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**Definition and classification of assets  
in the revised SEEA  
A proposal**

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<sup>1</sup> The paper represents the views of the authors and not those of the United Nations.

# DEFINITION AND CLASSIFICATION OF ASSETS IN THE REVISED SEEA A PROPOSAL

## Issue paper

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### A. Introduction

1. The issue on the definition and classification of asset in the revised SEEA has been discussed at several meetings of the London Group on Environmental Accounting. The UNCEEA discussed more broadly at its last meeting in June 2010 a paper on the economic and ecosystem to the environment which has direct implications on the definition and classification of assets in the revised SEEA. The UNCEEA “recommended that the revised SEEA present both the economic and ecosystem approaches as complementary systems integrated in the SEEA framework. It noted that the economic approach, the “satellite” to the SNA would be presented in the statistical standard in Volume 1. The conceptual framework for the ecosystem approach will be presented in Volume 2 and it could become a very important extension and therefore should be integrated” (Minutes 5<sup>th</sup> Meeting of the UNCEEA).

2. This paper builds upon the paper LG/15/10 and tries to bring together the discussions at the 15<sup>th</sup> meeting of the London Group and at the 5<sup>th</sup> meeting of the UNCEEA to develop a proposal for a definition of asset which is broad enough to encompass assets both in Volume 1 and in Volume 2. It then proposes a classification of assets for Volume 1 which is an extension to that of the 2008 SNA classification of assets.

### B. Definition of an asset in the 2008 SNA and proposal for the revised SEEA

1. *Definition of an asset in the 2008 SNA*

3. The 2008 SNA defines an asset as follows:

*An asset is a store of value representing a benefit or series of benefits accruing to the economic owner by holding or using the entity over a period of time. It is a means of transferring value from one accounting period to another. (2008 SNA, para 3.30).*

4. An *economic benefit* is defined as denoting a gain or positive utility arising from an action. It implies a comparison between two states. This can be elaborated

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within the SNA so that benefits are seen as rewards for providing services, such as those of labour and capital to production and also the means of acquiring goods and services for production, consumption or accumulation in the current period or in future periods. (2008 SNA para 3.19) Sometimes the immediate benefit is in terms of goods and services directly, for example own account production or wages and salaries in kind. More often a benefit is in the form of the medium of exchange (money), for example as wages and salaries. Consumption is an activity that takes place in the current period only but may be financed from past benefits. Production and accumulation also involve benefits postponed to future periods. Thus, means of allowing benefits to be moved from one accounting period to another have to be recognized. These take the form of assets and liabilities where a benefit in one period is converted to a benefit in one or more future periods. (SNA 2008 para 3.20)

5. The *value* in the definition represents the market's view of the total of the benefits embodied by the asset and it is represented by a monetary value (modified from SNA 2008, para 3.38).

6. Two types of *ownership* can be distinguished, legal ownership and economic ownership.

*The legal owner of entities such as goods and services, natural resources, financial assets and liabilities is the institutional unit entitled in law and sustainable under the law to claim the benefits associated with the entities. (2008 SNA para 3.21)*

The economic owner of an entity such as goods and services, natural resources, financial assets and liabilities is the institutional unit entitled to claim the benefits associated with the use of entity in the course of an economic activity by virtue of accepting the associated risks. (2008 SNA para 3.26)

2. *Definition of an asset in SEEA-2003*

7. The asset boundary in the SEEA-2003 applies to environmental assets, which are defined in terms of the provision of environmental functions. Environmental functions are the uses to which the physical surroundings are put for economic ends (SEEA-2003 para 7.31). These environmental functions yield benefits to the economy. Those benefits can be grouped into two categories use and non-use benefits (SEEA-2003 para 7.35). Economic benefits are a small portion of those benefits and are included in "direct use benefits". The inclusion of benefits such as option and bequest benefits broadens the scope of the SEEA asset boundary to include all land and natural resources and ecosystems (SEEA-2003 para 7.35-7.39).

8. The definition of environmental assets in the SEEA-2003 is presented in terms of the description of the functions the assets provide. It runs over several paragraphs making it difficult to have a clear cut definition.

9. The definition of an asset in the SEEA-2003 relates closely to the definition of an asset in the 2008 SNA. The types of benefits that can be derived from the asset are broader than economic benefits and include also use and non-use benefits.

