



Natural Resources Accounting in China

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Contents

- Priority Area of Natural Resources Accounting
- Forest Accounting in China
- Challenges of Land Statistics

International progress of NRA

- ❑ To facilitate greening and sustainable development, international organizations and governments have developed tools for **Natural Resources Accounting (NRA)**;
- ❑ Two guiding documents were released by the UN:
 - System of Environmental-Economic Accounting (SEEA-2012)*
 - SEEA 2012 Experimental Ecosystem Accounting*
- ❑ The Sustainable Development Goals (SDGs) also integrate **ecosystem and biodiversity** values.

China's objective of NRA

- To realize China's vision of an eco-civilization
- To integrate resource consumption, environment damage, and ecological benefits into the economic and social development valuation systems

Main Area of NRA

- National Bureau of Statistics, Ministry of Environmental Protection, Ministry of Water Resources, and State Forestry Administration (SFA)
 - Forests
 - Water
 - Energy
 - Environmental pollution

Priority Area of NRA

- According to priority area of Natural resources balance sheet compiling, land, forest and water were chosen as prior fields of NRA.
 - Land
 - Forests
 - Water

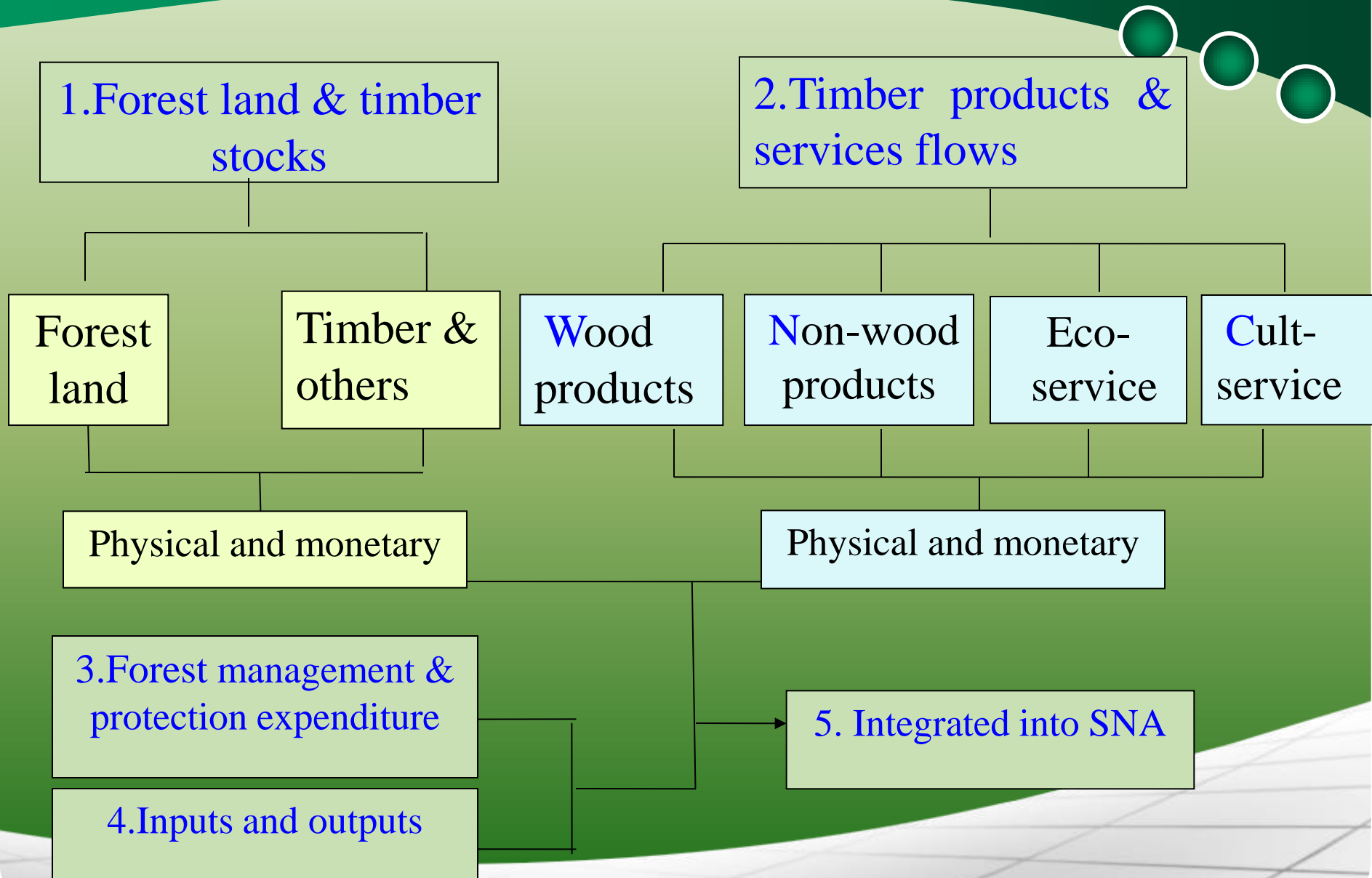
Forest accounting

From 2004 until now, forest accounting has been co-organizing by NBS and SFA .

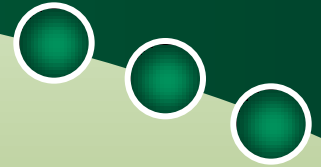
□ Three main outputs:

- Theoretical framework of Forest Resources Accounting (FRA)
- Forest land and timber accounting
- Forest ecosystem services valuation

Theoretical framework of FRA



Accounting for forest land & timber



Based on the 7th and 8th National Forest Resources Inventory and ecosystem monitoring, at the end of 2013:

- ❑ Forest land area: **310 million hm²**
- ❑ Value of forest lands: **RMB 7643.44 billion**
- ❑ Volume of standing timber: **16.07 billion m³**
