

**International Seminar Towards Linking Ecosystems and Ecosystem Services to
Economic and Human Activity**
27-29 November 2012, New York

Minutes

1. The international seminar “Towards Linking Ecosystems and Ecosystem Services to Economic and Human Activity” was held from 27 to 29 November 2012 in New York. The seminar was jointly organized by the United Nations Statistics Division, the European Environment Agency, the United Nations Environmental Programme (UNEP), the United Nations Development Programme (UNDP) and the World Bank. Some 60 participants from national statistical offices, government agencies (e.g. ministries of environment, finance, etc), and experts from the scientific and environmental economics communities attended the seminar. The list of participants, the annotated agenda and the presentations made at the seminar are available at http://unstats.un.org/unsd/envaccounting/workshops/int_seminar/ecosystems.htm

2. The objective of the seminar was to have an informed discussion on the conceptual framework SEEA Experimental Ecosystem Accounting and start establishing a dialogue among the different communities to advance concepts, methods and implementation of the emerging field of ecosystem accounting in view of the growing demand for information on ecosystem management and ecosystem capital. The seminar also had the purpose of bringing together the different communities representing the disciplines of the science of ecosystems, environmental economics and national accounting to facilitate developing their long-term partnerships.

Main outcomes

3. Growing policy demand for ecosystem information at the national and international level was underlined and illustrated in the presentations and discussions. At the same time, many speakers recognized the differences in government support and priorities among countries.

4. Participants welcomed the consultation draft of the SEEA Experimental Ecosystem Accounting. The SEEA Experimental Ecosystem Accounting is considered a useful step forward in the development of a conceptual framework for measuring ecosystems in support of policy formulation. It remains experimental in nature as there are a large number of issues to be resolved and practical testing needs to be undertaken.

5. An international research agenda is to be developed to advance both the conceptual framework and the practical issues in implementation. This should be advanced by engaging multidisciplinary teams of statisticians, national accountants, economists, scientists, ecological and environmental policy experts.

6. Data availability and quality continue to be important considerations. Data should be scientifically validated and openly accessible. The importance of harnessing

existing information, in particular from satellites and other sources was stressed noting the potential to ensure their integration through an accounting framework. Many participants considered assembling good quality physical data the first priority, with monetary valuation coming later.

7. The urgency of developing the information system on ecosystems was clearly articulated by the user community participating in the seminar. They called on the statisticians to speed up the delivery of results to keep the momentum going, while managing expectations of what can be produced. For moving forward, it was considered important to develop a roadmap to advance the research agenda and prioritize issues, focusing on the “low hanging fruits” as a first step, in collaboration with a coalition of countries and agencies.

8. The role of the Committee of Experts on Environmental-Economic Accounting (UNCEEAA), operating under the aegis of the Statistical Commission, was reaffirmed as the central body responsible for coordinating the development work on ecosystem accounting at the international level and advancing the SEEA Experimental Ecosystem Accounting. Under its auspices, it was recommended that a standing expert group on ecosystem accounting be established to advise on technical issues related to future development and testing of the SEEA Experimental Ecosystem Accounting.

9. Communication on what the SEEA as an organizing framework of environmental-economic information can deliver to different stakeholders was considered key. The communication should focus more on the benefits of accounting rather than on the description of the statistical infrastructure which is mostly the domain of statisticians and data producers, but does not address the demands of policy makers. A communication strategy to promote the SEEA should be an integral component of the implementation strategy for the SEEA Central Framework and the research agenda on SEEA Experimental Ecosystem Accounting. It was also noted that experts in communication should be recruited to prepare the communication related materials to assist the statisticians. Meanwhile, the publication of the briefing note on SEEA Experimental Ecosystem Accounting, distributed at the seminar, was considered a welcome development in outreach and communication.

10. All international agencies present in the seminar, namely the Convention of Biological Diversity (CBD), the Organization for Economic Cooperation and Development (OECD), UNDP, UNEP, the World Bank, the European Environment Agency and the statistical office of the European Union (Eurostat), expressed their full commitment to support the implementation of the SEEA Central Framework and to advance the research agenda for SEEA Experimental Ecosystem Accounts as the common measurement framework for the different policy frameworks, including green economy/green growth, post 2015 development agenda and SDG biodiversity strategy, climate change, Poverty and Environment Initiative, IPBES, etc. It was recognized that high-quality collaboration between international agencies would be important in advancing work in this area.

