Valuating and Financing Forest Ecosystem Services – the Example of Germany

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Valuating FES: changes, not stocks

Forest Ecosystem Services (according to MEA)

Provisioning services
  e. g. timber

Regulating services
  e. g. protection against avalanches,
  e. g. flood regulation

Cultural services
  e.g. recreation

World without ?
(Valuation only against a reference)

=> Comparison of alternative options
=> Balancing FES

MEA: Millennium Ecosystem Assessment 2005
Valuating FES: an example from Germany

Reference point for comparisons: forest management as today
Utility of cultural services: for 67,23 million people (adults) in Germany
Positive values: willingness to pay/utility
Negative values: compensation request/disutility

<table>
<thead>
<tr>
<th>Ecosystem Services</th>
<th>Bio energy strategy</th>
<th>Nature protection strategy</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Provisioning</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Value added through timber use</td>
<td>?</td>
<td>?</td>
</tr>
<tr>
<td><strong>Regulating</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Carbon sequestration and substitution</td>
<td>?</td>
<td>?</td>
</tr>
<tr>
<td><strong>Cultural</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Share of coniferous trees</td>
<td>-5.14</td>
<td>-0.58</td>
</tr>
<tr>
<td>Harvest age</td>
<td>-3.36</td>
<td>5.02</td>
</tr>
<tr>
<td>Biodiversity</td>
<td>0 (no change)</td>
<td>3.82</td>
</tr>
<tr>
<td>(Sub-)total (in billion €)</td>
<td>-8.50</td>
<td>8.26</td>
</tr>
</tbody>
</table>

Financing FES: property rights

forest owners < = > society

payments

instrument

freedom of decision tailored supply
voluntary high high

transaction costs

-> free contracts

-> subsidies

-> compensation

mandatory low low

-> laws and regulations

Valuating and Financing Forest Ecosystem Services – the Example of Germany
Financing FES: general remarks

requires:
- allocation of property rights with the forest owners
- preferably voluntary instruments

basic decision: what to finance?

\[
\begin{align*}
\text{input} & \quad \leftrightarrow \quad \text{output} \\
\text{measures/actions} & \quad \leftrightarrow \quad \text{outcome/results/performance}
\end{align*}
\]

\begin{align*}
\text{risk of failure} \\
\hline
\text{responsibility?}
\end{align*}
Current situation in Germany:
safeguarding of FES under both allocation approaches, but laws and regulations prevailing
- free access to forests for recreation purposes
- free use of groundwater volume under forests through water supply companies (individual companies offer payments for specific measures, e. g. Gemeindewerk Kaufering)
- accounting for carbon sequestration under Art 3.4 KP but no full benefit sharing with forest owners
- laws and regulations as well as subsidies and compensation payments in case of Habitat Directive Implementation
  • laws and regulations: establishment of nature conservation areas
Habitat Directive continued

- payments:
  3.9 million €/yr. recently on 2.7 million ha, i.e. 1.4 €/ha/yr.
  range of individual payment schemes: 6 – 200 €/ha/yr.
  objects of funding: area based lump sum or individual measures

Further forest funding (under the Joint Task on Agricultural Structures and Coastal Protection), top three positions

- 23 million €/yr. for forest restructuring (planting/fostering broadleaved trees)
- 8.3 million €/yr. soil protective liming
- 7.9 million €/yr. forest road construction and maintenance

=> funding of measures but no payments for specific FES
Conclusion

Valuation of FES on change level rather appropriate than on stock level

Valuation of FES can help to find optimum forest management solutions (i.e. FES provision)

Financing FES requires (re)allocation of property rights to forest owners

In German forest policy both existing, payments and command and control

Input based payments for generic measures prevailing in Germany

Values proved to be significantly higher than payments
Thank you for your attention!

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