4. *Definition of an asset in the revised SEEA – A proposal*

10. The definition of an asset in the SEEA-2003 needs to be tightened and linked to the benefits that the asset may provide. Furthermore it should be clarified that the assets may not be owned by institutional units as in the case of the SNA but they should provide benefits to humanity and in a sense assets have an economic connotation. The provision of services of flood protection has clearly benefits to the economy and they are use benefits. Similarly the services of pollination of bees by a forest, if the forest is neighboring agricultural land they clearly provide benefits to the economy through increased agricultural output.

11. The definition of asset in the 2008 SNA could be used as the starting point to broaden the scope of the definition. We would suggest the following:

*An asset is a store of benefits or series of benefits accruing to humanity.*

12. The benefits are linked to the functions that environmental assets provide. The benefits can be use and non-use and can be represented in terms of the services provided by the asset, e.g. provisioning, regulatory, cultural and supporting. The can be accrued to humanity now or in the future.

13. The definition of asset is broad enough to cover all assets in the SEEA-2003. The SNA assets are a subset of the SEEA asset: they provide only economic benefits and these benefits have to be accrued to an owner which is an institutional unit. Assets that are “owned” globally such as the high seas and the atmosphere are not within the SNA asset boundary.

14. Volume I of the revised SEEA follows the definition of asset of the SNA for what concerns the monetary accounts. For the physical account, it is suggested that a broader definition is used to include also those assets that may be collectively owned and which are expected to provide benefits in the future. This would include for example land and forest resources that are within the national territory but which are not used during the accounting period. It would also go beyond “proven” mineral and energy resources to include those resources that are likely be used in the future with a certain degree of probability. This extension will facilitate the link with the ecosystem approach in Volume 2.

**Q1: Do you agree with the proposed definition of asset in the revised SEEA and its explanation?**

**Q2: Do you agree with the proposal of following the SNA boundary for what concern monetary accounts and expand the boundary of the physical**

**accounts to include all assets even if they are not used during the accounting period in Volume I?**

**C. From the 1993 SNA to the 2008 SNA to revised SEEA classification of assets – Main changes relevant for the revision of the SEEA**

15. The main changes in the classification of assets in the 2008 SNA, relevant to the SEEA include the following:

- (a) Replacing the term “tangible non-produced assets” with “natural resources”;
- (b) Split the old category “intangible non-produced assets” into "Contracts, leases and licences" and "Goodwill and marketing assets". The first category is of relevance to the SEEA. The SEEA will have to be amended to follow the 2008 SNA. The relevant text in the 2008 SNA may have to be elaborated to discuss the various cases for specific natural resources;
- (c) Land improvements are treated as a creation of a new fixed asset and not regarded as giving rise to an increase in the value of the natural resource. This is a major change as compared to the 1993 SNA, where land improvements were recorded as capital formation to the non-produced asset “land”. The SEEA-2003 followed the 1993 SNA. The revised SEEA should be updated to follow the 2008 SNA;
- (d) Costs of ownership transfer on land are recorded as a part of land improvement, that is part of a produced asset. For all other natural resources other than land, the value of the natural resources in the balance sheet includes the value of the costs of ownership transfer. This asymmetry is not conceptually correct but may not be significant.
- (e) The item "mineral exploration" has been modified to "mineral exploration and evaluation" to emphasize that the coverage (and probably data source) is aligned with that of the international accounting standards.

**Q3: Do you agree that the revised SEEA asset classification should align with the changes above in the 2008 SNA (para 34 (a) – (e))?**

**Q4: Is there a need to rectify the asymmetry in recording the costs of ownership transfer on non-produced assets other than land as part of produced assets and thus diverging from the SNA (para 34 (d))?**

**D. Definition and classifications of land and natural resources**

*1. Definition of natural resources in 2008 SNA*

16. The 2008 SNA defines natural resources as follows:

*Natural resources consist of naturally occurring assets such as land, water resources, uncultivated forests and deposits of minerals that have an economic value. (2008 SNA, para 10.15).*

17. In the 2008 SNA Land is included as part of natural resources.

2. *Definition of natural resources and land in the SEEA-2003*

18. The SEEA-2003 defined natural resources as follows:

*Natural resource assets are defined as those elements of the environment that provide use used in economic activity (or that may provide such benefits one day) and that are subject primarily to quantitative depletion through human use. They are sub-divided into four categories: mineral and energy resources, soil resources, water resources and biological resources. (SEEA 2003, para 7.42)*