Session 1 - Opening

11. Ms. Shamshad Akhtar, Assistant Secretary General for Economic Development, Department of Economic and Social Affairs of the United Nations delivered the opening statement and welcomed participants to the seminar. Ms. Akhtar noted that the Conference on Sustainable Development (Rio+20) underscored the need to strike balance of the three dimensions (economic, social, environment) of sustainability and in this context the evaluation of ecosystems and the underlying data was critical. She stated that the state-of-the-art of ecosystem accounting is well reflected in the present draft document of SEEA Experimental Ecosystem Accounting that in time will lead to agreed use of concepts and methodology. She expressed the expectation that this international seminar will allow a multidisciplinary dialogue on the scientific and statistical robustness of the proposed conceptual framework, its relevance and practical utility for stakeholders from the various communities. Ms. Akhtar thanked the co-organizers of the event for making this international seminar possible.

12. Opening addresses were given by Mr. Bráulio Ferreira de Souza Dias, Executive Secretary of the Convention on Biological Diversity, Mr. Thomas E. Lovejoy, Biodiversity Chair of the Heinz Center for Science, Economics and the Environment and Professor of George Mason University and by Mr. Walter Radermacher, Director-General of Eurostat. The opening addresses presented the policy perspective, the scientific perspective as well as the statistical perspective on ecosystem accounting.

13. The opening addresses from the scientific and policy perspective pointed out the loss of biodiversity that has taken place at unprecedented levels in the last 50 years more than in prior human history. A historical review of ecosystem services was also presented looking at watershed deterioration and biodiversity loss based on global studies and the United States state of the nation's ecosystem project. It was noted that for many indicators adequate data for national reporting on ecosystem services were not available. The theme of the current seminar and the development of the SEEA Experimental Ecosystem Accounting were considered important because ecosystem accounting provides the framework for integrating ecosystem information with actual economic data. It was stressed that biodiversity underpins ecosystem services that we need to measure better in order to manage better. Acknowledging that the development of SEEA Experimental Ecosystem Accounting has been a multidisciplinary undertaking, the speakers urged to follow a multidisciplinary approach also in implementation and reach out to the communities to contribute to the process. Concerning the statistical perspective on ecosystem accounting, the experience and position of Eurostat were presented. The broader consensus and experience in countries about environmental accounting represented in the SEEA Central Framework was compared with the more path-breaking character of ecosystem accounting. Statisticians have to consider the availability and the feasibility of collection of primary data for ecosystem accounts and classifications need to be developed. The difficulties with monetary valuation were highlighted. The focus of Eurostat will be on the implementation of the SEEA Central Framework while encouraging countries that have the capacity to experiment with ecosystem accounting and share good practices.

14. Also in the opening session, Mr. Peter Harper, Chair of UNCEEA and Deputy Australian Statistician gave an overview of the SEEA Experimental Ecosystem Accounting. The presentation provided a non-technical overview of the scope and content of the conceptual framework of the SEEA Experimental Ecosystem Accounting and discussed those policy questions that the ecosystem accounting can address. He noted that the SEEA Experimental Ecosystem Accounting is still experimental in nature and it synthesizes the best available information in the multidisciplinary ecosystem accounting. He stressed that the ongoing collaboration across the communities needs to bring together a number of disciplines, such as the science and practice of ecology, theory and practice of economics, methods and good practice of statistics and national accounts. The next steps will include testing key aspects of the SEEA Experimental Ecosystem Accounting, e.g. approaches to measuring ecosystem services, indicators of ecosystem condition, and for this progress in the research agenda is needed.

