ESA/STAT/AC.272
UNCEEA/8/7e

DEPARTMENT OF ECONOMIC AND SOCIAL AFFAIRS
STATISTICS DIVISION
UNITED NATIONS

International Conference "Global Implementation Programme for the SEEA" and the Eighth Meeting of the UN Committee of Experts on Environmental-Economic Accounting
New York, 17-21 June 2013
United Nations Secretariat Building – Conference Room S-2726 and S-2727

SEEA Central Framework
Possible priorities and approaches to advancement of the SEEA Central Framework research agenda

(for discussion)

SEEA Central Framework

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A. Background

1. Annex 2 of the SEEA Central Framework describes a research agenda highlighting the eight topics that would benefit from further consideration within the international statistical community. The eight topics are: (i) development of classifications; (ii) development of consistent valuation techniques beyond the SNA in the absence of market prices; (iii) definition of resource management; (iv) accounts and statistics relating to the minimisation of natural hazards and the effects of climate change; (v) depletion of natural biological resources; (vi) accounting for soil resources; (vii) valuation of water resources; and (viii) approaches to the measurement of adapted goods. The complete annex is appended to this note.

2. This note proposes a process and set of arrangements to take forward the SEEA Central Framework research agenda. It also provides proposals on the relative priorities that might be placed on the various topics and notes linkages to the establishment of the research agenda for SEEA Experimental Ecosystem Accounting.

B. Research priorities

3. Highest priority should be afforded to the development of classifications. There are two primary streams of work under this topic. First, advancement of work on classifications for land use and land cover. Interim versions of these classifications were included in the SEEA Central Framework but it is generally accepted that more work is needed to delineate the relevant classes and ensure application of sound classification principles. This stream of work on classifications should be advanced in close consultation with associated work on the delineation of spatial units for the purposes of ecosystem accounting.

4. The second stream of work on classifications concerns development of a full classification of resource management activities as part of the overarching Classification of Environmental Activities (CEA). This work should also pick up the research topic on defining resource management. Progress in this area is important in advancing work on the measurement of the environmental goods and services sector (EGSS). As part of this classification work it is likely to also be relevant to review the classes related to environmental protection activities. With increasing interest on statistics on the protection of landscapes and biodiversity it is important that this group within the CEA is well articulated. Finally, the review of these classifications may consider further the practical guidance about the classification of activities related to renewable energy resources.

5. The next priority topic concerns the valuation of water resources. There is ongoing demand for progress in this area and the SEEA Central Framework is essentially silent on the issue. As a first step, research in this area would benefit from a clearer articulation of the target of valuation (e.g. water itself, water related ecosystems (e.g. river basins), water related

infrastructure, water access rights) and the potential uses of derived statistics. It is likely that research in this area will be informed by developments in ecosystem accounting and its associated research stream on valuation techniques.

6. The final priority area should be a scoping paper on accounts and statistics relating to the minimisation of natural hazards and the effects of climate change. The appropriateness of accounting information to managing these broad scale, long term challenges has not been described. Given the significance of these issues to many countries, an understanding of the potential contribution of the SEEA is an important step.

7. The remaining areas of the research agenda should be advanced with lower priority. At the same time, two of the topics – (ii) valuation techniques and (vi) accounting for soil resources – may well be progressed in concert with advances in ecosystem accounting. The inclusion of depletion of natural biological resources on the research agenda reflects the lack of measurement practice in this area even though the conceptual approach is considered sound. Thus, where countries are developing accounts for natural resources, their experiences in accounting for depletion should inform the advancement of the research agenda. The final topic concerning adapted goods is also an area that must be informed from country experience in the development of statistics on environmental protection, resource management and EGSS.

C. Management and governance of the research agenda work programme

8. The following are preliminary thoughts on establishing a process and set of arrangements for advancing the research agenda.