*Land and surface water assets are defined as the areas within the national territory that provide direct or indirect use benefits (or that may provide such benefits one day) through the provision of space for economic and non-economic (for example recreational) human activities. . (SEEA 2003, para 7.61)*

19. The definitions of natural resources are different between the 2008 SNA and the SEEA-2003, hence the difference in the hierarchy of classifications in the two systems. The two main differences:

- (a) In the 2008 SNA land is included as part of natural resources. In the SEEA 2003 land is considered separately as a provider of space.
- (b) The SNA considers only naturally occurring assets as natural resources. The SEEA-2003 instead considers all materials whether they are the result of a production or a natural process as part of natural resources.

20. Table 2 presents an example of the different presentation in the 2008 SNA and the SEEA-2003. The 2008 SNA groups items according to whether they are the result of a production process or a natural process and according to whether they are used more than once in the production process. This also involves different valuations. The SEEA-2003 groups items according to the resource and further subdivides them on whether they are produced or non-produced.

**Table 2. Presentation of cultivated and uncultivated biological resources n the 2008 SNA and the SEEA -2003**

2008 SNA*	SEEA-2003
Produced assets	Biological resources

Fixed assets	Timber resources
Cultivated biological resources	Cultivated
Animal resources yielding repeat products	Non-cultivated
Tree, crop and plant resources yielding repeat products	Crop and plant resources other than timber
Inventories	Cultivated
Work in progress	Yielding repeat products
Work in progress on cultivated biological resources	Yielding one-time harvests
Non-produced assets	Non-cultivated
Natural resources	Aquatic resources
Non-cultivated biological resources	Cultivated
	Non cultivated
	Animal resources
	Cultivated
	Non cultivated

\* Elaborated from the 2008 SNA asset classification

### 3 Proposal for the revised SEEA

21. In order to maintain a close link between Volume I and the ecosystem approach presented in Volume 2, it is suggest to keep the SEEA-2003 hierarchy of the classification with land being an item at the same level as natural resources, rather than subsuming land to natural resources. It is also suggested to retain the definition of land as in the 2003 SEEA;

*Natural resources consist of naturally occurring assets such as mineral and energy resources, water resources and fishery and forest resources that provide material input to the economy now or in the future.*

22. Note that the above definition is broader than the SNA definition of asset in the sense that it includes also those natural resources that may be exploited in the future that is that provide option benefits. As discussed earlier the broadening of the definition of assets is linked with the broad definition of benefits.

**Q5: Do you agree with keeping land at the same level of natural resources in the revised SEEA asset classification of Volume I (as in the SEEA-2003) rather than subsuming land under natural resources as in the 2008 SNA?**

**Q6: Do you agree with keeping the same structure of the classification of produced/non-produced asset as in the SEEA-2003 rather than aligning with the 2008 SNA?**

**Q7: Do you agree with keeping the definition of land as in the SEEA-2003 and reword the definition of natural resources as in para 21?**

#### E. Recommendations on specific items in the classification

##### 1. Land

23. The 2008 SNA introduces a major change with respect of the treatment of land. In principle, the value of land to be shown in the balance sheet is the value of

land excluding the value of improvements, which are shown separately under fixed assets, and excluding the value of buildings on the land which are also to be shown separately under fixed assets (2008 SNA para 13.44).

24. When the value of land cannot be separated from the building, structure, or plantation, vineyard, etc. above it, the composite asset should be classified in the category representing the greater part of its value. Similarly, if the value of the land improvements (which include site clearance, preparation for the erection of buildings or planting of crops and costs of ownership transfer) cannot be separated from the value of land in its natural state, the value of the land may be allocated to one category or the other depending on which is assumed to represent the greater part of the value. (2008 SNA para 13.46).

25. De facto this implies that land is split into two: with one part recorded as land improvements under the category fixed asset and the other part as natural land recorded as natural resources under non-produced assets.

26. The revised SEEA should cover in the physical accounts all land including that is not owned by institutional unit. All the territory of a nation should appear in the physical accounts. The monetary accounts will follow the SNA conventions, thus not all land on the national territory may be valued and some of the value of land may be allocated to building and structures. The physical accounts should identify the area of land allocated to building and structures in order to maintain as much as possible the link between the physical accounts and the monetary accounts.

