ECONOMICS AND POLICIES FOR RURAL LANDSCAPES

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Abstract:
Biodiversity is a very wide concept, but almost all aspects of it have the characters of public goods. The market will consequently not produce enough according to the demands of society (and present technology). AEPs for producing biodiversity is further not violating PPP or PCP. The biodiversity linked to the agricultural landscape would almost entirely disappear if there were no farming to maintain the meadows, the pastures or the field elements. Biodiversity should according to these efficiency and fairness criteria be eligible for AEPs.

Keywords: economics, policies, rural landscapes

WHAT MERITS FOR AGRI – ENVIRONMENTAL PAYMENTS?

The resources of the society are scarce, and the agri-environmental budget maybe even more so. What would be the best use of these means, and what could possibly be better to let the consumers, the farmers or the citizens take care of without grants? Applying the criteria above, some things that presently get funding are dubious, while other things are well motivated (see table 1).
Concerns a Public Good*  
According to PPP / PCP**  
Eligible for AEP***

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<tr>
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<th>Concerns a Public Good</th>
<th>According to PPP / PCP</th>
<th>Eligible for AEP</th>
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</thead>
<tbody>
<tr>
<td>Biodiversity</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
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<tr>
<td>Cultural or historic landscape qualities, heritage features</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Social landscape qualities (scenery, recreation, etc.)</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
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<tr>
<td>Net binding of greenhouse gases</td>
<td>Yes</td>
<td>(Yes)</td>
<td>(Yes)</td>
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<tr>
<td>Reduced leaching of nutrient</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Reduced leaching of biocides</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Ecological production</td>
<td>Partly</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Soil protection</td>
<td>No</td>
<td>No</td>
<td>No</td>
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Table 1. What merits for Agri-environmental payments? Environmental effects and measures within agriculture that comply with the Public Good and the Producer Compensation criteria.

* Public good> non-excludable and/or non-rival character  
** PPP Polluter Pays Principle, fairness criterion  
*** PCP Producer Compensation Principle, fairness criterion  
*** AEP: Agri-Environmental Payments

Biodiversity is a very wide concept, but almost all aspects of it have the characters of public goods. The market will consequently not produce enough according to the demands of society (and present technology). AEPs for producing biodiversity is further not violating PPP or PCP. The biodiversity linked to the agricultural landscape would almost entirely disappear if there were no farming to maintain the meadows, the pastures or the field elements. Biodiversity should according to these efficiency and fairness criteria be eligible for AEPs.

Cultural heritage and other socio-cultural phenomena in the rural landscape are as eligible for AEPs, since they are public goods and produced as positive external effects. How large the payments for these things should be to become efficient depends how much society values them.
Also the net binding of green house gases would be AEP-eligible in principle, as the climate is a pure public good. In reality, however, it is questionable whether agriculture binds more carbon-dioxide and emits less of N₂O than if the land was abandoned, so the compliance with PCP may vary.

Arable land, but also some pasture land is leaching a lot more nutrients (nitrogen, phosphorus), herbicides and pesticides than forest or uncultivated land. The rivers, lakes and seas thus damaged are to a large extent public goods, but to give the farmers AEPs for reducing these emissions would be against PPP. Also from an efficiency point of view, it would be better to tax the polluters for the emissions.

Ecological production may differ from conventional production in three main respects: food quality, working environment, and ecosystem effects. The ecosystems are clearly public goods. The food quality and the working environment are not so. Why should the dear AEP-funding go to finance somebody's consumption of possibly more tasty or healthy carrots? And it should be in the interest of the farmer or farm worker to take the appropriate precautions for his/her own health.

Furthermore, subsidizing ecological production is also against PPP. Polluting less is to do less damage, but not producing something positive. PPP and PCP say that producers should not be subsidized to reduce their damage.

Soil protection concerns a private good, land, and it should in principle be in the interest of the landowners to preserve it well. Scarce public means could be better used for preserving biodiversity and other public goods. In case of erosion and sedimentation problems, PPP stipulates to use taxes or other restrictions on the polluters instead of subsidizing erosion control.

To sum up, large amounts of money are paid today for things that are not public goods or against PPP. Meanwhile, cultural heritage, biodiversity and other public goods may not be sufficiently paid by the AEPs according to what would be socially efficient.
CONCLUSIONS

Agriculture produces biodiversity, cultural landscapes, etc., which are public goods.

Public goods are most efficiently financed by public means. The market can normally not manage them.

Agri-environmental payments are thus necessary to provide the optimal area of fields, meadows and pastures and the environmental qualities that are demanded.

The agri-environmental payments have to be directed and value-based, to give the correct, long term incentives and efficient resource allocation.

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