

Do result-based payments work better for groups?

Experimental evidence from Germany

The policy brief addresses the effectiveness of combining result-based payments with collective contracts in Agri-Environmental Schemes (AES).

Policy recommendations

1. **Pilot combined result-based payments and collective contracts in the field.** Experimental results suggest similar to higher conservation efforts if result-based payments are provided to groups rather than individuals.
2. **If possible, build pilots upon pre-existing collaborative approaches** (such as Advanced Farmer Clusters) to harness existing collective action capacity.
3. **Consider distribution rules for group payments on a case-by-case basis**, weighing strengths and weaknesses against local social and ecological contexts (e.g., monitoring costs, experience with collective action, and asymmetric information between farmers and authorities).

EU Policy Efforts for Sustainable Farming: The need for new agri-environmental schemes

Ongoing efforts in EU policy are geared towards promoting environmentally sensitive farming to ensure the long-term security and sustainability of food production. Agri-environmental schemes (AES), which financially compensate for voluntary conservation, have become an important tool in the EU Common Agricultural Policy (CAP). So far, however, AES typically target individual farms and are thus unable to support collective approaches for landscape-scale conservation, such as Advanced Farmer Clusters (right-hand box). Such collective approaches are deemed promising for enhancing the effectiveness of agri-environmental conservation by aligning the spatial scale of conservation with ecosystem dynamics and landscape features. Consequently, there is a call for novel AES to support agri-environmental collaboration. In this study, we scrutinise the potential of such an AES by combining two innovative features: result-based payments and collective contracts.

Advanced Farmer Clusters

Advanced Farmer Clusters are local groups of farmers who work collaboratively to improve biodiversity and ecosystem health. Supported by trained facilitators, they foster peer learning, ecological planning, and joint implementation of conservation measures.



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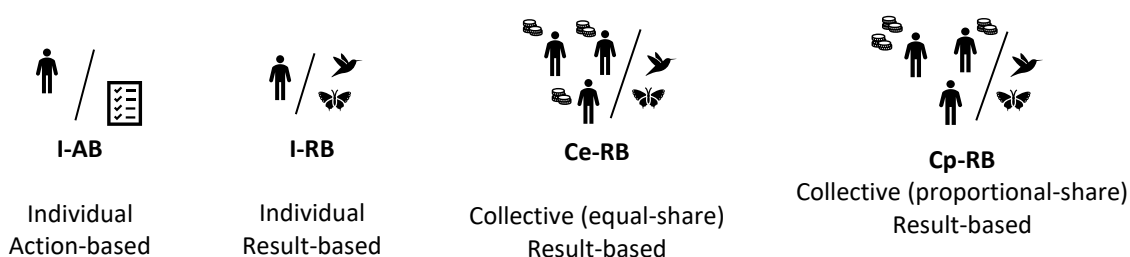


- **Result-based payments** condition payment levels not on prescribed management actions but on the delivery of ecological results. They offer conceptual advantages over action-based payments, such as higher flexibility, but imply a risk for farmers of not achieving payment requirements.
- **Collective contracts** incorporate a landscape-level dimension into AES by contracting groups of farmers rather than individuals. Thus, they are explicitly tailored towards promoting collective efforts for agri-environmental conservation. Furthermore, they allow sharing the risk of result-

based payments within a group. A potential downside of collective contracts is that individual payoffs depend on group outcomes if the resulting group payment is shared equally. Alternatively, group payments could be allocated proportionally to individual efforts, requiring individual-level monitoring of conservation actions.

Economic experiments for the ex-ante evaluation of novel policies

As result-based payments with collective contracts (hereafter: collective result-based payments) have rarely been implemented in practice, two economic experiments were conducted with students and farmers in Germany to investigate the potential of collective result-based payments (Rellensmann, T. et al. 2025a and 2025b). Experiments with students allow for high experimental control and are thus particularly powerful in identifying causal effects, whereas evidence from farmers better generalises to real-world behaviour. Four types of AES contracts were compared:



1. **I-AB**: Payments are based on individual performance and management actions.
2. **I-RB**: Payments are based on individual performance and environmental results.
3. **Ce-RB**: Payments are based on collective performance and environmental results. The group payment is shared equally amongst all group members.
4. **Cp-RB**: Payments are based on collective performance and environmental results. The group payment is shared proportionally to individual management actions.

Furthermore, two risk scenarios were implemented to test how collective result-based payments perform under varying environmental conditions, reflecting, for example, different climatic zones.

