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THE EU'S ECOLOGICAL FOCUS AREAS: HOW EXPERTS EXPLAIN FARMERS' CHOICES IN GERMANY

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With the 2013 Reform of the EU's Common Agricultural Policy (CAP), the EU introduced the 'Greening of Direct Payments'. Among other measures, the Ecological Focus Areas (EFAs) are a key element within Greening with the objective to support the farm biodiversity. In 2015, farmers across the EU have implemented EFAs for the first time. Data for German federal states document a strong regional variety of EFA decisions with an overall dominance of catch crops, nitrogen fixing crops and fallow land (see fig. 1 for the shares of EFAs without applying weighting factors.). Catch crops and nitrogen fixing crops, which cover 80 % of the



German EFA area, bear only limited benefits for biodiversity conservation. On the other hand, EFA options with higher value for biodiversity conservation such as fallow land, buffer strips and landscape elements

Figure 2: Categories of determinants explaining farmers' EFA choices



underrepresented are strongly in farmers' decision.

We asked experts from the Ministries for agriculture, farm advisory services, and farmers' associations in each German' Federal State to explain EFA decisions made by farmers. We extracted decision factors from those expert statements and clustered them into five categories that we labelled administrative considerations, economic considerations, local factors, ecosystem considerations and policy incentives (please see table 1 for the distribution of statements made by the interviewees).

It becomes apparent that administrative and economic considerations are found to be the primary determinants for farmers' decisions. By contrast, ecological considerations and other political incentives were found to only have a limited influence on farmers' EFA decisions.

According to the interviewed experts, farmers have primarily registered measures that already existed on their farms. Administrative and economic considerations appear to function as a negative incentive for EFA options that are beneficial for biodiversity, such as landscape elements and buffer strips. We conclude that conditions for EFA implementation were found to not effectively incentivise a higher share of biodiversity supporting characteristics in German agricultural landscapes. Based on a detailed discussion we extract recommendations on how to improve EFA implementation (see box 1). An overview about the identified incentives and disincentives for choosing each of the EFA options is given below.

Box 1 – *Policy Recommendations*

Based on the issues raised by experts and in light of the aforementioned observations, we suggest the following recommendations for EFA adjustments – aiming to improve their environmental performance, cost-effectiveness, and acceptance by farmers in the current CAP implementation period:

1. Reduce technical and administrative complexity

The complexity of administration was shown to deter farmer's choices of more complex EFAs. Clear and transparent technical requirements for EFAs can facilitate the uptake of biodiversity supportive EFAs (e.g. buffer strips and landscape elements).

2. Assure competent technical assistance

Centralised transparent information on less complex EFA requirements complemented with training of Farm Advisory Services (FAS) officers could provide the necessary technical assistance. This can further be complemented by the provision of ecological knowledge to farmers through FAS.

3. Increase the share of biodiversity supportive EFAs

Overbooking of EFA area and underrepresentation of biodiversity supportive EFAs can be either confronted by reducing the number of EFA choices excluding options with low biodiversity value, and/or increasing the share for EFA to more than 5 %.

4. Improve coordination with agri-environmental measures (AEM) to increase economic incentives for biodiversity supportive EFAs

While EFAs were shown to maintain existing practices, complementing them with AEM payments could cover parts of the costs for establishing new EFAs (e.g. landscape elements). This might also lower the proportion of catch crops and nitrogen fixing crops.

5. Highlight additional ecosystem services provided by EFAs

Mainstreaming how EFAs generate ES and thereby directly and indirectly benefit both farmers and local communities could have an impact on decision making processes and the disposition to engage in more demanding EFAs.

6. Support sense of ownership / provide flexibility for local conditions

By adapting EFAs to local conditions integrating local knowledge and maintaining flexibility to support what already exists can both incentivise a sense of ownership among local stakeholders and be more effective in producing environmental-friendly outcomes.

7. Replace EFAs with voluntary AEMs (as pillar 2 mechanism)

In the middle and long-term perspective, the AEM framework seems better suited for addressing the complex objective of biodiversity protection, as it defines locally specific objectives, adjusts specific premium rates accordingly and foresees specific evaluation processes.

INCENTIVES TO IMPLEMENT INDIVIDUAL EFA OPTIONS

Based on the results certain incentives and disincentives can be identified regarding the implementation of EFAs. In this section, we present the incentive structure for each EFA option and discuss our projection on the role of each of the five most dominant EFAs bringing in additional background information.

Catch crops (68 % of EFA area in Germany before applying weighting factors (WF))

Incentive:

- integration in crop-rotation possible, continuing cultivation of the land
- established management practices
- erosion protection, maintenance of soil fertility
- land cover as shelter for wild animals

Disincentive:

- reducing water availability (especially in dry regions, such as Thüringen, Northern Bayern, Sachsen-Anhalt)
- challenge to determine possible crop combination

Our projection: Due to easy implementation, catch crops make up more than two thirds of the EFAs registered by German farmers. Considering that the benefits for biodiversity are limited, it is highly questionable if such a high share of catch crops – and therefore the current policy design – contributes to assure the positive biodiversity effect of the greening as envisioned by the EC.

