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**Structure of the revised SEEA-2003
Some issues for discussion**

Paper prepared by UNSD

(for discussion)

Structure of the revised SEEA-2003

Some issues for discussion

A. Introduction

1. The 11th London Group meeting (Johannesburg, 26-30 March 2007) discussed the new structure of the revised SEEA-2003 on the basis of the paper *A Proposed Structure of the Revised SEEA* prepared by Mark de Haan, of Statistics Netherlands and Chair of the London Group on Environmental Accounting. It agreed that in order to elevate the SEEA-2003 to the level of an international statistical standard, changes to the structure of the SEEA-2003 are necessary.
2. The London Group agreed on some of the issues presented in the paper of De Haan but did not reach an agreement on two issues, namely the order of chapters of the SEEA-2003 and the presentation of hybrid accounts. This paper summarizes the recommendations of the London Group on selected issues of the structure of the revised SEEA-2003 in Section B. Section C summarizes the structure proposal for the revised SEEA-2003 put forward in the paper *A Proposed Structure of the Revised SEEA*. Section D presents the two issues that were discussed at the London Group but on which the London Group did not reach agreement and Section E presents some questions to the UNCEEA. The structure of the SEEA-2003 as well as a synopsis of the chapters is presented in Annex I for ease of reference.
3. This paper is also being submitted to the London Group for consultation. The results of the consultations will be presented to the UNCEEA by the Chair of the London Group during its second meeting on 5-6 July 2007.

B. Recommendations by the London Group on selected issues of the structure of the revised SEEA-2003

4. The London Group agreed that the revised SEEA-2003 should be structured in three parts:

Part I. Statistical standard: Part I would cover agreed concepts, definitions, classifications, tables and accounts and would present the system approach of the revised SEEA-2003.

Part II. Guidelines on non-standard accounts: Part II would cover best practices in the implementation of those accounts that are highly policy relevant but for which there is not yet an agreement on the methodology.

Part III. Applications and policy uses: Part III would cover the application of the SEEA in addressing specific policy issues. Climate change and sustainability were considered the two over-arching policy themes for which the SEEA-2003 should be able to provide information for policy. The discussion on indicators derived from the accounts, including possibly aggregation issues and their link to policy themes, as well as modeling applications would be addressed exclusively in this part.

5. The London Group discussed issues related to the scope and coverage of the revised SEEA-2003 with regard to indicators as well as the organization of Part III. The Group did not reach an agreement on whether the revised SEEA-2003 should only link the main existing indicators lists to the accounts or it should promote selected indicators derived from the accounts (e.g. indicators of efficiency and productivity). Two papers addressing the organization of Part III and the coverage of indicators in the revised SEEA-2003 will be prepared by the United Kingdom Department for Environment, Food and Rural Affairs (DEFRA) and Statistics Netherlands respectively for discussion at the next meeting of the London Group in December 2007. The recommendations of the London Group will be submitted to the UNCEEA at a later stage.

6. The London Group also recommended that the revised SEEA-2003 include agreed classifications of physical flows and environmental assets as well as an agreed glossary of terms. It further agreed that the presentation of the system's approach of the SEEA-2003, that is the presentation of inter-related tables in the sequence of accounts, should be enhanced for example by placing relevant parts of specific resources accounts (now presented in Chapter 8 of the SEEA-2003) in the relevant chapters. Also a chapter should be dedicated to show the sequence of accounts including a numerical example used throughout the publication (SEEA-land dataset).

7. The London Group agreed that discussion on implementation issues should not be included in the revised SEEA-2003 and should instead be presented in accompanying manuals and handbooks.

C. Structure of the revised SEEA-2003 – Proposal discussed at the 11th London Group meeting

8. Before discussing the structure of the revised SEEA-2003, it is useful to recall the structure of the SEEA-2003. The first chapter of the SEEA-2003 introduces the objectives and target audience and the SEEA and the various approaches to sustainability (Chapter 1). Chapter 2 presents the basic accounting concepts and the framework. The subsequent chapters describe the flow accounts, first in physical terms (Chapter 3), then the hybrid accounts (Chapter 4) and finally the monetary flow accounts¹ – first the environmental protection expenditure accounts (Chapter 5) and then other environment-related transactions such as taxes, permits and licenses (Chapter 6). The SEEA-2003 continues with presenting the asset accounts in physical and monetary terms (Chapter 7) and their application to specific resources (Chapter 8). It then presents the valuation techniques for measuring degradation (Chapter 9) and the derivation of environmentally-adjusted aggregates for depletion, defensive expenditures and degradation (Chapter 10). It further presents how the techniques presented in the previous chapters can be applied for policy (Chapter 11). A synopsis of the chapters of the SEEA-2003 is presented in Annex I.