Key Scientific Insights on Collective and Result-Based Payments in AES

Under individual contracts, do action-based payments outperform result-based payments?

Yes. Both students and farmers demonstrated significantly lower conservation efforts under result-based payments compared to action-based payments when contracts were offered individually (I-AB vs. I-RB). Efforts declined by 9% (students) to 11% (farmers) when payments depended on ecological outcomes rather than actions.

Do collective result-based payments outperform individual result-based payments when group payments are shared equally?

Partly. Among farmers, collective contracts led to a 20% increase in conservation efforts compared to individual contracts (I-RB vs Ce-RB). Among students, mean efforts were similar across both contract types. Notably, collective result-based payments also matched the performance of individual action-based payments in both samples.

Does environmental risk affect the effectiveness of collective result-based payments?

Partly. While the effect of collective vs. individual contracts does not depend on risk levels, overall conservation efforts are 9% higher under collective contracts in high-risk rather than low-risk scenarios. Moreover, higher risks appear to encourage group cooperation, thus avoiding adverse effects from free riding.

Does the way group payments are distributed—equally or proportionally to effort—affect conservation efforts?

No. We find no significant difference in conservation efforts between collective contracts with proportional-share and equal-share distribution (Cp-RB vs. Ce-RB). This is notable, as the equal-share distribution is susceptible to free riding (but easier to implement). Apparently, farmers in our experiment consider the risk of free riding by their peers negligible. However, the proportional-share rule yielded more uniform conservation efforts in the experiment.

What factors drive conservation under collective result-based payments?

Potential behavioural drivers include:

1. Peer expectations: For both students and farmers, expected group efforts strongly predicted individual conservation choices.
2. Age: Among farmers, older participants contributed less under the proportional-share rule. Older farmers may be less open to novel AES designs or resent the relatively high complexity of collective result-based payments with a proportional-share rule.
3. Farming type: Organic farmers implemented significantly more conservation measures, suggesting a stronger potential for collective result-based payments among organic farmers than conventional farmers.

Policy Implications

1. **Combining result-based payments with collective instead of individual contracts may significantly enhance AES effectiveness.** Results indicate similar or higher conservation efforts under collective contracts compared to individual result-based contracts, and the observation that collective AES provide higher expected ecological benefits through landscape-level coordination (Rellensmann et al., 2025b, 2025a). However, the applicability of collective result-based AES depends on (i) farmers' willingness to engage in novel schemes, (ii) the suitability of ecological targets for collective management, including the availability of measurable indicators, and (iii) the capacity of farmer groups and authorities to facilitate collective and result-based conservation.
2. **Regarding their risk level, collective result-based payments may be effective for varying geological and climatic conditions across Europe.** High-risk environments may encourage greater cooperation among farmers, supporting successful collective action.
3. **Both distribution rules—equal per capita and proportional to individual efforts—yield similar overall conservation efforts, suggesting that collective result-based payments may be effective without monitoring individual behaviours.** However, the equal-share distribution leads to greater variability in conservation efforts. A proportional-share rule could therefore be preferable when maintaining minimum conservation levels across farms is necessary.
4. **Advanced Farmer Clusters offer practical advantages for implementing collective result-based AES:**
 - a) The academic literature suggests that bespoke training for farmers, low-cost opportunities for communication and knowledge exchange, and skilful facilitation benefit the implementation of collective and result-based AES (Herzon et al., 2018; Midler et al., 2015; Narloch et al., 2017; Prager, 2022).

- b) Experimental results suggest that the performance of collective contracts depends on trust in the feasibility of collective action (Rellensmann et al., 2025b, 2025a). Advanced Farmer Clusters can foster trust in multiple ways, including (i) transparent and collective decision-making about collective efforts, (ii) ecological monitoring to create visibility of conservation outcomes, and (iii) building social capital and cohesion in the Cluster to harness social norms and a shared commitment to the Cluster goals.

Further Readings

Rellensmann, T., Thomas, F. and Engel, S. (2024) Report on result-based payments to promote agrobiodiversity. <https://zenodo.org/records/15088127>



Rellensmann, T., Engel, S., Rommel, J. and Thomas, F. (2025a) Do result-based payments work better for groups? An experiment with German farmers <http://dx.doi.org/10.2139/ssrn.5178432>



Rellensmann, T., Engel, S., Rommel, J. and Thomas, F. (2025b) Risk-Sharing Under Result-Based Payments with Collective Contracts: Experimental Evidence <http://dx.doi.org/10.2139/ssrn.5178362>



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