its member organizations include targeted seminars that build the use cases for the accounts and presentations of SEEA policy applications in thematic policy forums in 2022. The working group will explore the development of groups within the regional committees on statistics that focus specifically on environmental-economic accounting. That could assist in raising awareness of environmental accounts at the strategic level and complement prior activities that have raised awareness of the accounts at the technical level in countries, as well as provide a formalized reporting structure at regional commissions. The formalized groups would complement the ongoing activities of the various communities of practice on the SEEA, including the Africa Natural Capital Accounting Community of Practice, the Regional Network of Environmental Statistics of the Economic Commission for Latin America and the Caribbean and the Latin American Community on Natural Capital Accounting.

49. The working group will serve as a forum for discussions on tools and manuals that are developed within each of the regions (e.g. the ESCAP manual entitled "Producing land cover change maps and statistics: step by step guide on the use of QGIS and RStudio"), as well as for facilitating the uptake of tools developed for environmental-economic accounting that are aimed at the global level (e.g. ARIES for SEEA and the Land Utilization Capability Indicator (LUCI) for SEEA toolbox).¹⁵ The working group will support training on those tools as well as provide technical support for the use of the tools after completion of training. The working group will

¹⁵ See <https://model.lucitools.org/>.

also compile user experiences with the developed tools, noting any challenges encountered and differential benefits as well as accuracy or quality concerns.

50. The Natural Capital Accounting and Valuation of Ecosystem Services project was concluded in 2021. The project successfully piloted ecosystem accounting in five participating countries – Brazil, China, India, Mexico and South Africa – resulting in a large number of published accounts and reports, as well as reports detailing results of a workstream on indicators.¹⁶ The project has made great contributions to the mainstreaming of biodiversity and ecosystems into national- and subnational-level policymaking and decision-making through the application of accounts in policy scenario analysis and the development of natural capital accounting strategies. The project has also generated significant media attention, for example through the organization of numerous outreach events such as national forums to disseminate the results of the project to a wider audience.

51. The Division is currently leading a three-year project funded by the twelfth tranche of the United Nations Development Account. The project is supporting countries in SEEA implementation and its use for evidence-based policymaking in Africa and Asia, namely Kenya, Malaysia, the Philippines and Senegal. The Division is providing support to the project countries in building institutional frameworks in support of SEEA implementation, compiling pilot accounts and promoting the accounts in support of policymaking and the Goals. The Division is working closely with the relevant regional commissions, international organizations and non-governmental organizations to carry out the project.

52. The Global Program on Sustainability of the World Bank,¹⁷ which builds on the Bank's Wealth Accounting and the Valuation of Ecosystem Services programme, is the Bank's umbrella programme focused on natural capital, ecosystem services and the economics of sustainability. The programme's objective is to strengthen the production and use of high-quality data (economic and financial) on natural capital and ecosystem services in order to inform government and financial market decisions. Over the years, support has been provided to Botswana, Colombia, Costa Rica, Guatemala, Indonesia, the Philippines and Rwanda to produce SEEA accounts on natural capital assets and ecosystem services, to strengthen the capacity to use the accounts for policy purposes and to institutionalize processes of production and the use of the accounts. More recently, the programme supported Egypt, Guatemala, Kyrgyzstan, Morocco, Uganda and Zambia. The programme also funds smaller-scale technical assistance to pilot the use of ecosystem services data for policy analysis in countries such as Cambodia, the Lao People's Democratic Republic, Madagascar, Myanmar, Nepal and Viet Nam, as well as for the West Africa Coastal Areas Management Program. The provision of technical assistance to 15 additional countries will begin in 2021. At the global level, the programme periodically carries out a comprehensive evaluation of wealth accounts for over 140 countries (including with regard to natural, physical and human capital). The fourth instalment in the series, entitled "The Changing Wealth of Nations", was published in fall 2021.

53. To support implementation, the sixth joint OECD/ECE seminar on the implementation of the SEEA, held in March 2021, was focused on how the SEEA could inform important policy areas, such as ecosystems and biodiversity, circular economy and climate change. Approximately 170 participants from over 45 countries attended over the course of the three-day seminar. The seventh joint OECD/ECE seminar will be held in March 2022. It will provide an important opportunity for

¹⁶ See <https://seea.un.org/home/Natural-Capital-Accounting-Project>.