27. The breakdown of the classification of land in Volume 1 should follow the recommendation of the paper on land use.

**Q8: Do you agree that the physical accounts of land should cover all the territory in a country and the monetary accounts should follow the SNA?**

2. *Soil resources*

28. The 2008 SNA, explicitly mentions soil in the definition of land.

*Land consists of the ground, including the soil covering and any associated surface waters, over which ownership rights are enforced and from which economic benefits can be derived by their owners by holding or using them (2008 SNA para 10.175).*

29. The SEEA-2003 asset classification identifies soil as a separate item. It is defined as follows:

*Soil resources include soil found on agricultural land as well as that found elsewhere within the national territory.*



30. Soil provides important services including for example nutrients and sequestration of carbon. It is subject to degradation (loss in quality) depending on agricultural or other industrial practices and depletion (loss in quantity) when topsoil is lost (SEEA-2003 para ).

31. The London Group on Environmental Accounting agreed that the value of soil depletion should be recorded in the production account as a cost of production. This would imply that soil is seen as a natural resource. However, soil is not a material input to production but rather it provides services in terms of nutrients and minerals. It is therefore a very important ecosystem asset.

32. Given the above considerations, it is recommended that soil be considered together with land in a similar vein as the 2008 SNA..

**Q9: In Volume 1 should soil be maintained as a separate item in the asset classification as in the SEEA-2003? or should it combined with land as in the SNA?**

**Q10: If soil is combined with land, should it appear as part of the ecosystem classification?**

3. *Mineral and energy resources.*

33. In the 1993 SNA, the terminology used subsoil assets. They are defined as:

*Subsoil assets are proven reserves of mineral deposits located on or below the earth's surface that are economically exploitable given current technology and relative prices. Mine shafts, wells and other extraction sites are included with structures rather than with the subsoil asset. (1993 SNA, para. 13.59)*

34. In the 2008 SNA definition of mineral and energy resources are defined as follows:

*Mineral and energy resources consist of mineral and energy reserves located on or below the earth's surface that are economically exploitable, given current technology and relative prices. (2008 SNA para 10.179)*

35. Although the 2008 SNA has aligned the terminology to that of the SEEA-2003 and no longer uses “proven reserves”, it did not change the text with regard to the explanatory text.

36. The 2008 SNA does not recommend a disaggregation of the classification and it recommends to follow that in the SEEA. (2008 SNA para 10.181)

37. The SEEA-2003 defined mineral and energy resources as follows:

*Mineral and energy resources include subsoil deposits of fossil fuels, metallic minerals and non-metallic minerals.*

38. In the SEEA, these include not only the proven reserves (which are equivalent to the subsoil assets category AN.212 of the 1993 SNA) but also probable, possible and speculative resources.

39. The SEEA-Energy defines energy resources as known (subsoil) deposits of energy resources such as coal, oil, natural gas and uranium ore. The SEEA-Energy asset boundary with respect to mineral and energy resources is broader than the SNA. While the 2008 SNA includes only those resources that have an economic value, the SEEA-Energy includes all known deposits, even those parts of the resources that have no present economic value but might obtain a value in the future, or bring in other ways benefits in the form of non-market value to the owner. (SEEA-Energy, para 3.1)

40. To align the definition of mineral and energy resources to the general definition of natural resources, we would suggest the following definition:

***Mineral and energy resources include known deposits of mineral and energy resources such as petroleum resources, non-metallic minerals and metallic minerals that can be primarily used for economic activity now or in the future.***

41. Further discussion during the preparation of the SEEA-Energy has led to consider the breakdown of the classification of mineral and energy resources presented in Table 3. The aggregation of mineral and energy resources is different from the classification in the SEEA-2003.

42. This is because the SEEA-2003 seems to be inconsistent for example coal is both a fossil fuel and a non-metallic mineral. The distinction between petroleum resources and minerals is useful and is in line with the United Nations Framework Classification for Fossil Energy and Mineral Resources (UNFC). The classification needs to undergo further review with the energy statistics experts to ensure that the hierarchy and coverage is correct and it is consistent with the Standard Classification of Energy Products being developed by the Oslo Group.