Session 2 – Global policy demand for ecosystem accounts

15. The session was moderated by Mr. Peter Harper, Chair of UNCEEA and Deputy Australian Statistician. The session focused on presenting and discussing examples of policy demand for ecosystem information from an international perspective. The panel discussion included five presentations: *Post Rio+20* by Mr. David O'Connor, Chief, Policy Analysis and Network Branch, Division for Sustainable Development, United Nations Department of Economic and Social Affairs; *Supporting sustainable livelihoods and inclusive green development through ecosystem management and assessment: The international policy demand* by Mr. Charles McNeill, Senior Policy Adviser, Environment and Energy Group, United Nations Development Programme; *International policy demand on ecosystem management and environmental assessment* by Mr. Pushpam Kumar, Chief, Ecosystem Services Economics Units, Division of Environment Programme Implementation, UNEP; *Wealth Accounting and the Valuation of Ecosystem Services (WAVES) and Natural Capital Accounting* by Ms. Glenn-Marie Lange, Lead, Policy and Economics Team, Environment Department, the World Bank; *Implementation of experimental Simplified Ecosystem Capital Accounts for Europe* by Mr. Jean Louis Weber, Adviser, European Environment Agency.

16. The panellists demonstrated the growing demand for information on ecosystem services and ecosystem capital from an international policy perspective. It was reiterated that the SEEA as conceptual framework has contributed significantly in the policy use of environment statistics by making the link explicit between the environment and economic and human well being. An overview was presented on the demands for statistics coming out of the Rio +20 conference. It was stated that the gaps in our knowledge need to be filled urgently for a better understanding of the effect of climate change on ecosystems. The presentations of the panellists described the various operational initiatives at their respective institutions with demand for data that can be obtained through ecosystem accounting. These diverse initiatives include a range of projects coordinated by UNDP (Poverty-Environment Initiative, Greening the Human Development Index, Reducing Emissions from Deforestation and Forest Degradation, Biodiversity and Ecosystems Global Framework, Intergovernmental Science-Policy Panel on Biodiversity and Ecosystem Services, Green Low-emission

Climate Resilient Development Strategies); UNEP projects (ProEcoserv, Inclusive Wealth index); the World Bank's Waves partnership with the goal to mainstream environmental accounting into statistical offices and environmental policy; and the project lead by the European Environment Agency on Simplified Ecosystem Capital Accounts for Europe covering 27 countries. The reviewed initiatives not only generate demand for global, regional and national ecosystem information, they can help to develop capacities to implement ecosystem accounts in pilot countries. The panellists agreed that mechanisms need to be found for better coordination to make the best use of the available resources and find ways to complement and not duplicate each other's work.

Session 3 – National policy demand for ecosystem accounts

17. The session was moderated by Mr. Charles McNeill, Senior Policy Adviser, Environment and Energy Group, United Nations Development Programme. The focus of the session was on discussing the growing demand for information on ecosystem services and ecosystem capital from a national policy perspective. In the session the ecosystem policy in five countries, Australia, Canada, Indonesia, South Africa and the United Kingdom were presented. The panellists included Mr. Peter Cosier, Director Wentworth Group of Concerned Scientists, Australia; Mr. Ceo Gaudet, Special Adviser to the Director General of Economic Analysis, Environment Canada; Ms. Laksmi Dhewanthi, Assistant Deputy Minister for Environmental Economics, Ministry of Environment, Indonesia; Ms. Tracey Lyn Cumming, Resource Economics and Stewardship Policy Adviser, South African National Biodiversity Institute, South Africa; and Ms. Catherine Connolly, Department for Environment, Food and Rural Affairs (DEFRA), United Kingdom.

18. The panellists highlighted different aspects of demand for ecosystem information in their respective countries. Recurring issues included mainstreaming ecosystem assessment into environmental policy, challenges of data availability, support and cooperation of government agencies, resource and capacity constraints. The panellist from Australia gave an overview of the trials of asset condition accounts to be completed by 2013 and noted the remarkable cooperation of government agencies in the process. The demands for ecosystem accounts information in Canada are related to federal government policy mandates and reporting on international conventions. It was mentioned that demands for better organized data is outstripping supply and is expected to grow. Indonesia shared the national experience of promoting green economy principles and stressed that its environmental policies call for enhancing data and information availability on ecosystems. In South Africa work on monitoring ecosystems is focused on biodiversity but the challenges of data availability present obstacles for mainstreaming research into national policy. The United Kingdom completed a national ecosystem assessment in 2011 with impact on national policy for mainstreaming the idea for long-term environmental sustainability. In the discussion good practices were shared on the consultation process among government agencies and gaining support of high-level policy makers.

