



Accounting for Environmental Assets

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Objectives of the Day

- Recap: The definition and scope of environmental assets
- The link between environmental assets and economic assets
- The structure of asset accounts
- The definition of depletion of individual resources
- The approaches to the valuation of individual resources
- The possible applications of information from asset accounts



Discussion:

What Questions or Issues do you have about Accounting for Environmental Assets?



Defining Environmental Assets



Definition of Environmental Assets

“Environmental assets are the naturally occurring living and non-living components of the Earth, together constituting the bio-physical environment, which may provide benefits to humanity”



One Environment : Two Perspectives

Individual
environmental
assets /
resources

Timber
Water
Soil
Fish



Ecosystems

Forests
Lakes
Agricultural
areas



Scope of Individual Resources

1 Mineral and energy resources

1.1 Oil resources

1.2 Natural gas resources

1.3 Coal and peat resources

1.4 Non-metallic mineral resources (excluding coal and peat resources)

1.5 Metallic mineral resources

2 Land

3 Soil resources

4 Timber resources

4.1 Cultivated timber resources

4.2 Natural timber resources

5 Aquatic resources

5.1 Cultivated aquatic resources

5.2 Natural aquatic resources

6 Other biological resources (excluding timber resources and aquatic resources)

7 Water resources

7.1 Surface water

7.2 Groundwater

7.3 Soil water



Physical and Monetary Scope

- In principle, when accounting for environmental assets in physical terms include all environmental assets whether or not they have a monetary value
 - All land in a country is included in physical land accounts
 - Also timber resources, other biological resources, soil, inland water resources
- Mineral and energy resources scope is known deposits
- Aquatic resources scope is all resources within EEZ plus rights on high seas
 - In practice limit to commercial stocks and subsistence



Key Points and Boundary Issues

- Distinct treatment of land
 - Account for its provision of space / area not the resources that are within it
- Include natural and cultivated biological resources
- Oceans and atmosphere excluded
- Stocks of potential energy from renewable sources excluded
 - E.g. solar, wind, tidal power
 - Slight exception for hydropower



Ecosystem Assets

- Areas comprising combinations of individual resources (timber, soil, water, etc) but also having ecological processes and characteristics
- Aim to assess
 - Condition of the ecosystem within an area (i.e. how is it functioning, quality of processes)
 - Flow of ecosystem services to economic and human activity
- Ecosystem asset accounting measures environmental impact rather than environmental pressures



Key Messages

- Environmental assets can be seen from two perspectives: individual resources & ecosystems
- Both natural and cultivated resources are included in scope
- Scope is generally broader in physical terms than in monetary terms
- Land is accounted for in terms of area/space



The Structure of Asset Accounts

System of Environmental-Economic Accounts (SEEA) view

	Industries	Final demand	Assets		
Sectors			Financial and produced assets, opening balance	Natural resource assets, opening balance	Natural resource assets, opening balance
Commodities	Industrial output of goods and services				
	Industrial intermediate demand Environmental protection expenditures	Final demand Environmental protection expenditures	Gross fixed capital formation Capital expenditures for environmental protection		
Wastes	Resource production by industries Resource use by industries	Resource production by households/gov't Resource use by households/gov't			
	Waste consumption by industries Waste output by industries	Waste consumption by households/gov't Waste output by households/gov't			
Sectors			Other changes in volume & holding gains/losses on financial & produced assets	Changes in and holding gains/losses on natural resource assets	Changes in natural resource assets
			Financial and produced assets, closing balance	Natural resource assets, closing balance	Natural resource assets, closing balance

Connections between SUT and asset accounts

						Asset accounts (Physical and monetary terms)		
						Produced assets	Environmental assets	
						Opening stock		
Monetary supply and use table	Product-supply	Output			Imports			
	Product-use	Intermediate consumption	Household final consumption expenditures	Government final consumption expenditures	Exports	Gross capital		
Physical supply and use table	Natural inputs-supply							Extracted natural resources
	Natural inputs-use	Imports of natural resources						
	Product-supply	Output			Imports			
	Product-use	Intermediate consumption	Household final consumption			Exports	Gross capital formation	
	Residual-supply	Residuals generated by industry	Residuals generated by household final consumption			Residuals received from the rest of the world	Residuals from scrapping and demolition of produced assets; Emissions from controlled landfills	
	Residuals-use	Collection & treatment of waste and other residuals			Residuals sent to the rest of the world	Accumulation of waste in controlled landfills	Residuals flowing to the environment*	
						Other changes in volume of assets (e.g. natural growth, discoveries, catastrophic losses)		
						Revaluations		
						Closing stock		



Basic Asset Account Structure

Opening stock of environmental assets		
Additions to stock		
Growth in stock		
Discoveries of new stock		
Upward reappraisals		
Reclassifications		
<i>Total additions of stock</i>		
Reductions of stock		
Extractions		
Normal loss of stock		
Catastrophic losses		
Downward reappraisals		
Reclassifications		
<i>Total reductions in stock</i>		
Revaluation of the stock*		
Closing stock of environmental assets		



