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The organisation of Volume III on applications of the SEEA:

Issue paper for the London Group

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Background

At the last meeting of the London Group in Rome the Group discussed different options for the organisation of Volume III of the revised SEEA, on Applications. The Group considered that the audience for Volume III should include policy makers as well as analysts and researchers, and that this required a more even-handed treatment of both environmental issues and applications of particular accounts. The Group suggested the following structure: section 1 would select a few key issues such as climate change and would show how the accounts contributed to policy development; section 2 would deal with key assets and demonstrate how the accounts supported integrated resource management; and a further section, section 3, would cover other, in particular cross-cutting, applications. This paper sets out in a little more detail how such a structure might be developed.

At the 2nd meeting of UNCEEA it was agreed that although eventually there will be a single Volume on applications, Volume I applications need to be presented first in an intermediate working document to be released together with Volume I in 2012. This paper makes a tentative distinction between these different applications, although in practice some applications may best be described by use of both Volume I and Volume II accounts. For example, applications of land or land cover accounts may use the standard classifications described in Volume I and the valuations to be covered in Volume II.

The structure of Volume III

In broad terms, the Group agreed the following structure:

- Section 1: Applications relating to climate change and other environmental issues (for example those caused by the generation of pollutants and other residuals)

- Section 2: The management of natural resources
- Section 3: Other, generally cross-cutting, applications

This is fairly close to the structure of the current SEEA-2003 chapter, but with a change of tone (pollutants rather than residuals, for example) and emphasis (referencing particular environmental issues rather than particular accounts). The difficulty it raises is in deciding how best to deal with applications which

- could incorporate information from generic accounts (such as environmental protection expenditure on climate change mitigation, or stock accounts for energy materials) to throw light on particular environmental issues but might be better considered in the round in Section 3 on cross-cutting applications or Section 2 on resource management;
- deal with particular environmental issues such as water quality but are based almost entirely on information from specific resource accounts;
- use similar techniques but refer to different accounts and/or environmental issues (for example, structural decomposition analysis of waste generation as distinct from greenhouse gas emissions).

The following structure is based on the broad proposed ground rules that

- Section 1 covers the themes of climate change, air quality and the management of solid waste, largely building on the physical flow accounts (and including energy flow accounts as well as emissions accounts), and incorporating particular elements of monetary flow accounts, stock accounts and even Volume II type assessments of environmental damage in value terms where relevant;
- The themes in section 2 are restricted to applications of the specific resource accounts developed so far, including wastewater and water quality as part of the water accounts, and Volume II accounts such as ecosystem accounts where such applications exist;
- Section 3 covers the broader topics of material flows, environmental protection and resource management expenditures, environmental taxation, combined stock accounts, ecosystem services and the adjustment of national accounting aggregates.

This structure is not necessarily intended to be a reflection of the relative importance of the various themes or applications, except for the positioning of climate change, and the order of coverage within Sections 2 and 3 in particular may be something which the Group may wish to take a view on.

The following tables set out in a little more detail the proposed structure of each section. Potential Volume II accounts are shown in italics with an asterisk (*). Each table sets out some of the relevant UN SD indicators as evidence that the accounts are dealing with important environmental issues, but it due course it might be more helpful to set out the list of potential indicators which can be derived from the accounts.

Section 1: Climate change and other environmental issues caused by the generation of pollutants

General themes	**Relevant accounts**	**UN Sustainable Development Indicators**
Climate change	Greenhouse gas emissions accounts, energy flow accounts	Carbon dioxide and greenhouse gas emissions Consumption of ozone depleting substances Annual energy consumption, total and by main user category; Intensity of energy use, total and by economic activity; Modal split of passenger transportation; Modal split of freight transport;
Understanding changes over time through structural decomposition; tracking the structural causes of pollution	Physical flow accounts linked with monetary input-output tables - technique to be set out in an annex	Energy intensity of transport; Fertiliser use efficiency
Air quality	Atmospheric emission accounts (other than greenhouse gas emission accounts)	Ambient concentration of air pollutants in urban areas
Management of solid waste	Physical flow accounts, monetary flow accounts	Generation of waste Generation of hazardous waste Waste treatment and disposal Management of radioactive waste

Section 2: The management of natural resources

General theme	**Relevant accounts**	**UN Sustainable Development Indicators**
Management of water resources	Water	Proportion of total water resources used; Water use intensity by economic activity; Presence of faecal coliforms in freshwater; Biochemical oxygen demand in water bodies; Wastewater treatment
Management of sub-soil assets	Sub-soil assets	
Management of fisheries	Fisheries	Proportion of fish stocks within safe biological limits
Management of forestry	Forestry	Proportion of land area covered by forests; Percent of forest trees damaged by defoliation; Area of forest under sustainable forest management
Land, land cover and habitats	*Land** (note: classifications are to be included in Volume I)	Land use change; *Land degradation;* *Land affected by desertification;* Arable and permanent cropland area; *Area under organic farming;* *Proportion of terrestrial area protected, total and by ecological region;* *Management effectiveness of protected areas*
Management of soil resources	*Soil**	*Use of agricultural pesticides*
Management of ecosystems	*Ecosystems**	*Percentage of total population living in coastal areas;* *Bathing water quality;* *Proportion of marine area protected;* *Marine trophic index;* *Area of coral reef ecosystems and percentage live cover;* *Area of selected key ecosystems;* *Fragmentation of habitats;* *Change in threat status of species;* *Abundance of selected key species;* *Abundance of invasive alien species*

Section 3: Cross-cutting and other applications

General theme	**Relevant accounts**	**UN Sustainable Development Indicators**
Resource use and resource efficiency	Physical flow accounts including MFA and energy flow accounts, linked with economic accounts	Material intensity of the economy; Domestic material consumption
Combatting environmental degradation	Environmental protection expenditure Environmental taxation *Environment industry** Subsidies Permits (to the extent that applications are not covered in Section 1, in particular under the climate change theme)	
The extent to which environmental taxes match environmental burdens	Physical and monetary flow accounts including MFA and energy flow accounts	
Sustaining wealth	Combined stock accounts for environmental assets	
Ecosystem goods and services	Selected elements of a number of natural resource accounts including *ecosystems accounts**	
Adjusting macro-economic aggregates (How much does degradation matter?)	*Valuation of degradation**	

Issues for the Group

This paper outlines in a little more detail how applications based on various elements of the accounts can be described from the point of view of view of potential users. It should be noted that this is about as far as the development of structure can be taken without a detailed knowledge of the actual applications which have been developed in different parts of the world.

1. Is the Group happy to limit the coverage of issues in Section 1 to air quality and solid waste management in addition to climate change?

2. Does the Group have any views on the order of applications within Section 2? Is it OK to locate any applications concerning renewable energy/stock accounts for energy within the sub-soil assets category?

3. Does the Group have any views on the order of applications within Section 3? Is the Group content for applications based on general monetary flow accounts to be treated as crops-cutting?

4. Are there any important applications which would not be picked up in this structure?