Session 4 – Conclusions from the first day of the seminar

19. The session was moderated by Mr. Geert Bruinooge, Deputy Director-General of Statistics Netherlands. Mr. Bruinooge drew conclusions from the discussion of the issues raised in the opening addresses and summarized the discussions on the global and national policy demand for ecosystem accounts. In his summary, Mr. Bruinooge noted the evidence of growing policy demand both at the global and national level for ecosystem accounting that was demonstrated in the various presentations of panellists and the views of participants expressed in the discussion. The development of SEEA Experimental Ecosystem Accounting was seen as a major step for formulating and monitoring policies providing the framework of measuring ecosystems. At the same time there was general agreement on its experimental status and the need for collaboration of multidisciplinary teams to solve a number of open issues. Data accessibility and quality outside the statistical offices were considered key areas for improvement while the large amount of microdata available in statistical offices, e.g. small area estimates, should be shared with the scientific community to develop multiple layered geospatial mapping of socio-economic and environmental characteristics. While institutional arrangements and the level of preparedness are very different in the countries, those that have the capacity are encouraged to test the methodology of ecosystem accounting and speed up delivering results. There is an important coordinating role for the international agencies to bring countries together that like to embark on testing a common methodology around thematic pilot projects in “coalitions of the willing”, of which the test results are to be shared with other countries.

Session 5 – Physical ecosystem accounts

20. The session was moderated by Mr. Wadih Scandar Neto, Director of Geoscience, Brazilian Institute of Geography and Statistics (IBGE) and included a presentation on the conceptual foundation of the SEEA Experimental Ecosystem Accounting by Mr. Carl Obst, SEEA editor. The panel discussion included Mr. Ben ten Brink, Project Leader, Netherlands Environmental Assessment Agency (PBL), Ms. Judith Ajani, Senior Fellow Australian National University and Mr. Mark Eigenraam, Director of EcoMarkets, Department of Sustainability and Environment, Government of Victoria, Australia.

21. The presentation explained the benefits of an accounting approach in measuring ecosystems that helps dealing with the complexity of information. The conceptual framework of the SEEA Experimental Ecosystem Accounting was discussed pointing out that the concepts draw from different fields that include ecology, economics, statistics and national accounts. The compilation of land accounts was considered a fundamental starting point for ecosystem accounting. The areas for future development that were mentioned include bringing scientists into the process for measuring ecosystem condition and ecosystem services; finding more definitive solutions on aggregation methods; and testing the classifications. The panel members provided practical examples of how selected parts of the accounts have been implemented in countries, in particular related to biodiversity and carbon. The overview of producing carbon stock accounts in Australia noted that further research is required for the development of classifications for geocarbon and biocarbon. The

search towards suitable (and a manageable number of) biodiversity indicators in the Netherlands was presented along with the schematic of biodiversity loss that is universally applicable. The practice of Victoria State in Australia on building capacity for scientific monitoring and information sharing was described and a software for mapping ecosystems introduced. The discussion provided an opportunity to obtain a better understanding of current practices in the compilation of the accounts, the scientific methods used and the relationship of the accounts to international indicator initiatives.

Session 6 – Monetary ecosystem accounts

22. The session was moderated by Mr. Art Ridgeway, Assistant Chief Statistician, National Accounts and Analytical Studies Field Statistics, Statistics Canada and included the presentation on monetary accounts in the SEEA Experimental Ecosystem Accounting by Ms. Glenn-Marie Lange, Lead, Policy and Economics Team, Environment Department, the World Bank. The panel discussion included Mr. Geoffrey Heal, Professor, Columbia University, Mr. Rob Vos, Director, Development Policy and Analysis Division, United Nations Department of Economic Policy and Analysis Division, United Nations Department of Economic and Social Affairs, Mr. Rodney Smith, Professor, University of Minnesota and Mr. Peter van de Ven, Head of National Accounts Division, OECD.