**Table 3. Classification of mineral and energy resources (SEEA-Energy)**

EA.	Natural resources		
	EA.1	Mineral and energy resources	
		EA.111	Petroleum resources
			EA.111. Natural gas (including NGL and condensate)
			EA.111. Crude Oil
			EA.111. Natural bitumen, extra heavy oil, shale oil, sand oil and others n.e.c.
		EA.112	Non-metallic minerals and solid fossil energy resources
			EA.112. Non-metallic minerals except for coal and peat
			EA.112. Coal

		EA.112.	Peat
	EA.113		Metallic minerals
		EA.113.1	Uranium ores
		EA.113.2	Other metallic minerals

Source: Table 3.1 SEEA-Energy.

43. The SEEA-Energy does not include renewable energy resources, such as wind, solar and wave-energy in the natural resource classification. Similarly, firewood in forests and other types of biomass are not included explicitly as energy resources. However, both cultivated and non-cultivated timber resources, and other crop and plant resources are included as Biological Resources in the classification of natural resources. Further, waste and renewables, as well as heat and electricity produced from renewable energy resources, are included as energy products in the flow accounts (SEEA-Energy para 3.7).

**Q11: Do you agree with the proposed definition of mineral and energy resources?**

**Q12: Do you agree with the proposed breakdown of the classification of mineral and energy resources in the SEEA-Energy (Table 3)?**

4. *Biological resources*

44. Non-cultivated biological resources are defined in the 2008 SNA as:

*Non-cultivated biological resources consist of animals, birds, fish and plants that yield both once-only and repeat products over which ownership rights are enforced but for which natural growth and regeneration is not under the direct control, responsibility and management of institutional units. (2008 SNA para 10.182)*

45. In the SEEA, this category is further split into aquatic resources, animal resources other than aquatic resources, tree, crop and plant resources. Aquatic resources is further split into aquatic resources in national waters including the exclusive economic zone (EEZ) and those in the high seas. (2008 SNA para 183)

46. We would suggest the following definition for the revised SEEA:

*Non-cultivated biological resources consist of animals, birds, fish and plants that provide use and non-use benefits now or in the future to humanity.*

47. Further disaggregation of biological resources in the revised SEEA will depend on the development in the forest accounts.

**Q13: Do you agree with the proposed definition of non-cultivated biological resources?**

5. *Water resources*

48. They are defined in the 2008 SNA as:

*Water resources consist of surface and groundwater resources used for extraction to the extent that their scarcity leads to the enforcement of ownership or use rights, market valuation and some measure of economic control.*

49. The definition of water resources seems to encompass only those resources that are used for extraction. If a water body is used for example to discharge waster water or for in-situ use, it is not within the SNA asset boundary. The return of water and the in-situ use are very much linked to the quantity of water in the water bodies and not to the space only. We therefore would suggest changing the definition

50. The SEEA-2003 defines water resources as:

*Water resources are defined as the water found in fresh and brackish surface water and groundwater bodies within the national territory.*

51. The SEEA-Water defines water resources

*Water resource assets are defined as water found in fresh and brackish surface and groundwater bodies within the national territory that provide direct use benefits, now or in the future (option benefits), through the provision of raw material, and may be subject to quantitative depletion through human use.*

52. To harmonize the definition of water resources with the proposed definition of natural resources in the revised SEEA, we propose the following change:

***Water resource assets are defined as water found in fresh and brackish surface and groundwater bodies that provide use and non-use benefits now or in the future to humanity.***

Note that the new definition does not imply a change in substance.

53. The SEEA-Water asset classification of water resources consists of the following categories:

EA.13 Water Resources (measured in cubic metres)

EA.131 Surface water

EA.1311 Artificial reservoirs

EA.1312 Lakes

EA.1313 Rivers and streams

EA.1314 Glaciers, snow and ice

EA.132 Groundwater

EA.133 Soil water

54. The SEEA-Water asset classification expands the SEEA-2003 classification by including the categories EA.1314 Glaciers, snow and ice and EA.133 Soil water. While the SEEA-2003 acknowledges the importance of these resources in terms of flows, it does not include them in the asset classification because they represent only

a temporary storage of water. The explicit inclusion of glaciers, snow, ice and soil water in the SEEA asset classification reflects the increasing importance of these resources in terms of stocks (in particular soil water) and also allows for a clearer representation of water exchanges between water resources. Water in the soil, for example, is a very important resource (both in terms of stocks and flows) for food production as it sustains rainfed agriculture, pasture, forestry, etc. Water management tends to focus water in rivers, lakes etc. and neglects soil water management, even though the management of soil water holds significant potential for water savings, increasing water use efficiency and the protection of vital ecosystems.