Reappraisals and Reclassifications

- Reappraisals: changes due to use of updated information to reassess physical size of the stock
 - Changes in quality
 - Changes in technology to permit additional extraction
 - May imply revisions
- Reclassifications: where an environmental asset is use for a different purpose – particularly permanent changes in land use
 - Decrease in one category leads to increase in another



Accounting structure

- **Structure:** conforms with a balance sheet structure - opening stocks, closing stocks and annual variations

Table 5.5.3 Physical asset account for mineral and energy resources (physical units*)

	Type of mineral and energy resource (Class A: Commercially recoverable resources)				
	Oil resources (‘000 barrels)	Natural gas resources (m3)	Coal & peat resources (‘000 tonnes)	Non-metallic minerals (tonnes)	Metallic minerals (‘000 tonnes)
Opening stock of mineral and energy resources	800	1 200	600	150	60
Additions to stock					
Discoveries					20
Upwards reappraisals		200		40	
Reclassifications					
<i>Total additions to stock</i>		200		40	20
Reductions in stock					
Extractions	40	50	60	10	4
Catastrophic losses					
Downwards reappraisals			60		
Reclassifications					
<i>Total reductions in stock</i>	40	50	120	10	4
Closing stock of mineral and energy resources	760	1 350	480	180	76

* Different physical units (e.g. tonnes, cubic metres, barrels) will be used for different types of resources.