23. This session discussed the feasibility of valuation of ecosystem services and capital in the context of official statistics and the benefits of integrating the monetary information in an accounting framework. The presentations gave an overview of the various valuation techniques applied to valuing ecosystem services and capital and their consistency with the national accounts principles. The panel members discussed the merits and challenges of the different valuation alternatives concluding that chapter 5 of the consultation draft of SEEA Experimental Ecosystem Accounting does not offer a clear choice. In this respect, it is also considered important to make a clear distinction between an economic valuation consistent with the (present) framework of national accounts, and a social valuation taking more into account perspective of environmental sustainability. In terms of priorities, it was considered useful to start work with ecosystems that are better understood, e.g. wetlands, watersheds. It was suggested that emphasis be placed on the sustainability perspective and assess what would be the cost of not acting to protect the environment. Regarding the views on finding solutions to the valuation of ecosystems, analogies to the valuation of intangible economic assets like goodwill and brand names were mentioned, however, many participants considered the task with ecosystems more challenging. While the need for modelling and monetizing was recognized, in particular to answer certain policy questions and to resonate with certain communities, it was noted that such practices may not fall within the purview of official statistics. It is important that developments in these areas respect the views and roles of official statisticians. It was emphasized that valuation techniques require careful testing before considered for mainstream application.

Session 7 – Role of official statistics in the implementation of SEEA Experimental Ecosystem Accounting

24. The panel discussion in this session was moderated by Mr. Steve Landefeld, Director, Bureau of Economic Analysis, United States. The panel was composed of senior statisticians from Australia, Brazil, Canada, Mexico, Netherlands, Qatar and the Russian Federation. Members of the panel included Mr. Peter Harper, Chair of UNCEEA and Deputy Australian Statistician, Mr. Wadih Scandar Neto, Director of Geoscience, Brazilian Institute of Geography and Statistics (IBGE), Mr. Art Ridgeway, Assistant Chief Statistician, National Accounts and Analytical Studies Field Statistics, Statistics Canada, Francisco Guillen, Deputy Director General of National Accounts, INEGI, Mexico, Mr. Geert Bruinooge, Deputy Director-General of Statistics Netherlands, Mr. Mohammed Al-Marzouqi, Director, Shared Services Department, Qatar Statistics Authority and Mr. Andrei Tatarinov, Director, Department of National Accounts, Rosstat, Russian Federation.

25. The discussion was organized around a set of questions formulated by the moderator. On the first group of questions members of the panel provided their national experience on how the statistical agencies can move forward in the absence of top level government support and declining public concerns about environmental issues. The second group of questions focused on obtaining the resources for a joint programme with the economic, scientific, ecological and policy community in the light of global fiscal constraints. In the discussion panellists reflected on the policy demands at the national level and exchanged experience on their plans to meet those demands.

26. Members of the panel agreed on the key role of statistical offices in coordination to prevent duplication of efforts and the need for interdisciplinary and institutional cooperation in the development of SEEA Experimental Ecosystem Accounting. Statisticians have an important role in promoting appropriate statistical methods and disclosure techniques (such as editing and validation methods and disclosure techniques) to other agencies of the partnership in the implementation of ecosystem accounting. Moreover, statistical offices have extensive experience with open data concepts, with data being a public good accessible to all, handling of large data sets and being custodians of large social-economic and small area databases that are geospatially referenced. It was emphasized that the case for practical utility and relevance of the results of ecosystem accounting should be made in a simple language to policy makers. It was noted that a growing number of businesses are interested in information on the environment, thus it may be useful to engage them in the partnerships and harness their resources to support the implementation project. The session helped sharing experiences on the statistical infrastructure and operations for the implementation of SEEA Experimental Ecosystem Accounting. The session concluded that despite the unfavourable circumstances created by budget cuts in many countries, it is particularly important for official statisticians to keep moving the projects on ecosystem accounting forward, as there can be large irreversible losses from environmental factors. An appropriate research agenda and realistic road map should be formulated for testing of the proof of concept, which should lead to quick wins and results.

Session 8 – Future work

27. The session was moderated by Mr. Andrei Tatarinov, Director, Department of National Accounts, Rosstat, Russian Federation. Participants from UNDP, UNEP, World Bank, the European Environment Agency and the Chair of UNCEEA presented their views on how to reflect the deliberations of the seminar in their work programmes. The session provided a forum for the international agencies to reflect on the outcome of the international seminar regarding the implications of the SEEA Experimental Ecosystem Accounting implementation on the work under their mandate. The international agencies expressed their renewed commitment and strong interest in the implementation of ecosystem accounts as the common measurement framework for testing. In the session, the roles of the different international agencies and communities were discussed considering that they pursue different policy agendas in their work programmes. Participants expressed support and made recommendations on an overall strategy for testing the SEEA Experimental Ecosystem Accounting and for formulating and advancing a common research agenda for testing in support of the various international policy agendas.