¹⁷ See <https://www.worldbank.org/en/programs/global-program-on-sustainability>.

countries to continue to exchange knowledge and experiences on SEEA implementation and mainstreaming.

54. To advance the strengthening of technical capacity-building in the Latin America and Caribbean region, the Economic Commission for Latin America and the Caribbean will provide virtual technical assistance for technical staff through national and regional workshops in the region in 2022. The workshops will help to identify the availability of source data and to understand national capacity, the commitment of national counterparts and experiences in ecosystem accounting.

Global Assessment of Environmental-Economic Accounting and Supporting Statistics

55. The Global Assessment of Environmental-Economic Accounting and Supporting Statistics serves to provide a better understanding of national SEEA implementation, including institutional and funding arrangements, countries' priorities and future plans for implementing accounts and technical assistance received and provided, and the use of the accounts. The review also helps to assess the support required by countries in implementing the SEEA. The Global Assessment is carried out every year, with benchmark compilation every three years. The results for 2020¹⁸ indicated that 89 countries compiled at least one account of the SEEA Central Framework and 34 compiled at least one account of the SEEA Ecosystem Accounting.

56. The working group is currently conducting an abbreviated Global Assessment. As agreed by the Committee during its 2021 meeting, the working group on capacity-building will administer a shortened version of the Global Assessment between benchmark years. The abbreviated Global Assessment, which was sent to countries in November 2021, collects information on current implementation in countries. The results will enable the Committee to assess the status and progress of national SEEA programmes. The Assessment will also support the monitoring of targets 15.9 and 12.b of the Goals through two indicators: (a) 15.9.1, on the integration of ecosystem and biodiversity values into national and local planning, development processes, poverty reduction strategies and accounts through the implementation of the SEEA; and (b) 12.b.1, on the implementation of standard accounting tools to monitor the economic and environmental aspects of tourism sustainability through implementation of the relevant SEEA and Tourism Satellite Account tables.

VI. Area E: business accounting (led by the National Institute of Statistics and Geography of Mexico)

57. The working group on business accounting, which is moving forward with its road map for alignment of the SEEA with private-sector natural capital accounting,¹⁹ is currently chaired by the National Institute of Statistics and Geography of Mexico. In May 2021, the Bureau organized a scoping workshop with members of the business and standard-setting community in order to inform the working group's programme of work. On the basis of the workshop and the preliminary meetings of the working group, the working group will focus on three objectives: (a) alignment of private-sector methodology and standards with the SEEA; (b) increased collaboration and awareness-raising between the statistical and business communities; and (c) greater

¹⁸ See <https://seea.un.org/content/global-assessment-environmental-economic-accounting>.

¹⁹ See https://seea.un.org/sites/seea.un.org/files/images/business_accounting_6.docx.

exchange and use of high-quality interoperable data between the business and national statistical offices. A detailed programme of work will be finalized by the end of 2021.

58. The Division released two case studies on business and natural capital accounting, one in India and the other in Spain, through collaboration with a multinational building sector company under the Natural Capital Accounting and Valuation of Ecosystem Services project. The case studies assessed the alignment of existing private-sector natural capital accounting approaches with the SEEA, explored the extent to which natural capital data available in the statistical system can support the private sector and identified opportunities for further alignment in terms of concepts, methods and data requirements. The results of the case studies will help to inform the activities of the working group.

VII. Action to be taken by the Statistical Commission

59. **The Commission is invited to express its views on the following:**

(a) **Proposed programme of work of the Committee of Experts on Environmental-Economic Accounting for the period 2022–2025;**

(b) **Engagement of the Committee in the SNA update, as well as the International Standard Industry Classification and Central Product Classification updates;**

(c) **Engagement of national statistical offices in the post-2020 global biodiversity framework and the development of the monitoring framework in the lead-up to the fifteenth meeting of the Conference of the Parties to the Convention on Biological Diversity (see sect. II);**

(d) **Global implementation strategy for the System of Environmental-Economic Accounting Ecosystem Accounting framework (see sect. III);**

(e) **Final draft of the guidelines for biophysical modelling, which is aimed at supporting the compilation of ecosystem accounting in countries (see sect. III);**

(f) **Progress made in finalizing the statistical framework for measuring the sustainability of tourism (see sect. II).**