¹ With monetary flow accounts, we intend the conventional SNA accounts augmented by internal satellite accounts of environmental protection expenditure accounts and other environment-related transactions.

9. The paper *A proposed structure of the revised SEEA-2003* (LG/11/3) prepared by Mark de Haan of Statistics Netherlands, presents a proposal for the chapter structure of the revised SEEA-2003 to conform to an international statistical standard. The paper was discussed at the last London Group meeting (Johannesburg, 26-30 March 2007) and various suggestions on the structure are presented in Section D. This Section presents the proposed structure.

10. With the exclusion of country examples and implementation issues from the revised SEEA-2003, the text will be more concise and streamlined. The structure suggested in the paper by De Haan follows the same order as the SEEA-2003: physical flow accounts, hybrid accounts, accounts for environmental activities, products and transactions, valuing degradation and environmentally-adjusted aggregates.

11. The structure proposed in the paper by De Haan of the revised SEEA-2003 is the following:

Chapter 1 – Introduction

Chapter 2 – The accounting structure

PART I: Statistical Standard

Chapter 3 – Physical flow accounts (and their linkage to national accounts)
(including hybrid accounts) [corresponds to SEEA-2003, Chapters 3, 4]

Chapter 4 – Accounting for environmentally related activities and products
[corresponds to SEEA-2003, Chapter 5]

Chapter 5 - Balance sheets for natural resources [SEEA-2003, Chapters 7, 8]

Optional breakdown: *5a: Balance sheets in physical terms*

5b: Balance sheets in monetary terms

Chapter 6 - A full sequence of monetary current and accumulation accounts
[corresponds to SEEA-2003, Chapter 6 and part of Chapter 10 (depletion adjustment only)]

PART II: Non-standard accounts

Chapter 7 - Valuation techniques for environmental degradation [corresponds to SEEA-2003, Chapter 9]

Chapter 8 – Accounting adjustments for environmental degradation [corresponds to SEEA-2003, parts of Chapter 10]

PART III: Applications and policy uses

Chapter 9 – Applications and policy uses [corresponds to SEEA-2003, Chapter 11, including discussion on indicators]

Annexes

Glossary and Index

D. Structure of the revised SEEA-2003 – Some issues for discussion

12. The London Group at its last meeting (Johannesburg, 26-30 March 2007) discussed the structure of the revised SEEA-2003 presented in Section C. It agreed that Chapter 1 of the revised SEEA-2003 would cover the objectives, target audience and the main policy drivers for the revision of the SEEA-2003. It also agreed that Chapter 2 would cover the SEEA framework and cross-cutting statistical concepts including basic accounting concepts, units, sectors, residence, economic classifications of activities and products, although it suggested a change in the presentation. The chapter should present a top-down approach starting with the description of the overall framework and then continuing presenting the different components of the accounts rather than a “bottom-up” approach starting from describing the components of the SEEA and then present them as addition/extension to the SNA framework.

13. The London Group did not reach an agreement on two issues, namely the order of the chapters and the presentation of the hybrid accounts. The order of the chapters entails to whether flows (physical and monetary) should be presented before or after stocks. As for the hybrid accounts, the London Group agreed that with the exclusion of country examples and the discussion on indicators from the revised SEEA-2003, it was no longer warranted to keep the hybrid accounts in a separate chapter. The question is whether the hybrid accounts should be presented in the same chapter of the physical flow accounts or in the same chapter of the monetary accounts.

14. Below we discuss advantages and disadvantages of the various options for the two issues mentioned above to facilitate the consultation within the London Group and the decision of the UNCEEA.

(1) Order of the chapters of the SEEA-2003

15. Table 1 below shows schematically the structure of the SEEA-2003, the one proposed in the paper by Mark de Haan and the alternative presentation proposed during the discussion in the London Group meeting. The structure of the SEEA-2003 and that presented in the paper by De Haan present the following order of chapters for Part I: physical flow and hybrid accounts; accounts for environmental activities, products and transactions; asset accounts; and full sequence of accounts.

16. The advantage of the structure in De Haan paper is that it is very close to the structure of the SEEA-2003. It combines some of the SEEA-2003 chapters and follows the 1993 SNA structure (flows and then stocks).

17. The alternative presentation entails presenting the asset accounts before the flow accounts. The order of the remaining chapters remains the same.

18. The advantage of the alternative presentation seems to be a better representation of sustainability, one of the main policy themes throughout the SEEA-2003. It presents first the natural resource assets before explaining the use the goods and services generated by those assets. This is in line with the concept of maintaining the capital base non-declining.

19. Further, in the alternative presentation, the full sequence of accounts will follow directly after the monetary flow accounts rather than after the asset accounts, as proposed

in De Haan paper. The text would thus follow more logically in the alternative presentation.