(a) A steering committee to oversight and co-ordinate the work on the research agenda is required. It is proposed that, subject to future review, the core membership of the editorial board for the SEEA Central Framework be retained to undertake the steering committee function. This group of people has the appropriate technical understanding of the SEEA Central Framework and represents major agencies involved in the development of the standards and responsible for their implementation and countries with technical experience in the conceptual and implementation issues.

(b) Consideration may be given to the inclusion of representatives from World Bank, FAO and developing countries. Also, the chair of the London Group on Environmental Accounting should be a member of the steering committee and it may be relevant to include the chair of the proposed Ecosystem Accounting Research Steering Committee on the steering committee for the SEEA Central Framework research agenda. Since the role of the SEEA Editor is completed that role need not be included on the steering committee. For information the current composition of the SEEA Central Framework Editorial Board is: SEEA Editor (chair), IMF, OECD, Eurostat, UNSD, Statistics Canada, Australian Bureau of Statistics, Statistics Norway, Statistics Netherlands.

(c) The steering committee should be formed under the auspices of the UNCEEA and should report regularly to the Bureau of the UNCEEA. UNSD would provide relevant

secretariat support. As appropriate the steering committee would provide recommendations in relation to the technical content of the SEEA Central Framework for consideration by the Bureau of the UNCEEA. In due course, it will be relevant to establish the appropriate mechanisms for the review and revision of the SEEA Central Framework.

(d) In general terms, the methods for advancing the research agenda are likely to be best approached through consultation with the membership of the London Group on Environmental Accounting which led the technical developments through the SEEA revision process. Through the London Group it would be possible to identify relevant projects and implementation work that might be harnessed to test and develop relevant aspects of the research agenda.

(e) However, for the proposed priority areas (i.e. classifications, water valuation and accounts for minimisation of natural hazards), it likely that a lead agency/country needs to be identified with the capacity to both co-ordinate and undertake relevant research work. An initial task of the steering committee would be to identify the appropriate lead agencies/countries.

(f) The steering committee may also play a role in reviewing/advising on material relevant to the implementation of the SEEA Central Framework, such as technical notes on specific subjects and the proposed implementation guide.

D. Next steps

9. The following table outlines the suggested next steps noting that an immediate task is to determine the potential timelines for the different research areas.

Timing	**Task**
June 2013	Establish steering committee
June 2013	Determine research priorities
Oct 2013	Synthesise current knowledge and draft research phases and timing (for each research area)
Nov 2013	Identify lead agencies/countries (for each research area)
Dec 2013	Finalise relevant research phases and timing (for each research area)
Jan 2014 - onwards	Undertake research
June 2014	Provide progress report to UNCEEA

E. Questions for discussion

1. Do you have any comments on the proposed priorities for research as described in Section B?

2. Do you have any comments on the establishment of a steering committee and its composition?

3. Do you have any comments on the role of the steering committee?

4. Do you have any comments on the proposed next steps and the associated timing?

Annex: Research agenda for the SEEA Central Framework

Introduction

1. The SEEA Central Framework is designed to give a view of environmental and economic issues that is suitable for policy and analytical purposes. As the environment and the economy change, as understanding of the environment and the economy develops, and as policy and analytical requirements evolve, the SEEA Central Framework must be reviewed to assess its ongoing relevance.

2. In addition, as implementation of the SEEA Central Framework occurs increasingly across the world, the range of experience gained will offer new insights to the conceptualisation of the environmental and economic accounts that should be considered.

3. As the accounting basis for the SEEA is the System of National Accounts, developments in the accounting within that international standard will also need to be considered. The research agenda for the System of National Accounts is presented in Annex 4 of the 2008 SNA (UN *et al.*, 2009). Of particular relevance in this regard, is the increasing range of new economic instruments that are being created and implemented as part of policies for managing the environment. The research agendas of the SEEA Central Framework and the SNA need to be aware of these developments.

4. Also in relation to the SNA, it is recalled that there are some small differences in treatment between the SNA and the SEEA for certain physical flows, for example, the treatment of goods for processing (see Section 3.3). The ongoing development of the SEEA will need to consider the extent to which any differences with the SNA should be maintained.