- ❑ Value of timber: **RMB 13651.67 billion**

Accounting for forest land & timber

Based on the 8th National Forest Resources Inventory, the forest land stocking was following.

Forest land stocking table (2013)

unit: million ha

Item	<i>Cultivated asset</i>	<i>Non-cultivated asset</i>
Natural forest land		124.71
Planted forest land	70.47	
Other forest land	17.86	97.41
Total	88.33	222.12

Accounting for forest land & timber

Based on the 8th National Forest Resources Inventory, the timber resource stocking was following:

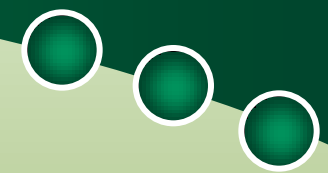
Timber resource stocking table (2013)

unit: million m³

Item	<i>Cultivated asset</i>	<i>Non-cultivated asset</i>
Natural forest		12385.34
Planted forest	2499.43	
Other forest	400.68	788.59
Total	2900.11	13173.93

Forest land account

(currency units: billion yuan)



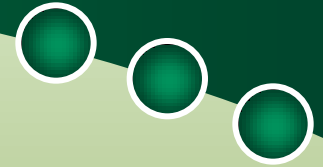
Item	<i>Primary forest</i>	<i>Naturally regenerated forest</i>	<i>Planted forest</i>	<i>Other wooded land</i>
Opening stock (2008)	244.85	2274.58	1674.58	1323.95
Additions to stock		237.89	481.57	377.22
Economic factors		14.23	287.69	297.12
Natural factors		223.65	193.88	80.10
Reductions in stock		179.98	247.66	502.69
Economic factors		109.25	172.65	217.96
Natural factors		70.74	75.01	284.73
Revaluation		894.60	592.99	471.55
Net additions to stock		952.50	826.90	346.08
Closing Stock (2013)	244.85	3227.08	2501.48	1670.03

Forest timber account

(currency units: billion yuan)

Item	<i>Natural forest</i>	<i>Planted forest</i>	<i>Other timber wood</i>
Opening stock (2008)	5216.87	3812.86	443.62
Additions to stock	1023.33	950.00	222.34
Economic factors	53.81	575.54	174.85
Natural factors	986.39	419.34	50.71
Reductions in stock	632.95	568.69	179.50
Economic factors	325.55	340.74	76.04
Natural factors	324.88	178.69	107.04
Revaluations	1852.41	1353.87	157.52
Net additions to stock	2242.79	1735.18	200.36
Closing Stock (2013)	7459.65	5548.04	643.98