55. Glaciers are included in the asset classification even though their stock levels are not significantly affected by human abstraction. The melt derived from glaciers often sustains river flow in dry months and contribute to water peaks. Moreover, monitoring glacier stocks is also important for monitoring climate change.

56. The issue of whether water in artificial reservoir should be considered as an inventory or as a non-produced asset is under discussion and if it is decided to change its recording it will have implications in the asset classification.

**Q14: Do you agree with the proposed definition of water resources assets?**

**Q15: Do you agree with aligning the revised SEEA with the SEEA-Water asset classification as in para 53, depending on the decision taken on the recording of water in artificial reservoir?**

## **F. Ecosystems**

57. In the SEEA-2003 ecosystems are presented as a category of the asset classification. The SEEA-2003 notes that there exist overlaps between the ecosystem classification, land and natural resources. Ecosystems are not properly defined in the SEEA-2003.

58. Considering that the ecosystem asset classification is still under discussion it is suggested that it be included in Volume 2. It will require a different approach to the classification and will result in a reorganization of the natural resources classification presented.

**Q16: Do you agree that the ecosystem asset classification be included in Volume 2?**

## **F. Questions to the London Group**

Q1: Do you agree with the proposed definition of asset in the revised SEEA and its explanation?

Q2: Do you agree with the proposal of following the SNA boundary for what concern monetary accounts and expand the boundary of the physical accounts

- to include all assets even if they are not used during the accounting period in Volume I?
- Q3: Do you agree that the revised SEEA asset classification should align with the changes above in the 2008 SNA (para 34 (a) – (e))?
- Q4: Is there a need to rectify the asymmetry in recording the costs of ownership transfer on non-produced assets other than land as part of produced assets and thus diverging from the SNA (para 34 (d))?
- Q5: Do you agree with keeping land at the same level of natural resources in the revised SEEA asset classification of Volume I (as in the SEEA-2003) rather than subsuming land under natural resources as in the 2008 SNA?
- Q6: Do you agree with keeping the same structure of the classification of produced/non-produced asset as in the SEEA-2003 rather than aligning with the 2008 SNA?
- Q7: Do you agree with keeping the definition of land as in the SEEA-2003 and reword the definition of natural resources as in para 21?
- Q8: Do you agree that the physical accounts of land should cover all the territory in a country and the monetary accounts should follow the SNA?
- Q9: In Volume 1 should soil be maintained as a separate item in the asset classification as in the SEEA-2003? or should it combined with land as in the SNA?
- Q10: If soil is combined with land, should it appear as part of the ecosystem classification?
- Q11: Do you agree with the proposed definition of mineral and energy resources?
- Q12: Do you agree with the proposed breakdown of the classification of mineral and energy resources in the SEEA-Energy (Table 3)?
- Q13: Do you agree with the proposed definition of non-cultivated biological resources?
- Q14: Do you agree with the proposed definition of water resources assets?
- Q15: Do you agree with aligning the revised SEEA with the SEEA-Water asset classification as in para 53, depending on the decision taken on the recording of water in artificial reservoir?
- Q16: Do you agree that the ecosystem asset classification be included in Volume 2?