5. The process for reviewing and updating the SEEA Central Framework will follow standard processes that have developed for the review of international standards. Thus, there will be consideration within the United Nations statistical system of (i) the relative importance of updating the standard to ensure its ongoing relevance; (ii) the consequences of making any changes and the potential impact on implementation; and (iii) the extent to which research into a proposed area of change has been completed. The process for selecting topics for investigation and determining the appropriate changes to the SEEA Central Framework is one that will involve widespread consultation and involvement of compilers and users.

6. It is noted that, because the SEEA Central Framework is an integrated accounting system with links between different accounts, changing individual areas in response to specific concerns is likely to have broader ramifications. Hence updating the standard must be completed in a co-ordinated and integrated fashion.

7. The following paragraphs outline the major topics identified during the preparation of the SEEA Central Framework as being those which would benefit from further consideration within the international statistical community. Those topics are

   - Development of classifications
   - Definition of resource management
   - Accounts and statistics relating to the minimisation of natural hazards and the effects of climate change
   - Depletion of natural biological resources

- Accounting for soil resources
- Valuation of water resources
- Approaches to the measurement of adapted goods

8. The research topics outlined here do not cover topics related to the development of ecosystem accounting. The status of accounting for ecosystems will be presented in SEEA Experimental Ecosystem Accounts which is currently under development. The SEEA Experimental Ecosystem Accounts will recognise the need for ongoing research and experimentation in ecosystem accounting. Particular areas on which ongoing research is likely to be required include accounting for overall ecosystem condition and capacity, accounting for biodiversity, carbon accounting, accounting for economic instruments used by government in relation to the management of ecosystems, and techniques for the valuation of ecosystems.

9. In addition, research and development in some of the areas included in the research agenda of the SEEA Central Framework might be usefully combined with work on ecosystem accounting. Specifically, research work on accounting for soil resources, the valuation of water resources, and the development of land cover and land use classifications might be considered within research on ecosystem accounting.

Topics on the SEEA Central Framework research agenda

Development of classifications

10. The development of standard definitions, concepts and structures related to environmental and economic accounting is important. However, for a more complete standardisation of information, especially for international reporting and comparison purposes, it is also necessary to construct agreed classifications of relevant statistical concepts. The SEEA Central Framework contains a number of classifications that assist in explaining the breadth of various concepts and also serve as a basis for classifying different stocks and flows.

11. Generally, the classifications in the SEEA Central Framework are only presented at a relatively high or summary level. However, in some cases efforts have been made to describe finer level classes to assist in the preparation of statistics and to clarify the treatment of some specific flows and stocks.

12. Through the drafting process it became clear that the detail for certain classifications would require further consideration. Specifically, further work and consultation is required on the Land Use Classification and the Resource Management component of the Classification of Environmental Activities. The Land Cover Classification would also benefit from testing and application for SEEA purposes, although its basis in the FAO LCCS v3 provides a strong underpinning from a classification perspective.

Definition of resource management

13. The environmental activity of resource management is defined in Chapter 4. The definition is built on early work on the concepts for the measurement of environmental activity first presented in *SERIEE European System for the Collection of Economic Information on the Environment 1994* (Eurostat, 1994). Although defined some time ago, there has not been a significant amount of work on the measurement of resource management activity, especially in comparison to the other main environmental activity of environmental protection. Interest

in resource management has been growing strongly in recent years, including in relation to renewable energy, climate change and recycling activities.

14. The finalisation of the definition of resource management activity for the purposes of the Central Framework was complicated by a lack of clarity on the ideal scope of the resources that should be considered. In some circumstances, a limitation to only natural resources seemed appropriate, while in other cases the inclusion of cultivated resources seemed relevant.

15. It is therefore recommended that a review of the scope of resource management activity be undertaken. This work may be completed in concert with a review of the provisional classification of resource management activities as presented in the Classification of Environmental Activities (see above).

