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Value of forest assets - value of timber assets?

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Monetary valuation of forest assets is becoming more and more important part of national accounting in countries where forests play an important role in the country's economy. Quite often the valuation is concentrated on timber, because data availability on timber resources and flows, as well as changes in timber resources are relatively well known, and data on timber prices exist or can be estimated on the basis of e.g. statistics on foreign trade. Existing forest and timber statistics of FAO indicate, that data availability for valuation of timber assets is relatively good, although not on annual basis, which would be needed for national accounting. Also alternative methodologies for valuation of timber assets exist, and have been applied in several countries.

Valuation of non-wood products and services provided by forest ecosystems are still more at experimental level, and the value of these products and services are usually not reflected in the value of forest assets, which is calculated on the basis of physical and monetary data on timber stock and flows. Although the flows and monetary value of non-wood products are often well known or can be estimated, their stocks are not very well measured or known.

Biodiversity of forest ecosystems is only weakly linked to value of forests with the value of tree species, that can be felled and turned into timber flows whose economic value can be measured or estimated. Biodiversity as a an existing and future basis of environmental, social and economic benefits from forest ecosystems is usually not included into monetary value of forest assets.

The role of environmental-economic accounting and SEEA handbook with respect to valuation of forest assets is two-dimensional:

1. They should offer approaches and methods to include all nationally important forest-related values into national accounting

2.They should offer approaches and methods to supplement information provided by national accounting in the areas, where possibilities and methods to monetary valuation of forest uses and benefits are inadequate, and their applicability in the context of national accounting is not clear.

The point is that environmental-economic approach and methods have to be able to clearly show the importance of forest assets and values of forest assets whether they are, can be, or are not or can not be directly reflected in national accounting. Physical information plays here a very important role, and the importance of that role is one of the key issues in environmental-economic accounting. Physical information on forest-related products, services and benefits is not only a basis of monetary valuation of forest assets, but it is as such one basic tool to provide and disseminate information on forest assets, their use and relations between different uses of forest.

A simple example of presenting forest-related monetary values and physical information is given in the table below. The table is based on Finnish national accounting, forest accounting, and a large study on recreational uses of forests (made in 1997-2000 by the Finnish Forest Research Institute as a sample survey of Finnish people aged 15-75 years).

Some forest-related values and uses in Finland 1999

Forest assets value, million euro	**55 000**
Forests available for wood supply (net present value)	34 000
Other forests ("market price value")	11 000
Timber flows, million euro	**1 861**
Felled timber	1 745
Christmas trees	8
Changes in inventories	108
Other forest products, million euro	**77**
Berries, mushroom and lichen	22
Game (meat)	51
Reindeer husbandry (value added)	5
Costs of silviculture and forest improvement, million euro	**205**
Money consumed on recreation in forests, million euro	**1 598**
Recreation visits (2-24 hours) to forests, million visits	**120**
- Hunting and leisure game-management	7
- Picking berries/mushrooms	16
- Forest management in leisure time	12
- Nature observing and studying	59
- Other purposes	26
State finance on nature protection, million euro	**66**
Value of carbon sequestration, million euro	
Gross increment of tree biomass	25
Net sink of tree biomass	3

In the Finnish case, the net present value of forest assets available for wood supply is based on timber prices, costs of silviculture and forest management, costs of fellings, and future expectations of incomes from timber to be felled. The value of other forests is also based largely on the net present value of timber, because timber prices are clearly dominating the market prices of all forest real estates. Values related to hunting or other services or products of forests have a minor effect on market prices at the national level.

Although the money consumed by citizens (travel costs, equipment etc.) on recreation in forests is relatively close to the accurate value of felled timber, this consumption is not directly reflected in the value of forest assets. One reason for this is, that recreation uses are independent of forest ownership; every citizen enjoy a free access and right to pick berries etc. in practically all forest areas. Hunting is not free, but it is not a significant source of income for forest owners, and thus not very relevant for prices of forest real estates.

It is the number of the recreation visits to forests that as such gives a clear message of the importance of this use of forests. 120 million day visits, or almost 300 million visits if also very short visits and longer than 24 hour visits are accounted, by the population of 5,2 million people show clearly, that recreational uses make a significant social value for the whole country. This is and has to be taken into account, when plans and decisions on forestry and timber production are made, although all values related to recreational uses can not be presented in monetary values, or directly compared with values of timber flows. Recreational values of forests are closely dependent on status and changes of biodiversity of forests, which in the Finnish case link makes a rather clear link between recreational uses and biodiversity of the forest assets. Decreasing biodiversity of forests would decrease their usability to recreation purposes.

This Finnish example leads us to more general view on valuation of forest assets. Valuation of timber assets is a relatively easy task, and it is relatively easy to develop and present standard tables and applicable (standard) methodologies for calculation of these values. Valuation of other products and services provided by forest ecosystems is much more complicated, and the basic data for this valuation is often inadequate. Also the importance of these other products and services is different in different countries: recreational dimensions in some countries are survival dimensions in some other countries, protective functions of forests e.g. against avalanches and changes of micro- and local climate are crucial for some countries but only a marginal phenomena for some others.

The challenge of the SEEA in standardising and developing environmental accounts for forest assets is to make sure, that all important functions of forests are taken into account, nationally and internationally. Monetary valuation of all of these functions, at least in short term, does not seem to be possible. This must not lead into a situation, in which the problems in monetary valuation of forest assets lower the importance of accounting and presentation of those function of forests, that can not be directly or clearly valued in monetary terms.