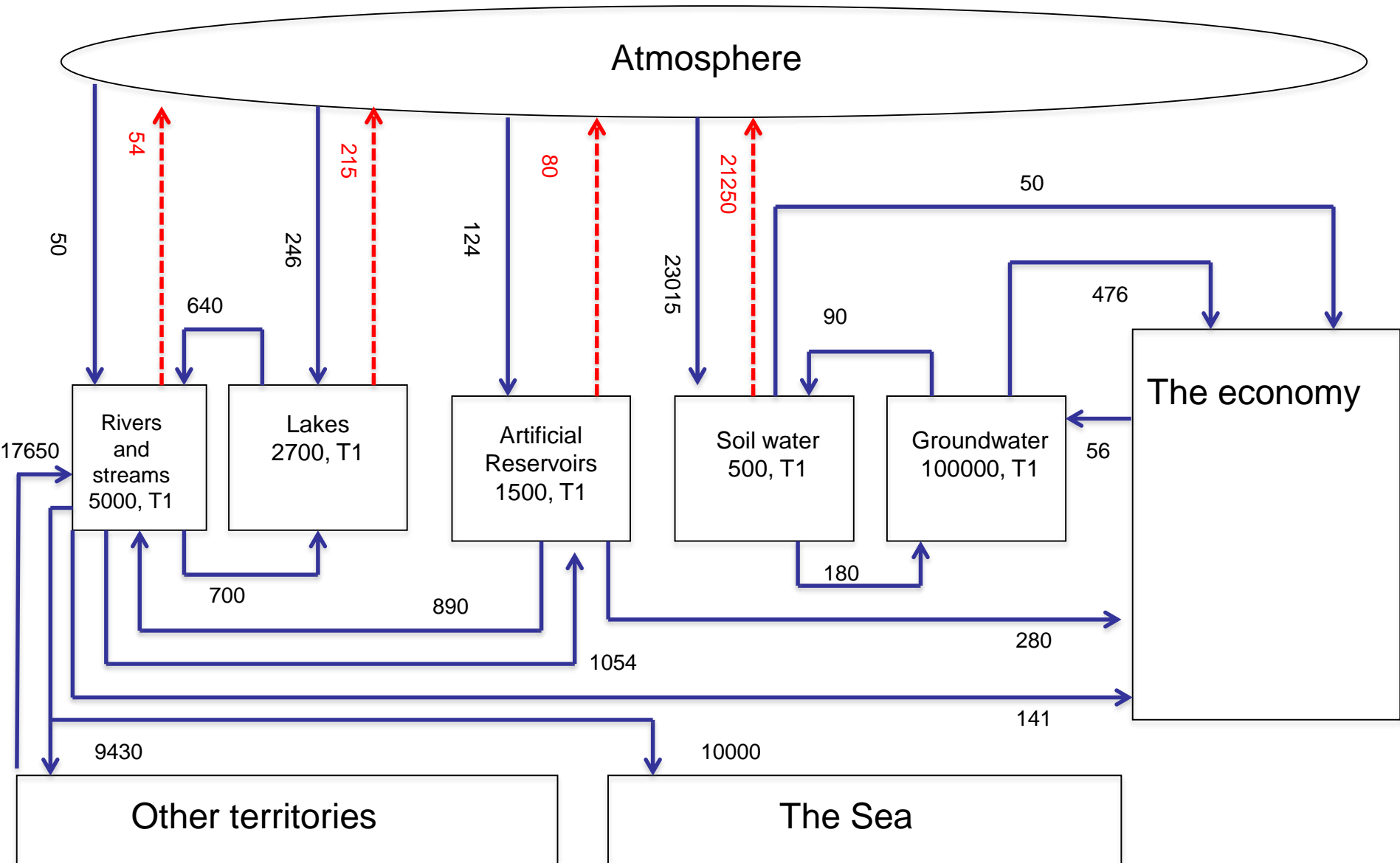


Asset accounts

Asset accounts	<i>Topics covered (detailed definition)</i>
Mineral and energy resources	Physical and monetary accounts for minerals and energy stocks (oil, natural gas, coal and peat, non-metallic minerals and metallic minerals) (CF 5.172)
Land	Physical and monetary accounts for land, land cover, land use and forest (CF 5.235)
Soil resources	Area and volume of soil resources (CF 5.318)
Timber resources	Physical and monetary accounts for timber resources (CF 5.343)
Aquatic resources	Physical and monetary accounts for fish, crustaceans, molluscs, shellfish and other aquatic organisms such as sponges and seaweed as well as aquatic mammals such as whales. (CF 5.393) (CO ₂ , pollutants) (CF 3.233)
Other biological resources	Cultivated animals and plants including livestock, annual crops such as wheat and rice, and perennial crops such as rubber plantations, orchards and vineyards. (CF 5.462)
Water resources	Stock of water resources (CF 5.471)



Exercise on Water Resources





Solution

		Type of water resource						Total
		Surface water				Groundwater	Soil water	
		Artificial reservoirs	Lakes	Rivers and streams	Glaciers, snow and ice			
Opening		1500	2700	5000	0	100000	500	109700
Additions								
	Returns					56		56
	Precipitation	124	246	50			23015	23435
	Inflows from other territories			17650				17650
	Inflows from other inland water resources	1054	700	640		180	90	2664
	Discoveries of water in aquifers							0
	<i>Total additions to stock</i>	<i>1178</i>	<i>946</i>	<i>18340</i>	<i>0</i>	<i>236</i>	<i>23105</i>	<i>43805</i>
Reductions								
	Abstraction	280		141		476	50	947
	for hydro power generation							0
	for cooling water							0
	Evaporation & actual evapotranspiration	80	215	54			21250	21599
	Outflows to other territories			9430				9430
	Outflows to the sea			10000				10000
	Outflows to other inland water resources	890	640	1754		90	180	3554
	<i>Total reductions in stock</i>	<i>1250</i>	<i>855</i>	<i>21379</i>	<i>0</i>	<i>566</i>	<i>21480</i>	<i>45530</i>
Closing		1428	2791	1961	0	99670	2125	107975



Example: Land accounting



Motivation of land accounting

- Assessment of the ownership and use of land as part of economic production process
- Assessment on various issues such as impacts of urbanization, sustainability of agricultural and forestry, the use of inland water resources, biodiversity conservation, etc.
- Assessment of national and institutional sector wealth
- Provide indicators of change (e.g. land use and land cover) and allow trade-off analysis
- Unlock the power of GIS to locate areas of change and map a wide range of social, economic and environmental information
- Fundamental to ecosystem accounting



Key components in land accounting

Land accounts register

- the state of land cover at certain time (called land stocks) in terms of extent (area) and type;
- changes between two steps in time (called land flows)

Key components of land accounting include

- land cover types and their functions or uses (ecological, economic, social) at broader scale
- land ownership and tenure at finer scale.



Important definitions

- **Land:** A unique environmental assets that delineates the space in which economic activities and environmental processes take place and within which environmental assets and economic assets are located (*SEEA Central Framework para 5.239*)
- **Land cover:** refers to the observed physical and biophysical cover of the Earth's surface and includes natural vegetation and abiotic surfaces (*SEEA Central Framework para. 5.257*)
- **Land use:** reflects the activities undertaken and the institutional arrangements put in place for a given area for the purpose of economic production, or the maintenance and restoration of environmental functions (*SEEA Central Framework para. 5.246*)



International guidance of land accounting

- SEEA Central framework – section 5.6 “Asset accounts for land”
- SEEA-Experimental Ecosystem Accounting – section 4.3 “Compiling ecosystem asset accounts”
- CBD’s Quick-Start Package on Ecosystem natural capital accounting – chapter 4 “The Land Cover account”
- Technical guidance on land accounting (*currently developed as part of SEEA Implementation programme*)



Physical assets accounts for land in SEEA Central Framework

- Objective: Describe the area of land and changes in the area of land cover over an accounting period
- Types of land accounts
 - Land cover
 - Land use
 - Land ownership by industry or institutional sector
- Measurement units:
 - Units of areas such as hectares or squares metres



Physical assets accounts for land: properties

- General, a country's area will remain unchanged from one period to the next
- Changes between the opening and closing stock of land in physical terms
 - Primarily encompass changes between different classes of land
- Exceptions:
 - Reclamation of land
 - Land subsidence or high water level
 - Political reasons: war, disputed territory



Land cover classification

- Land cover classification system v3 (LCCS 3) developed by FAO
- Includes land and inland waters

Category	
1	Artificial surfaces (including urban and associated areas)
2	Herbaceous crops
3	Woody crops
4	Multiple or layered crops
5	Grassland
6	Tree-covered areas
7	Mangroves
8	Shrub-covered areas
9	Shrubs and/or herbaceous vegetation, aquatic or regularly flooded
10	Sparsely natural vegetated areas
11	Terrestrial barren land
12	Permanent snow and glaciers
13	Inland water bodies
14	Coastal water bodies and intertidal areas