## SEEA-2003 asset classification

Asset category	Within SNA boundary	Outside SNA boundary
<b>EA.1 Natural resources</b>		
<p><b>EA.11 Mineral and energy resources</b></p> <p><i>EA.111 Fossil fuels (cubic metres, tons, tons of oil equivalent, joules)</i></p> <p><i>EA.112 Metallic minerals (tons)</i></p> <p><i>EA.113 Non-metallic minerals (tons)</i></p>	<p>(AN.212) [1]</p> <p>(AN.2121)</p> <p>(AN.2122)</p> <p>(AN.2123)</p>	<p>[2]</p>
<p><b>EA.12 Soil resources (cubic metres, tons)</b></p> <p><i>EA.121 Agricultural</i></p> <p><i>EA.122 Non-agricultural</i></p>	<p>Not applicable [3]</p>	
<p><b>EA.13 Water resources (cubic metres)</b></p> <p><i>EA.131 Surface water</i></p> <p style="padding-left: 20px;">EA.1311 Artificial reservoirs</p> <p style="padding-left: 20px;">EA.1312 Lakes</p> <p style="padding-left: 20px;">EA.1313 Rivers and streams</p> <p><i>EA.132 Groundwater</i></p>	<p>Not applicable [4]</p> <p style="background-color: yellow;">(AN.214)</p>	<p>[16]</p>
<p><b>EA.14 Biological resources</b></p> <p><i>EA.141 Timber resources (cubic metres)</i></p> <p style="padding-left: 20px;">EA.1411 Cultivated</p> <p style="padding-left: 20px;">EA.1412 Non-cultivated</p> <p><i>EA.142 Crop and plant resources, other than timber (cubic metres, tons, number)</i></p> <p style="padding-left: 20px;">EA.1421 Cultivated</p> <p style="padding-left: 40px;">EA.14211 Yielding repeat products (vineyards, orchards etc.)</p> <p style="padding-left: 40px;">EA.14212 Yielding one-time harvests (crops etc.)</p> <p style="padding-left: 20px;">EA.1422 Non-cultivated</p> <p><i>EA.143 Aquatic resources (tons, number)</i></p> <p style="padding-left: 20px;">EA.1431 Cultivated</p> <p style="padding-left: 20px;">EA.1432 Non-cultivated</p>	<p>(Part of AN.1221)</p> <p>(Part of AN.213) [5]</p> <p>(AN.11142)</p> <p>(Part of AN.1221)</p> <p>(Part of AN.213) [7]</p> <p>(Part of AN.213) [9]</p>	<p>Not applicable</p> <p style="background-color: green;">[6]</p> <p>Not applicable</p> <p style="background-color: green;">[8]</p> <p>Not applicable</p> <p style="background-color: green;">[10], [17]</p>

<i>EA.144 Animal resources, other than aquatic (number)</i>		
EA.1441 Cultivated		Not applicable
EA.14411 Livestock for breeding purposes	(Part of AN.11141)	
EA.14412 Livestock for slaughter	(Part of AN.1221)	
EA.1442 Non-cultivated	(Part of AN.213) [11]	[12]
<b>EA.2 Land and surface water (hectares)</b>	<b>(AN.211)</b>	<b>Not applicable [13]</b>
Of which, recreational land	(AN.2113)	
<b>EA.21 Land underlying buildings and structures</b>	<b>(AN.2111)</b>	
<i>EA.211 In urban areas</i>		
EA.2111 For dwellings		
EA.2112 For non-residential buildings		
EA.2113 For transportation and utilities		
<i>EA.212 Outside urban areas</i>		
EA.2121 For dwellings		
EA.21211 Farm		
EA.21212 Non-farm		
EA.2122 For non-residential buildings		
EA.21221 Farm		
EA.21222 Non-farm		
EA.2123 For transportation and utilities		
EA.21231 Roads		
EA.21232 Railways		
EA.21233 Electric power grids		
EA.21234 Pipelines		
<b>EA.22 Agricultural land and associated surface water</b>	<b>(AN.2112)</b>	
<i>EA.221 Cultivated land</i>		
EA.2211 For temporary crops		
Of which, drained		
Of which, irrigated		
EA.2212 For permanent plantations		
Of which, drained		
Of which, irrigated		
EA.2213 For kitchen gardens		
EA.2214 Temporarily fallow land		
<i>EA.222 Pasture land</i>		



EA.2221 Improved		
EA.2222 Natural		
EA.223 Other agricultural land		
<b>EA.23 Wooded land and associated surface water</b>	<b>(Part of AN.2112, AN.2113 and AN.2119)</b>	
EA.231 Forested land		
EA.2311 Available for wood supply		
EA.2312 Not available for wood supply		
EA.232 Other wooded land		
<b>EA.24 Major water bodies</b>	<b>(Part of AN.2119)</b>	
EA.241 Lakes		
EA.242 Rivers		
EA.243 Wetlands		
EA.244 Artificial reservoirs		
<b>EA.25 Other land</b>	<b>(Part of AN.2119)</b>	
EA.251 Prairie and grassland		
EA.252 Tundra		
EA.253 Sparsely vegetated/barren land		
EA.254 Permanent snow and ice		
<b>EA.3 Ecosystems [14, 15]</b>	<b>Not applicable</b>	
<b>EA.31 Terrestrial ecosystems</b>		
EA.311 Urban ecosystems		
EA.312 Agricultural ecosystems		
EA.313 Forest ecosystems		
EA.314 Prairie and grassland ecosystems		
EA.315 Tundra ecosystems		
EA.316 Dryland ecosystems		
EA.317 Other terrestrial ecosystems		
<b>EA.32 Aquatic ecosystems</b>		
EA.321 Marine ecosystems		
EA.322 Coastal ecosystems		
EA.323 Riverine ecosystems		
EA.324 Lacustrine ecosystems		
EA.325 Other aquatic ecosystems		