Accounts and statistics relating to the minimisation of natural hazards and the effects of climate change

16. The SEEA Central Framework limits the scope of economic activities considered to be environmental to environmental protection and resource management activity. However, it is recognised that there are a number of other economic activities that are related to the environment that may be of particular interest for policy and analytical purposes (see Section 4.2). A specific set of activities concerns efforts to minimise the impact of natural hazards (such as floods, cyclones, bushfires) and efforts to mitigate, or adapt to, the effects of climate change.

17. Accounts and statistics on these areas of economic activity can be compiled following standard approaches to satellite accounting for economic activities that are outlined in the SNA. Nonetheless, given the analytical and policy interest in these topics and the close link to the environment, the research and development of such satellite accounts may lie within the domain of environmental and economic accounts. It is recommended that work in these areas be considered to fall within the remit of the SEEA such that alignment of accounting conventions and links to other parts of the SEEA Central Framework can be properly established.

Depletion of natural biological resources

18. The depletion of natural biological resources, in particular natural timber and aquatic resources, is an important flow described in some detail in the SEEA Central Framework (see Section 5.4). The discussion on depletion considerably extends the discussion on this topic compared to the SEEA-2003. At the same time, the definition and measurement of depletion in the context of resources that can regenerate is not straightforward and does not have an equivalent in traditional economic accounting.

19. Significantly, the definition and measurement of depletion of natural biological resources requires an integration of economic concepts and scientific information in the form of biological models. While the principles for the purposes of the SEEA Central Framework have been clearly outlined, there is a need for further research and application of these principles, and an assessment of the usefulness of the conceptualisation in the SEEA for policy and analytical purposes.

Accounting for soil resources

20. Accounting for soil resources is discussed in Section 5.7. The section outlines a range of information that might be organised concerning soil resources within the general asset accounting structure of the SEEA Central Framework. At the same time, there is little evidence of soil accounting at a national level following the broad logic of environmental asset accounting. In part, this seems a result of a lack of clarity on the status of soil within accounting frameworks. In some situations accounting for soil is combined with land and thus separate consideration of soil as a resource is mixed with analysis of changes in land cover and land use. In other situations, soil is seen as a complex biological system with multiple interacting components (e.g. nutrients, water, micro-organisms) and hence standard asset accounting seems inappropriate.

21. While both the connection of soil with land and the existence of soil as a complex biological system are appropriate portrayals of soil, the text in the SEEA shows that a significant range of important information can be usefully organised following the concept that soil is a separable environmental asset. However, more research and collaboration is needed to assess the usefulness of soil asset accounts for the purposes of managing this fundamental resource.

22. Importantly, there is an emerging stream of activity from the scientific community that is analysing soil from a "natural capital" perspective. This work could be aligned well with the implementation of soil asset accounts. Part of the focus of the work will need to involve the development of spatially enabled datasets and there are a number of examples of work in this area at both national and international level.

Valuation of water resources

23. Asset accounting for water resources is covered in Section 5.11 and outlines in some detail the appropriate accounting for water resources in physical terms. However, the valuation of water resources is not outlined in detail because the application of the general principles of valuation of environmental assets tends to be inappropriate for water resources.

24. Within the general scope of advancing water accounts it is recommended that further investigation be undertaken to develop techniques and methods for the valuation of water resources consistent with the valuation principles in the SEEA Central Framework.

Approaches to the measurement of adapted goods

25. Adapted goods are goods that have been specifically modified to be more "environmentally friendly" or "cleaner" and whose use is therefore beneficial for environmental protection or resource management. Examples include mercury-free batteries and recycled paper. As described in Section 4.3, the production and use of adapted goods is a component of measuring environmental protection expenditure and the production of environmental goods and services.

26. In concept there is agreement on the inclusion of adapted goods in the scope of measuring environmental activity. However, in practice, determining those goods that are adapted is a challenging task (as explained in Section 4.3). Given the conceptual agreement, it is recommended that research be undertaken to further develop relevant measurement techniques and approaches for adapted goods that might be applied at a national and international level.