Land cover basic rules

Category	Basic rule
Artificial surfaces (including urban and associated areas)	The category is composed of any type of artificial surfaces.
Herbaceous crops	The category is composed of a main layer of cultivated herbaceous plants.
Woody crops	The category is composed of a main layer of cultivated tree or shrub plants.
Multiple or layered crops	The category is composed of at least two layers of cultivated woody and herbaceous plants or different layers of cultivated plants combined with natural vegetation.
Grassland	The category is composed of a main layer of natural herbaceous vegetation with a cover from 10 to 100 per cent.
Tree-covered areas	The category is composed of a main layer of natural trees with a cover from 10 to 100 per cent.
Mangroves	The category is composed of natural trees with a cover from 10 to 100 per cent in aquatic or regularly flooded areas in salt and brackish water.
Shrub-covered areas	The category is composed of a main layer of natural shrubs with a cover from 10 to 100 per cent.
Shrubs and/or herbaceous vegetation, aquatic or regularly flooded	The category is composed of natural shrubs or herbs with a cover from 10 to 100 per cent in aquatic or regularly flooded areas with water persistence from 2 to 12 months per year.
Sparsely natural vegetated areas	The category is composed of any type of natural vegetation (all growth forms) with a cover from 2 to 10 per cent.
Terrestrial barren land	The category is composed of abiotic natural surfaces.
Permanent snow and glaciers	The category is composed of any type of glacier and perennial snow with persistence of 12 months per year.
Inland water bodies	The category is composed of any type of inland water body with a water persistence of 12 months per year.
Coastal water bodies and inter-tidal areas	The category is composed on the basis of geographical features in relation to the sea (lagoons and estuaries) and abiotic surfaces subject to water persistence (intertidal variations).



Physical accounts for land cover (*hectares*)

Total opening stock = Total closing stock

	Artificial surfaces	Crops	Grassland	Tree-covered area	Mangroves	Shrub-covered area	Regularly flooded areas	Sparse natural vegetated areas	Terrestrial barren land	Permanent snow, glaciers and inland water bodies	Coastal water and inter-tidal areas
Opening stock of resources	12 292.5	445 431.0	106 180.5	338 514.0	214.5	66 475.5	73.5	1 966.5		12 949.5	19 351.5
Additions to stock											
Managed expansion	Increase of land cover type due to human activity										
Natural expansion	Increase in area resulting from natural process										
Upward reappraisals	Reflect changes due to the use of updated information that permits a reassessment of the size of different area of land cover. E.g. new satellite imagery or interpretation of satellite imagery										
Total additions to stock											1.5
Reductions in stock											
Managed regression	Decrease of land cover type due to human activity										
Natural regression	Decrease in area resulting from natural process										
Downward reappraisals							4.5				
Total reductions in stock		147.0	4 704.0	3 118.5	10.5	1 629.0	1.5				
Closing stock	12 475.5	454 641.0	101 545.5	335 395.5	204.0	64 846.5	72.0	1 966.5		12 949.5	19 353.0



Land cover change matrix (*hectares*)

Total opening area = Total closing area

Land cover	Opening area	Artificial surfaces	Crops	Grassland	Tree-covered area	Mangroves	Shrub-covered area	Regularly flooded areas	Sparse natural vegetated areas	Terrestrial barren land	Permanent snow, glaciers and inland water bodies	Coastal water and intertidal areas	Net change (increase/decrease)	Closing area
Artificial surfaces	12 292.5		147.0	27.0		9.0							183.0	12 475.5
Crops	445 431.0	-147.0		4 677.0	3 118.5		1 560.0	1.5					9 210.0	454 641.0
Grassland	106 180.5	-27.0	-4 677.0				69.0						-4 635.0	101 545.5
Tree-covered area	338 514.0		-3 118.5										-3 118.5	335 395.5
Mangroves	214.5	-9.0											-10.5	204.0
Shrub-covered area	66 475.5		-1 560.0										629.0	64 846.5
Regularly flooded areas	73.5		-1.5										-1.5	72.0
Sparse natural vegetated areas	1 966.5													1 966.5
Terrestrial barren land														
Permanent snow, glaciers and inland water bodies	12 949.5													12 949.5
Coastal water and intertidal areas	19 351.5					1.5							1.5	19 353.0

Grassland and tree-covered area converted to cropfield over a period of time



Classification of land use

- Classification of land use (interim) in the SEEA Central Framework
- 4-digit level classification

1	Land	3	Coastal waters
1.1	Agriculture	3.1	Coastal waters used for aquaculture or holding facilities
1.2	Forestry	3.2	Coastal waters used for maintenance and restoration of environmental functions
1.3	Land used for aquaculture	3.3	Other uses of coastal waters
1.4	Use of built-up and related areas	3.4	Coastal waters not in use
1.5	Land used for maintenance and restoration of environmental functions		
1.6	Other uses of land n.e.c.		
1.7	Land not in use		
2	Inland waters	4	Exclusive economic zone (EEZ)
2.1	Inland waters used for aquaculture or holding facilities	4.1	EEZ areas used for aquaculture or holding facilities
2.2	Inland waters used for maintenance and restoration of environmental functions	4.2	EEZ areas used for maintenance and restoration of environmental functions
2.3	Other uses of inland waters n.e.c.	4.3	Other uses of EEZ areas n.e.c.
2.4	Inland waters not in use	4.4	EEZ areas not in use

B. Classification of Land Use (interim)

1 Land

1.1 Agriculture

The total of areas under “Land under temporary crops”, “Land under temporary meadows and pastures”, “Land with temporary fallow”, “Land under permanent crops”, “Land under permanent meadows and pastures”, and “Land under protective cover”.