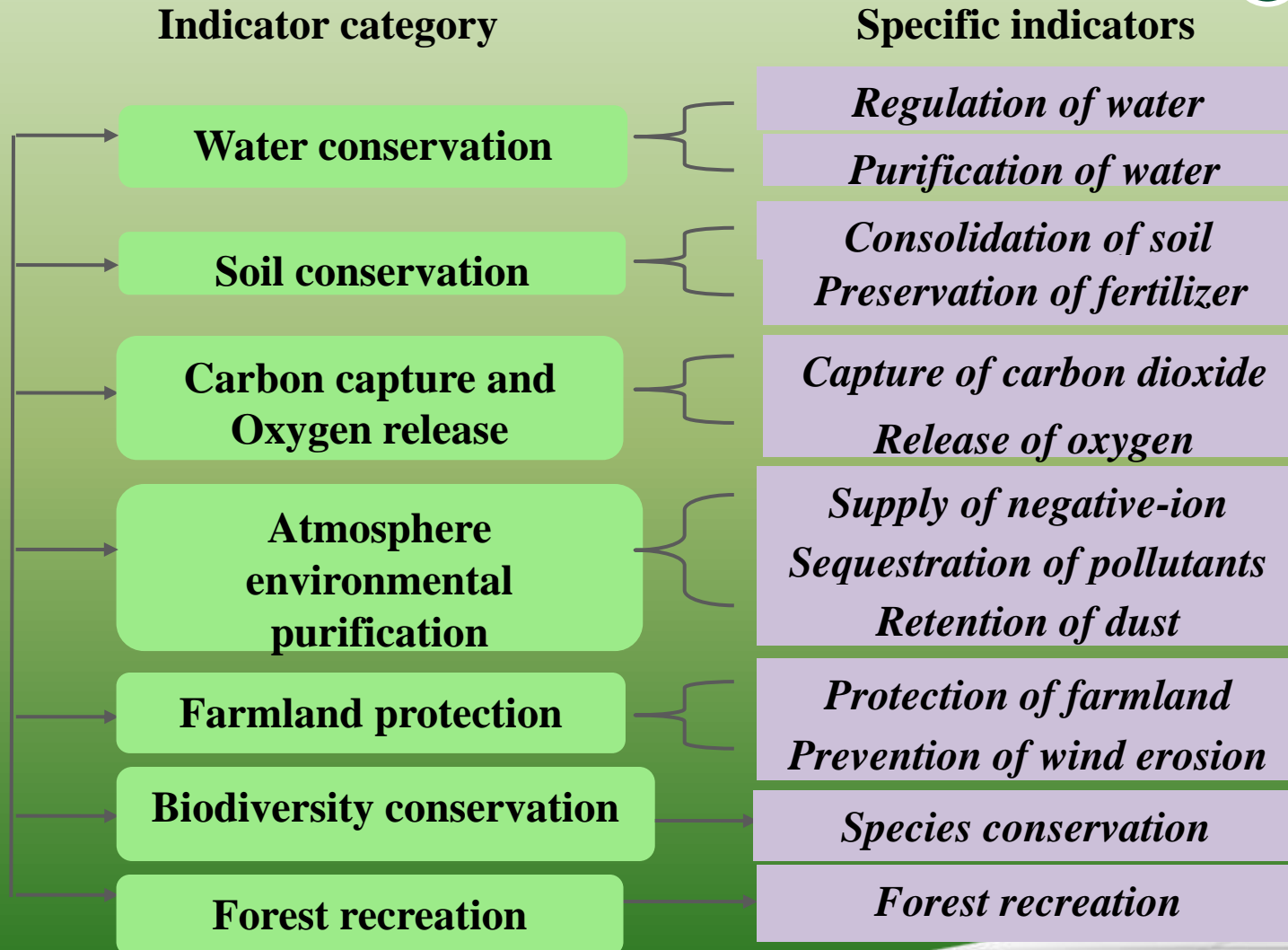
Forest ecosystem services



□ The ecosystem services are classified into three types according to the SEEA Experimental Ecosystem Accounting:

- provisioning services;
- *regulating services*;
- cultural services.

Forest Ecosystem Service

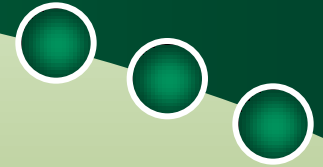


Value of Forest Ecosystem Service

RMB 12680 billion in 2013

Category	Monetary value (RMB billion)	Percentage (%)
Water conservation	3182.28	25.10
Soil conservation	2003.68	15.81
Carbon capture and Oxygen release	1073.59	8.47
Atmosphere environmental purification	1177.36	7.6
Biodiversity	4334.70	34.20
Farmland protection and wind erosion prevention	54.88	0.43
Forest recreation	849.88	6.7

Challenge of Land Statistics



- Absence of proper valuation method of forest land and timber resource
- Absence of fixed investigation system for valuation of forest land and timber resource
- Lack of conformity of definition for forest land, grass land, etc., between different departments.