Table 1. Structure of the revised SEEA-2003¹

SEEA-2003	Proposed structure in the paper by Mark de Haan	Alternative presentation proposed during the LG meeting
<i>Chapter 1 – Introduction</i>	<i>Chapter 1 – Introduction</i>	<i>Chapter 1 – Introduction</i>
<i>Chapter 2 – The accounting structure of the SEEA-2003</i>	<i>Chapter 2 – SEEA structure</i>	<i>Chapter 2 – The accounting structure</i>
	<i>PART I – Statistical standard</i>	<i>PART I – Statistical standard</i>
<i>Chapter 3 – Physical flow accounts</i>	<i>Chapter 3 – Physical flow accounts (and their linkage to national accounts) (including hybrid accounts)</i> [SEEA-2003, Chapters 3, 4]	<i>Chapter 3 – Asset accounts (physical and monetary)</i> [SEEA-2003, Chapters 7,8]
<i>Chapter 4 – Hybrid flow accounts</i>	<i>Chapter 4 – Accounting for environmentally related activities and products (including EPEA)</i> [SEEA-2003, Chapter 5]	<i>Chapter 4 – Physical flow accounts</i> [SEEA-2003, Chapter 3]
<i>Chapter 5 – Accounting for economic activities and products related to the environment</i>	<i>Chapter 5 – Balance sheets for natural resources (physical and monetary)</i> [SEEA-2003, Chapters 7, 8]	<i>Chapter 5 – Monetary flow accounts</i> [SEEA-2003, Chapter 5 and Chapter 6 (including SUT, EPEA, taxes, subsidies and permits)]
<i>Chapter 6 – Accounting for other environmentally related transactions</i>	<i>Chapter 6 – A full sequence of monetary current and accumulation accounts</i> [SEEA-2003, parts of Chapter 6 (taxes, subsidies and permits and sequence of accounts for the above transactions) and parts of Chapter 10 (adjustments for depletion)]	<i>Chapter 6 – Full sequence of accounts</i> [SEEA-2003, parts of Chapters 6 (sequence of accounts) and parts of Chapter 10 (adjustment for depletion)]
<i>Chapter 7 – Asset accounts and the valuation of natural resource stocks</i>	Combined into other chapters	Combined into other chapters
<i>Chapter 8 – Specific resource accounts</i>	Combined into other chapters	Combined into other chapters
	<i>Part II – Non-standard accounts</i>	<i>Part II – Non-standard accounts</i>
<i>Chapter 9 – Valuation techniques for measuring degradation</i>	<i>Chapter 7 – Valuation techniques for environmental degradation</i> [SEEA-2003, Chapter 9]	<i>Chapter 7 – Valuation techniques for environmental degradation</i> [SEEA-2003, Chapter 9]
<i>Chapter 10 – Making environmental adjustments to the flow accounts</i>	<i>Chapter 8 – Accounting adjustments for environmental degradation</i> [SEEA-2003, part of Chapter 10]	<i>Chapter 8 – Accounting adjustments for environmental degradation</i> [SEEA-2003, part of Chapter 10]
	<i>Part III – Applications and policy uses</i>	<i>Part III – Applications and policy uses</i>
<i>Chapter 11 – Policy application and uses</i>	<i>Chapter 9 – Applications and policy uses</i> [SEEA-2003, Chapter 11 (including discussion on indicators)]	<i>Chapter 9 – Applications and policy uses</i> [SEEA-2003, Chapter 11 (including discussion on indicators)]

¹ For both de Haan and alternative presentation, hybrid flow accounts could be presented either in the same chapter as the physical flow accounts or in the chapter with the monetary flow accounts

20. Presenting the stocks and then the flow is in line with the Balance of Payments Manual – Sixth Edition (BPM6), which in the forthcoming edition has changed the order of the chapter to present the stocks before the flow. The 1993 SNA Rev.1, however will still continue presenting the flow before the stocks, the reason being a matter of convention rather than conceptual. Historically, the flow accounts have been the core of the national accounts, however, there is an increased emphasis on the compilation and analysis of balance sheets.

21. Presenting the stocks before or after the flows would not entail a major revision. It is only a matter of presentation rather than of content.

(b) Presentation of hybrid accounts

22. Two positions emerged with regard to the presentation of hybrid accounts. One advocates presenting the hybrid accounts in the same chapter as the physical flow accounts, the other advocates presenting the hybrid accounts in the same chapter as the monetary flow accounts. The two positions can be considered regardless of the order of the chapters in the revised SEEA-2003, that is independently of whether stocks are presented before or after the flow.