Fallow land (16.2 % of EFA area in Germany)

Incentive:

- low additional costs for installation and management
- low risks of sanctions and little uncertainties regarding management
- can be maintained as arable land over time (does not convert into permanent pasture)
- can be integrated into crop rotation
- possibility to use land with low productivity especially with low land prices (e.g. Mecklenburg-Vorpommern and Saarland).

Disincentive:

- more pressure on land in areas with high land prices and shortage of arable land (e.g. Baden-Württemberg)
- risk of conversion into permanent pasture after five years of implementation

Our Projection: Fallow land is an interesting option for farmers when registering unused areas with lower productivity as EFAs. They are also favoured by ecologists as a potentially beneficial measure for biodiversity (Oppermann et al. 2012). These areas



Fallow land in Southern Lower Saxony 2015 Photo: Sebastian Lakner, 2015

will however turn into permanent pasture after five years of implementation. While pasture land has increased after the introduction of greening, shares of pasture land are considerably lower than in 2005 and may continue to remain lower in areas with high land rents. Therefore the fallow land created as EFAs can counteract this trend and substitute ecological functions of grassland.

Nitrogen fixing crops (11.8 % of EFA area in Germany)

Incentives:

- possibility to combine with other programmes and incentives (AEMs or KULAP)
- suits existing crop systems and crop-rotation set-ups (e.g. pea cultivation in Sachsen)
- also benefits soil protection from erosion
- supports soil fertility

Disincentives:

- small markets for protein crops not competitive (e.g. in Sachsen-Anhalt)
- strong precipitation has negative impact on harvest, therefore certain regions might not be suitable

Our Projection: Nitrogen fixing crops were valued for supporting soil fertility but seem to provide limited benefits for biodiversity. Their considerably high uptake, especially in selected federal states, is linked to farm structures and crop rotation set-up. They were valued for supporting soil fertility and particularly popular in eastern federal states with large fields, and southern federal states with long harvest periods. When it is possible to integrate them into crop-rotation design, farmers will most likely continue to plant nitrogen fixing crop as an easy option with a considerably high weighting factor of 0.7.

Landscape elements (2.4 % of EFA area in Germany)

Incentives:

- high ecological value (expressed also by high weighting factors)
- possible to register existing elements (especially in areas with abundant landscape structures (e.g. Saarland, Schleswig-Holstein)
- some are already registered in other agrarian subsidy programmes (cross compliance)

Disincentives:

- registration requires exact measures (size and position in the field) – risk of sanctions in case of irregularities
- unclear property rights (on boundaries and between land owner and user)



Landscape elements creating a network for fauna and flora in Thuringia Photo: Thomas Hesse, 2016

Our Projection: Landscape elements are regarded as supporting biodiversity, but it is estimated that most landscape elements are not being registered (Isermeyer et al. (2014: p.15) assessed that farmers registered only between 15 and 41.5 % of the existing landscape elements and buffer strips). The low popularity of registering landscape elements can be explained with the high administrative requirements to define and register them as well as the imminent risk of sanctions. Additionally, diffuse property rights and high installation costs deter further developments of landscape elements on farms. Considering the unequal distribution of landscape elements in German federal states, it is likely that locally implemented support systems can further incentivise the protection of landscape elements, particularly in German areas with large fields.

Buffer strips (1.2 % of EFA area in Germany)

Incentives:

- high ecological value (expressed also by high weighting factors)
- experiences with registration in earlier agri-environment programmes
- little negative impact on surrounding fields
- aesthetic value and visibility
- combination with AEMs possible in certain cases (e.g. with KULAP programme in Thüringen)

Disincentive:

 detailed and rigid technical requirements (e.g. width, distances) complicated registrations and associated risk of sanctions



Flouring strip with phacelia in Lindau, South Lower Saxony

- restricted possibilities for agricultural use (e.g. mowing the grass as feed)
- takes land out of production
- may convert into permanent pastures after five years of implementation
- unclear property rights (especially on rented land)

Our Projection: Existing studies assume that farmers do not register all existing buffer strips (see also landscape elements). Nonetheless, there is much room for improvements to enhance uptake of this measure, considering the difficult administrative requirements and associated costs and risks as well as the risk of the conversion into permanent pasture land after five years- all strongly dis-incentivising the registration of existing buffer strips and installation of new ones.

Reference:

Zinngrebe, Y., G. Pe'er, S. Schueler, J. Schmitt, J. Schmidt & S. Lakner (2017): The EU's Ecological Focus Areas - explaining farmers' choices in Germany, Land Use Policy, accepted paper, forthcoming.