This category includes tilled and fallow land, and naturally grown permanent meadows and pastures used for grazing, animal feeding or agricultural purpose. Scattered land under farm buildings, yards and their annexes, and permanently uncultivated land, such as uncultivated patches, banks, footpaths, ditches, headlands and shoulders are traditionally included.

1.1.1 Land under temporary crops

Land used for crops with a less-than-one-year growing cycle, which must be newly sown or planted for further production after the harvest. Some crops that remain in the field for more than one year may also be considered as temporary crops, e.g., asparagus, strawberries, pineapples, bananas and sugar cane.

Excludes: Herbaceous forage crops.

1.1.1.1 Cereals

Land used for the growing of cereals, e.g., wheat, rice, maize, sorghum, barley, rye, oats, millets.

1.1.1.2 Vegetables and melons

Land used for the growing of vegetables and melons.

1.1.1.3 Temporary oilseed crops

Land used for the growing of oilseeds crops, e.g., soya beans, groundnuts, castor bean, linseed, mustard seed, niger seed, rapeseed, safflower seed, sesame seed, sunflower seed, other oilseeds.

1.1.1.4 Root/tuber crops with high starch or inulin content

Land used for the growing of roots and tubers, e.g., potatoes, sweet potatoes, cassava, yams.



Monetary asset account for land by type of and use (*currency units*)

Acquisition (additional to stock) and disposal (reduction of stock) of land are recorded when transactions in environmental assets take places between institutional units in different sectors.

Type of land use

Land not in use Inland water Total

Opening value of stock of land	420 000	187 500	386 000	2 000	995 500
Additions to stock					
Acquisitions of land	3 500				3 500
Reclassifications		200	2 500		2 700
<i>Total additions to stock</i>					6 200
Reductions in stock					
Disposals of land		3 500			3 500
Reclassifications		1 250		200	1 450
<i>Total reductions in stock</i>		4 750		200	4 950
Revaluations	18 250	15 350	65 000		98 600
Closing value of stock of land	441 750	198 300	453 500	1 800	1 095 350

Reclassifications occur in situation in which land is used for different purpose.



Data

- Visual photo-interpretation of satellite images
- National cartographic sources of land-cover information
- National field survey



Existing global sources of land cover maps

Non-exhaustive list:

- Global land cover information service (for 2000 and 2010, at 30m, based on Landsat, mapped by China):
- MODIS Land cover (annual since 2001, at 250m, by NASA):
- GlobCover (for 2005 and 2009, at 300m, based on MERIS, European Space Agency):
- Global Land Cover-SHARE (compilation of the available best data sources for land cover from the countries, at 1km, by FAO):

Issues:

- Problems of spatial accuracy and details
- Lack of time series



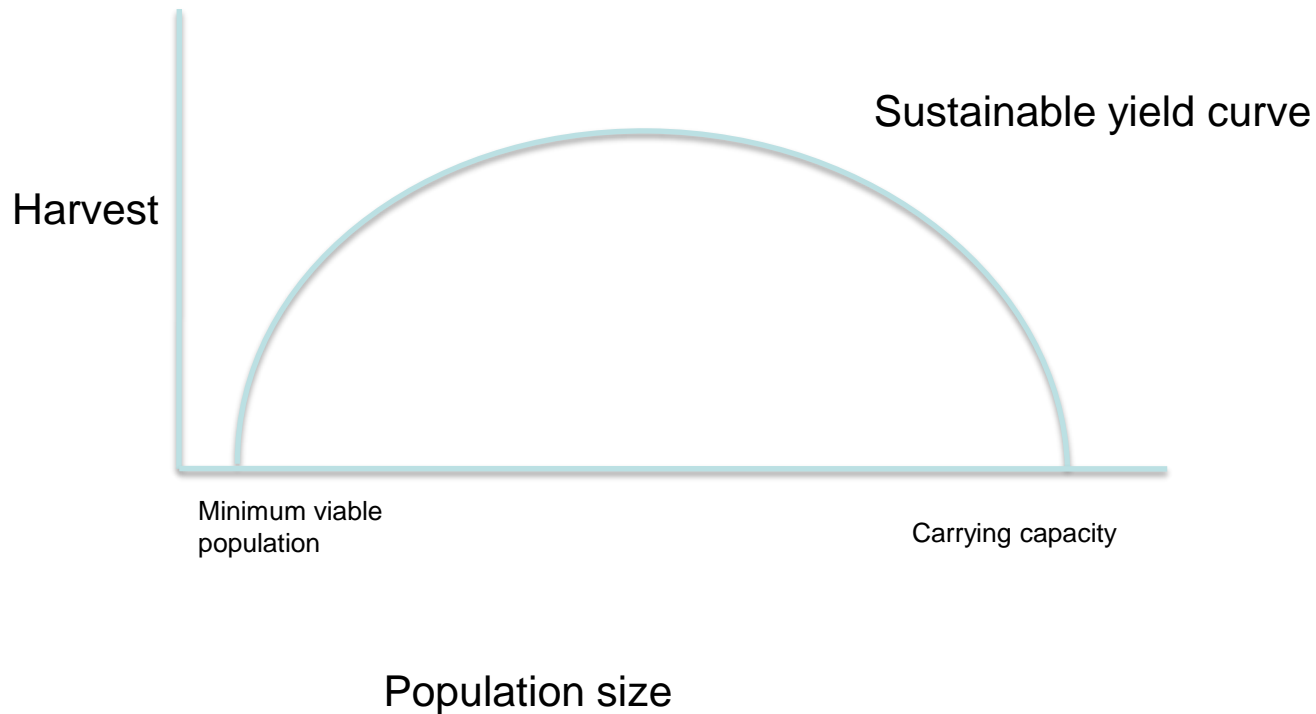
Exercise on Timber Resources: Q1



Depletion of Environmental Assets



Depletion and Sustainable Yield





Definition of Depletion

“Depletion, in physical terms, is the decrease in the quantity of the stock of a natural resource over an accounting period that is due to the extraction of the natural resource by economic units occurring at a level greater than that of regeneration”



Key Points

- Depletion must be a physical flow before valuation takes place
 - Monetary estimates equal physical flow * average price of resource before extraction
- Only for natural resources not cultivated resources
- Only extraction by economic units – not all reductions in stock
- Discoveries of non-renewable resources are not considered regeneration
- Depletion will generally not equal change in the value of the stock
- Depletion is distinct from degradation which reflects reductions in the functioning of ecosystems



Exercise on Timber Resources: Q1



Monetary Valuation



Defining Economic Assets

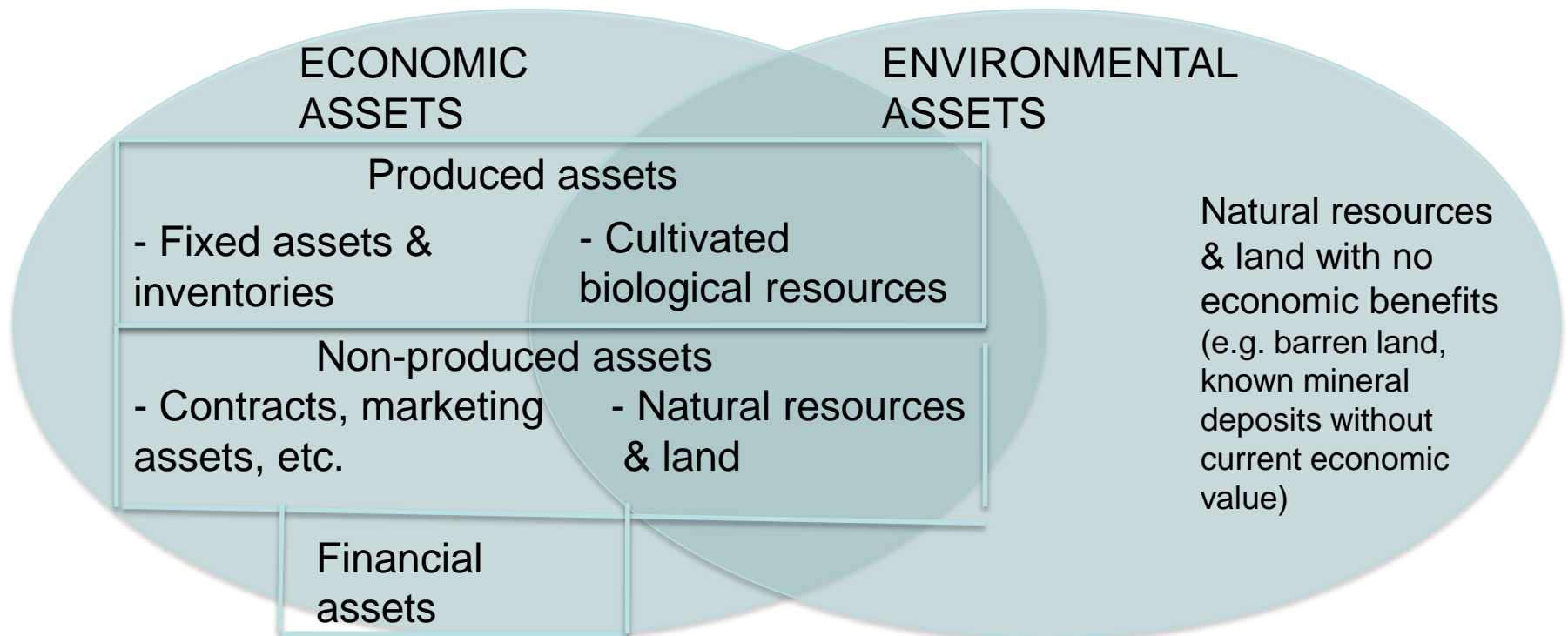
- Economic owner:
 - The institutional unit entitled to claim the benefits associated with the use of an asset in an economic activity