23. The chapter on physical flow accounts would present the classifications of physical flows, that is classifications of material inputs, including energy, and residuals (e.g. waste), the SNA supply and use tables (SUT) and the link between the SUT and the physical flows (hybrid accounts). It would also present tables and accounts for physical flows including energy accounts, waste accounts and emission accounts. Presenting the hybrid accounts in the same chapter as physical flow accounts would directly link the physical accounts with the national accounts in the same presentation.

24. The chapter on monetary accounts would present the environmental protection and resource management accounts, as well as other transactions related to the environment (e.g. taxes, subsidies, permits and licenses). Presenting the standard national accounts augmented with economic transactions related to the environment and physical flows in the same table would provide useful information in a concise and condensed manner.

E. Questions to the UNCEEA

25. The UNCEEA may wish to express its views on the following questions:

- (1) *Does the UNCEEA agree with the proposed structure of the revised SEEA-2003 in three parts, namely, Part I - Statistical Standard, Part II – Non-standard accounts, Part III – Applications [para 4]?*
- (2) *Does the UNCEEA agree that the discussion on indicators is limited to Part III – Applications of the SEEA-2003 [para 4]?*
- (3) *Does the UNCEEA agree with not including in the revised SEEA-2003 country examples and compilation issues [para 7]?*
- (4) *Does the UNCEEA agree with the change in presentation of Chapter 2 from “bottom-up” to “top-down” approach [para 12]?*

- (5) *Which order of chapters does the UNCEEA recommend for Part I of the SEEA-2003?*
- i. *Flows, stocks and full sequence of accounts; or [paras 15,16]*
 - ii. *Stocks, flows and full sequence of accounts [paras 17 - 21]*
- (6) *What is the UNCEEA opinion on the presentation of hybrid accounts?*
- i. *Should they be presented in the chapter of the physical flows [para 23]? Or*
 - ii. *Should they be presented in the chapter of the monetary flows [para 24]?*

Annex I Structure of SEEA-2003 and summary of the content of the chapters

Chapter 1 – Introduction: Chapter 1 presents the objectives and target audience of the SEEA-2003. It further looks at the question of sustainability and how the SEEA-2003 meets the information needs of the various approaches to sustainability and provides a quick overview of the various chapters.

Chapter 2 – The accounting structure of the SEEA-2003: Chapter 2 provides an overview of the whole accounting system. It introduces basic national accounts concepts and identities as well as the extension of the SNA to the environment.

Chapter 3 – Physical flow accounts: Chapter 3 introduces the flow accounts in physical terms. It looks at physical flows of material and energy from the environment to the economy, within the economy and from the economy to the environment. It also presents examples of indicators and analyses that can be derived from the accounts.

Chapter 4 – Hybrid flow accounts: Chapter 4 superimposes the standard SNA supply and use table with the corresponding physical table. It briefly presents the energy accounts.

Chapter 5 – Accounting for economic activities and products related to the environment: Chapter 5 covers expenditures related to the protection of the environment and resource use activities. It also discusses indicators that can be derived from the accounts.

Chapter 6 – Accounting for other environmentally related transactions: Chapter 6 describes other monetary transactions connected with the environment, specifically those economic instruments being used to manage natural resources. These include taxes, permits and licenses for extracting natural resources or using the environment as a sink.

Chapter 7 – Asset accounts and the valuation of natural resource stocks: Chapter 7 introduces the definition of environmental assets and a proposed classification of assets. It presents the asset accounts – stocks and changes in stocks – in physical and monetary terms and discusses the principles of economic valuation and the application of the theory of capital services to environmental assets.

Chapter 8 – Specific resource accounts: Chapter 8 discusses in greater detail definitions and classifications and asset accounts for specific resources, namely mineral and energy resources, water resources, forests, wooded land and forest products, aquatic resources and land and ecosystems.

Chapter 9 – Valuation techniques for measuring degradation: Chapter 9 presents various valuation techniques which can be applied to value degradation. The valuation techniques are presented by describing the different policy questions each technique can be used for. Some valuation techniques are consistent with the SNA but represent more analytical means of pricing various characteristics of a product. Others are not consistent with the SNA and include consumer surplus.

Chapter 10 – Making environmental adjustments to the flow accounts: Chapter 10 presents the derivation of environmentally-adjusted aggregates. Adjustments include depletion, defensive expenditures and degradation.

Chapter 11 – Policy application and uses: Chapter 11 starts from the techniques developed in the previous chapters and shows how these may be used to inform policy analysis and decision making. It does not define a set of indicators but shows the links of the Commission of Sustainable Development indicators list with the SEEA-2003 accounts.

Annexes: The annexes give the details of the various classifications used in the SEEA-2003 accounts. One of the annexes presents the relationship between the SEEA accounting framework and that of the 1993 SNA.