<b>EA.33 Atmospheric systems</b>		
<b>EA.M Memorandum item: intangible environmental assets</b>		
EA.M1 Mineral exploration	(AN.1121)	Not applicable
EA.M2 Transferable licences and concessions for the exploitation of natural resources	(Part of AN.222)	
EA.M3 Tradable permits allowing the emission of residuals	(Part of AN.222)	
EA.M4 Other intangible non-produced environmental assets	(Part of AN.222)	

Note: Light shading indicates that monetary valuation is normally possible; dark shading that, while physical valuation is possible, it may be doubtful that monetary valuation is possible.

- [1] The mineral and energy resource assets that fall within the SNA boundary are those that are defined as proven reserves. In practice, though, some countries may include a wider class of resources even within the SNA accounts.
- [2] The mineral and energy resource assets that fall outside the SNA boundary are those that are defined as probable, possible and speculative reserves.
- [3] The value of soil resources cannot be separated from the value of the land of which they form an integral part. Therefore, only the physical extent of soil resources is measured in the SEEA.
- [4] The value of surface water as a natural resource cannot be separated from its value as an integral component of the national territory. Therefore, only the physical extent of surface water resources (measured in volumetric terms) is included in the natural resource category of the asset classification.
- [5] The non-cultivated timber resources that fall within the SNA boundary are those that are capable of producing a merchantable stand within a reasonable period of time, are accessible for logging purposes, and are not protected from logging.
- [6] The non-cultivated timber resources that fall outside the SNA boundary are those that are not suitable for timber harvesting, because of low productivity, inaccessibility and/or protection from logging.
- [7] The non-cultivated crop and plant resources that fall within the SNA boundary are those that provide harvestable materials that may be traded in the market or used for subsistence purposes, that are accessible and that are not protected from harvesting.

- [8] The non-cultivated crop and plant resources that fall outside the SNA boundary are those that potentially provide harvestable materials, but that are not suitable for harvesting because of inaccessibility or protection from harvesting.
- [9] The non-cultivated aquatic resources that fall within the SNA boundary are those that are the target of commercial or subsistence fishers, are found within the exclusive economic zone (EEZ) of the nation, are close enough to existing markets to be profitably exploitable and are not protected from harvesting.
- [10] The non-cultivated aquatic resources that fall outside the SNA boundary are those that are potentially harvestable, but that are not currently the target of fishers because they are not of commercial or subsistence interest, are located in remote fishing zones or are protected from harvesting.
- [11] The non-cultivated animal resources that fall within the SNA boundary are those that are the target of commercial, subsistence or sport hunters, are accessible for hunting and are not protected from harvest.
- [12] The non-cultivated animal resources that fall outside the SNA boundary are those that are potentially harvestable, but that are not currently the target of hunters because they are not of commercial, subsistence or sport interest, are located in remote areas or are protected from harvesting.
- [13] In principle, the entire national territory is included within the SNA asset boundary. For small densely populated countries, this should almost certainly be so. For large, sparsely populated countries, especially those with large areas that are remote and climatically hostile to mankind, there may be areas of land that are not thought to have any economic value. These would be included in this SEEA heading together with any recreational land not covered elsewhere.
- [14] In principle, ecosystems can be measured in both monetary and physical terms. In practice, valuing these systems may be extremely difficult and physical measures may be all that is possible.
- [15] Depending on the aspect of the ecosystem being measured, many different units of measure may be appropriate for describing environmental systems in physical terms. For example, biodiversity might be measured in terms of number of species or in terms of the area of suitable habitat. Waste assimilation capacity might be described in terms of the concentration of some key pollutant in the system. Other aspects will call for other units of measure.
- [16] With the increasing establishment of property rights over water, valuation may in some cases be possible.
- [17] Fish that are located outside a country's EEZ but over which internationally agreed quotas exist, may also be included.