- Economic benefits
 - Include operating surplus from sale of extracted resources, rent earned by allowing use of resources, receipts from sale of assets

- Economic asset
 - Store of value representing the benefit or series of benefits accruing to the owner by holding or using the asset over time



Economic and Environmental Assets





Valuation Principles & Methods

- Value at balance sheet date (e.g. end of financial year)
- Value using market prices
 - Market prices are amounts of money that willing buyers pay to willing sellers
 - Exchange prices/value or transaction prices – generally observable
- If prices not observable need to determine a price that would be applicable if a market had existed



Methods for Estimating Market Prices

- Market price equivalents
 - Prices for similar products or assets

- Written down replacement costs
 - Used for buildings and machines equal to the original purchase price adjusted for depreciation and the current replacement cost

- Net present value (NPV)
 - Assess the value of the future flow of benefits (income) from using or owning the asset



Logic of NPV

1. Estimate past Resource Rent (RR) from sale of resources
2. Estimate the physical stock and remaining asset life assuming a rate of extraction
3. Estimate future annual flows of RR over the asset life
4. Discount each future annual estimate of RR
5. Sum the discounted estimates => NPV



Measures of Resource Rent

- Residual value method
 - Generally obtained from national accounts and related data - see Table 5.4.1
- Appropriation method
 - Based on payments made by extractors of resources to owners of resources – e.g. royalties paid to government for mining
- Access price method
 - Based on payments made by extractors for access rights and licences – e.g. quotas in fishing
- In theory all provide the same estimate but in practice all can be quite different



Residual Value Method

Output (sales of extracted environmental assets at basic prices, includes all subsidies on products, excludes taxes on products)

Less Operating costs

Intermediate consumption (input costs of goods and services at purchasers' prices, including taxes on products)

Compensation of employees (input costs for labour)

Other taxes on production plus Other subsidies on production

***Equals* Gross Operating Surplus – SNA basis (a)**

Less Specific subsidies on extraction

Plus Specific taxes on extraction

***Equals* Gross Operating Surplus – for the derivation of resource rent**

Less User costs of produced assets

Consumption of fixed capital (depreciation) + Return to produced assets

***Equals* Resource rent**

Depletion + Net return to environmental assets (b)



Asset life

- The asset life is the expected time over which an asset can be used in production or the expected time over which extraction from a natural resources can take place
- In a very simple case
Asset life =
closing physical stock/expected annual extraction over
expected annual growth
- However, especially for natural biological resources, need to consider biological model and associate sustainable yields of biological resources to ensure the impact of changing age and biological structure is taken into account in the determination of the asset life



Valuation — Net present value

- Net present value (NPV) is the discounted value of future economic benefits from a given asset
 - *Follows conventions adopted in the System of National Accounts to value capital assets*

$$NPV = \sum_{t=1}^T \frac{RR_1}{(1 + r_i)^t}$$

where:

RR=resource rent

T= reserve life, i.e. Closing stock \div extraction

r_i= discount rate



Exercise:

Valuation of a Coal Deposit



Use of Asset Accounting Information

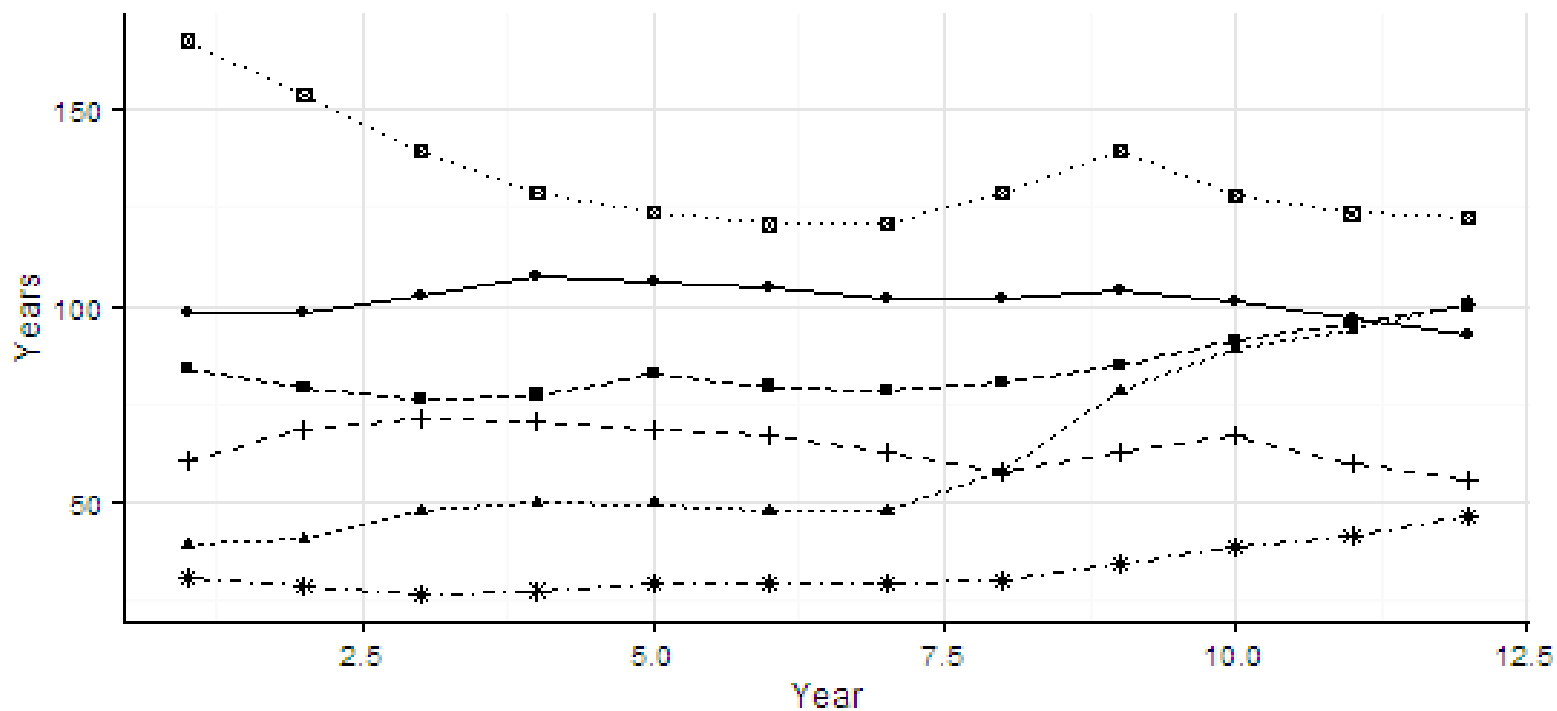


Possible Indicators in Physical Terms

- Changes in land use and land cover
 - E.g. rates of conversion of agricultural and forest land
- Shares of resources that are cultivated or natural biological resources
- Ratio of extraction to natural growth for natural biological resources
- Intensity of water use: abstraction / stocks
- Availability of resources per capita
- Asset lives: expected extraction rates / stocks



Expected Asset Lives of Mineral Resources



—●— Bauxite ···▲··· Copper -■- Iron ore -+- Natural gas ···□··· Nickel ·-*· Zinc



Possible Indicators in Monetary Terms

- Total wealth including environmental assets
 - Shares of wealth attributed to individual assets
 - Rates of return to different assets
- Estimate future government revenues – royalties, taxes, rent, quotas, licences
- Depletion
 - Adjusted GDP
 - Productivity measures adjusting for cost of natural capital in addition to cost of fixed capital

Example: Depletion-adjusted aggregates from the sequence of economic accounts

Accounting entry	Institutional sectors				Total Economy
	Corporations	General government	Households	NPISH*	
Production account					
Output	2 954	348	270	32	3 604
Taxes less subsidies on products	na	na	na	na	133
Less Intermediate consumption	1 529	222	115	17	1 883
Gross Value Added**	1 425	126	155	15	1 854
Less Consumption of fixed capital	169	27	23	3	222
Net Value Added	1 256	99	132	12	1 632
Less Depletion of natural resources	6				6
Depletion adjusted Net Value Added	1 250	99	132	12	1 626
Generation of income account					
Gross value added	1 425	126	155	15	1 854
Less Compensation of employees payable	1 030	98	11	11	1 150
Less Other taxes less subsidies on production	57	1	- 1	1	58
Less Taxes less subsidies on products	na	na	na	na	133
Gross operating surplus	338	27	145	3	513
Less Consumption of fixed capital	169	27	23	3	222
Less Depletion of natural resources	6				6
Depletion adjusted Net Operating surplus	163		122		285
Allocation of primary income account					
Depletion adjusted Net Operating surplus	163		122		285
Plus Compensation of employees receivable (Households only)			1 154		1 154
Plus Taxes less subsidies on production receivable (General government only)		191			191
Plus Property income receivable (interest, dividends, rent)	245	22	123	7	397
Less Property income payable	302	42	41	6	391
Depletion adjusted balance of primary income	106	171	1 358	1	1 636
Distribution of secondary income account					
Depletion adjusted balance of primary income	106	171	1 358	1	1 636
Plus Current transfers receivable	347	367	420	40	1 174
Less Current Transfers payable	375	248	582	7	1 212
Depletion adjusted Net Disposable Income	78	290	1 196	34	1 598
Use of disposable income account					
Depletion adjusted Net Disposable Income	78	290	1 196	34	1 598
Less Final consumption expenditure		352	1 015	32	1 399
Depletion adjusted Net Saving	78	- 62	181	2	199
Capital account					
Depletion adjusted Net Saving	78	- 62	181	2	199
Less Gross fixed capital formation	288	35	48	5	376
Less Changes in inventories	26		2		28
Less Acquisitions less disposals of valuables	2	3	5		10
Less Acquisition less disposals of natural resources and land	- 7	2	4	1	
Less Acquisition less disposals of other non-produced, non financial assets					
Plus Capital transfers receivable	33	6	23		62
Less Capital transfers payable	23	34	5	3	65
Add back Consumption of fixed capital	169	27	23	3	222
Add back Depletion of natural resources	6				6
Net Lending/Borrowing	- 46	- 103	163	- 4	10



Thank You!

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