Session 3: Valuing ecosystem wealth, degradation and enhancement

Two Approaches to Valuation of Ecosystem Assets:

Present value of future benefit flows
and
Restoration cost based approaches

Parallel Sessions, Thursday 10 am – 11 am

Expert meeting on Ecosystem Valuation in the context of Natural Capital Accounting, 24-26 April 2018, Bonn

Federal Agency for Nature Conservation
United Nations
UN environment
InterSus SUSTAINABILITY SERVICES
Fresh Thoughts Consulting where policy meets science

Two Approaches to Valuation of Ecosystem Assets

Q1 Can **cost/expenditure-based** methods provide an estimate of the exchange value of ecosystem assets? Of ecosystem degradation?

Oslo: damages to trees, fine administered by court/judge; not related to the benefits provided by the tree

Payments for future rehabilitation

QUESTION for both: how is the cost/the payment calculated?

General: caution, as costs not necessarily (or rarely) really reflect the benefits provided

Also: do not reflect the scarcity of nature (or the disappearance), and the definition of costs is also not straightforward

Just the replacement cost definitively does not reflect that e.g. a wetland exists for a very long time

Two Approaches to Valuation of Ecosystem Assets

Q1 Can **cost/expenditure-based** methods provide an estimate of the exchange value of ecosystem assets? Of ecosystem degradation?

Standard SNA/GDP calculations are also very much based on estimations ("apples and pears")

For some services, a production function could be useful (e.g. pollination and crop production)

MOST participants would not be happy using solely cost-based approaches

Advantage, though: established system/reliable approaches (lower boundary)

Two Approaches to Valuation of Ecosystem Assets

Q2 How should **measures of degradation** be attributed to economic units?

How to attribute externalities/affects of several activities combined? Not only in general, but specifically, e.g. how much by which sector…challenges are similar to generally internalizing externalities

"Unit" would be an economic sector, e.g. agriculture

Some issues can be very difficult to be measured…topics mentioned Bhopal, wars & GDP…

Spatial explicit attribution will be necessary, and is possible

Attribution of certain impacts – e.g. nutrient pollution - can also have legal repercussions

Two Approaches to Valuation of Ecosystem Assets

What assumptions underpin the use of **NPV based approaches** and are they valid for ecosystem assets? What role can the notion of ecosystem capacity play in this regard? And how should this be defined?

Two Approaches to Valuation of Ecosystem Assets

How should we treat **activities that restore or enhance** ecosystem condition?

Two Approaches to Valuation of Ecosystem Assets

Q5 Given that these issues have been unresolved for quite some time, what are **needed and realistic next steps** to advance them further?

Some specialized approaches: consequential carbon accounting, I/O Analysis

Regarding replacement costs/cost-based approaches: a definition is needed for an acceptable level of restoration/replacement

Defining costs, defining damage (CBD, CCD)

Further develop benefit transfer methods

…or just DO IT!?