Factors influencing the acceptance of ecological set-aside areas in a Swiss mountain region

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Context:
Agri-environmental policy schemes

• Potential impacts on acceptance and participation:
  – Economic incentives
  – Self-concepts and attitudes
  – Perceptions, communication
  – Possibilities to participate

• Survey based case study
  – Farmers’ decision making
  – Impact of non economic factors
  – Example of policy scheme: ecological set aside areas (ESA)
Survey sample

- Written survey, November 2011
- CCES Mountland case study region Visp (Valais)
- Response rate 38% (n=120)
- only complete datasets used (n=100)
- Average land surface:
  - Sample: 11.9 ha
  - Study region: 9.6 ha
- Mostly part time farmers
Model design

• Linear regression analysis

• Dependent variable: participation in policy schemes
  – ESA surfaces exceeding the legally requested minimum
  – Surfaces with hedges or trees

• Explanatory variables: potential non economic impact factors
  – Principal components from 9 questionnaire items
  – Uncorrelated scores (Anderson-Rubin)
## Non economic explanatory variables

<table>
<thead>
<tr>
<th>Questionnaire item</th>
<th>Components&lt;sup&gt;a&lt;/sup&gt;</th>
<th>1 Judgment on the effect of policy measure</th>
<th>2 Production oriented mindset</th>
<th>3 Intrinsic motivation / self determination</th>
</tr>
</thead>
<tbody>
<tr>
<td>ambition to breed high quality livestock</td>
<td></td>
<td></td>
<td>.919</td>
<td></td>
</tr>
<tr>
<td>ambition to compete with other breeders</td>
<td></td>
<td></td>
<td>.912</td>
<td></td>
</tr>
<tr>
<td>sufficient production with low land-use intensity</td>
<td></td>
<td></td>
<td>.737</td>
<td></td>
</tr>
<tr>
<td>perceived efficiency of ecological measures</td>
<td></td>
<td></td>
<td>.750</td>
<td></td>
</tr>
<tr>
<td>paid ecological services: good alternative to market income</td>
<td></td>
<td></td>
<td>.767</td>
<td></td>
</tr>
<tr>
<td>close persons like it if I am farming ecologically</td>
<td></td>
<td></td>
<td>.671</td>
<td></td>
</tr>
<tr>
<td>this is my personal contribution to biodiversity</td>
<td></td>
<td></td>
<td>.660</td>
<td>.423</td>
</tr>
<tr>
<td>importance of deciding myself about land-use</td>
<td></td>
<td></td>
<td></td>
<td>.865</td>
</tr>
<tr>
<td>I would create / preserve ESA even without legal duty</td>
<td></td>
<td></td>
<td></td>
<td>-.343</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.604</td>
</tr>
</tbody>
</table>

<sup>a</sup> Extraction: Principle component analysis; Rotation: Varimax with Kaiser-Normalization; Factor loadings <.3 are suppressed
Regression analysis results

<table>
<thead>
<tr>
<th>Model</th>
<th>standardized coefficient (Beta)</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Constant)</td>
<td></td>
<td>33.689</td>
<td>.000</td>
</tr>
<tr>
<td>1 Judgment on effects</td>
<td>.320</td>
<td>3.619</td>
<td>.000</td>
</tr>
<tr>
<td>2 Production orientation</td>
<td>-.308</td>
<td>-3.483</td>
<td>.001</td>
</tr>
<tr>
<td>3 Intrinsic motivation</td>
<td>.232</td>
<td>2.626</td>
<td>.010</td>
</tr>
</tbody>
</table>

b Linear Regression Model; R-Square=.248
Impact of non economic factors

- Judgment on the effectiveness of ESA
  - Beliefs: ESA enhance biodiversity / enhancing it is a good thing
  - In line with Schenk et al. (2007) and Jahrl et al. (2012)

- Production oriented mindset
  - Production oriented ambitions in breeding
  - See also Burton & Wilson (2006)

- Intrinsic motivation and self determination
  - Farmer’s freedom to decide about land-use
  - Importance of communication (Schenk et al. 2007)
Conclusion

• Importance of non economic factors confirmed

• Production oriented mindsets (self concepts) conflict with participating in non compulsory ESA measures

• Intrinsic motivation and *self determination* relate positively to the willingness to participate in ESA

• Policy makers should take into account these non economic factors (→ potential social barriers)
Thank you for your attention!
References