Session 9 – National statistical offices and the testing of the SEEA Experimental Ecosystem Accounting

28. The session was moderated by Mr. Pushpam Kumar, Chief, Ecosystem Services Economics Units, Division of Environment Programme Implementation, UNEP. It included presentations by Mr. Peter Harper, Chair of UNCEEA and Deputy Australian Statistician on the strategy for testing the SEEA Experimental Ecosystem Accounting and by Mr. Art Ridgeway, Assistant Chief Statistician, National Accounts and Analytical Studies Field Statistics, Statistics Canada on the communication strategy for the SEEA Experimental Ecosystem Accounting.

29. The session provided a forum for national statistical offices to discuss a strategy for testing ecosystem accounts and reflect on the implications for the statistical community of advancing the research agenda for the SEEA Experimental Ecosystem Accounting. Participants shared experience on approaches to manage demands on the national statistical offices to provide statistics on ecosystems and manage expectations on the feasibility of what can be provided in the context of official statistics. It was emphasized that the SEEA Experimental Ecosystem Accounting represents the existing knowledge on ecosystem accounting pulled together in one framework. It was reiterated to develop a roadmap for the research agenda as there is willingness in several countries to test various streams of work for the ecosystem accounting framework and their experience will be used as feedback in the international collaborative work on further methodological development. Moreover, it was suggested that a data user group be created that could assist in aligning priority areas with user demand and clarify what are the questions that can be answered by using an accounting approach in monitoring and measuring ecosystems. The discussion highlighted the strategy of implementation and communication to operationalize and use the SEEA Experimental Ecosystem Accounting in a productive way. In the context of communication on ecosystem accounting it was discussed what can be done to reach the different audiences more successfully. It was agreed that the message communicated to policy makers should focus on the benefits that the

organization of information in an accounting system brings to users, rather than explaining in detail what the accounts are. The briefing note on SEEA Experimental Ecosystem Accounting was distributed at the seminar and participants were encouraged to share it with their constituents.

Session 10 – Implementation strategy of the SEEA Central Framework

30. The session was moderated by Mr. Ivo Havinga, Chief, Economic Statistics Branch, UNSD and included three presentations. The implementation strategy of the SEEA Central Framework and communication strategy was presented by Mr. Geert Bruinooge, Deputy Director-General Statistics Netherlands in his capacity as Chair of the Task Force on the Implementation of the SEEA Central Framework. Mr. Peter van de Ven, Head of National Accounts, OECD presented a core set of tables and accounts for the SEEA Central Framework. The presentation on the Implementation of the Framework for the Development of Environment Statistics was delivered by Ms. Eszter Horvath, Chief, Environment and Energy Statistics Branch, UNSD.

31. The session provided an opportunity to discuss the implementation strategy of the SEEA Central Framework which will be presented to the forty-fourth session of the Statistical Commission in February 2013 and seek comments on the proposed strategy. The main components of the implementation strategy were described in the presentation and received support in the discussion considering it a good starting point for the implementation of the SEEA Central Framework. It was stressed that a communication strategy has to supplement implementation activities, to be considered as integral part of the SEEA implementation. Participants felt that professionals in communication should be engaged in the task rather than leaving it to statisticians. The core set of tables and accounts for the SEEA Central Framework were presented from the OECD perspective that was considered in the discussion as globally applicable. The criteria for selecting core tables focused on the relevance for the preferred types of policy analysis. Participants stressed that the development of a core set of tables and accounts and data templates based on the SEEA Central Framework accounts that countries could use depending on their policy demand and data availability should be expedited to support the implementation of environmental economic accounts. Such core set of tables and accounts should be developed and agreed globally. The overview of the revision of the FDES underlined the close conceptual links with the SEEA and demonstrated the role of the FDES for ensuring the consistency of environmental statistics to be integrated in the accounting framework. The action plan or “blueprint” for implementing FDES focuses on building capacity and partnerships and the implementation programmes of FDES and the SEEA Central Framework will be aligned.