



Result-based agri-environment measures: Market-based instruments, incentives or rewards? The case of Baden-Württemberg



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ABSTRACT

Result-based agri-environment measures are increasingly seen as an interesting way to improve the conditionality and efficiency of the use of Common Agricultural Policy (CAP) funding for environmental land management. They differ from classical action-based measures in that they remunerate farmers to achieve a desired outcome, and not for complying with a set of rules. We have analysed MEKA-B4, the result-based agri-environment measure in place in Baden-Württemberg (Germany) between 2000 and 2014, which aimed to preserve species-rich grassland. In order to do so, we carried out semi-structured face-to-face interviews with participating and non-participating farmers and key institutional actors. We argue that MEKA-B4 could be considered a Payment for Ecosystem Services (PES), but only if a broad definition is adopted, as the payment appeared to cover the opportunity costs of only some categories of farmers (e.g., part-time farmers, less productive fields, hay producers), but it was too low to cover those of intensive cattle raisers and biogas producers, partly due to the changing market conditions (e.g., fluctuating and decreasing price of hay; incentives to produce biogas). In fact, in general most farmers were motivated to join the scheme by a combination of extrinsic motivations (i.e., the monetary incentive) and intrinsic motivations (i.e., ethical reasons). Increasing the payment, as has been done in the new version of the scheme (FAKT-B3), may help to ensure a wider enrolment in the measure in the long term. However, the interaction with biogas subsidies and other measures of the FAKT programme may hamper the farmers' enrolment. This shows the need to improve the integration and coherence of environmental policies that have different objectives.

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1. Introduction

An increasingly high number of experts suggest that a way to increase the environmental effectiveness, additionality and cost-efficiency of the agri-environment measures (AEMs) funded by the EU Common Agricultural Policy (CAP) is to link the payment to the provision of the desired environmental outcome, rather than to the prescribed management activities, as is the case of action-based AEMs (AB-AEM). Arguably, result-based AEMs (RB-AEMs) allow more direct control of the environmental impact, and hence higher conditionality. In addition, the risk of adverse selection is lower, as farmers are encouraged to choose the land to enrol in order to

maximise the environmental benefits (and hence the payment they receive from it) (Burton and Schwarz, 2013; Sabatier et al., 2012).

RB-AEMs allow the farmer greater flexibility in management practices compared to AB-AEMs, thereby encouraging innovation (Matzdorf and Lorenz, 2010). Flexibility also improves cost-efficiency, as it allows farmers to adapt their management activities to the features of the land, the weather conditions and other specific characteristics (Sabatier et al., 2012) and increases intrinsic motivations towards conservation (Muradian, 2013).

In addition, RB-AEMs generally contribute to spreading environmental awareness and increasing the motivation of farmers towards environmental protection (Oppermann and Gujer, 2003).

There are already a few RB-AEMs in Europe (see Burton and Schwarz, 2013; Schwarz et al., 2008; Allen et al., 2014 for literature reviews). Most RB-AEMs implemented so far aim to preserve biodiversity in species-rich grassland and link the payment to the auto-declared presence of defined wildflower indicator species, used as proxies for species-richness of the habitat. Such measures are currently in place in Baden-Württemberg (Matzdorf

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and Lorenz, 2010), lower Saxony, Brandenburg (Matzdorf et al., 2008), Thuringia, Rhineland-Palatinate (MULEWF 2010), France (De Sainte Marie, 2014), Ireland (DAFM, 2014) and Switzerland (Oppermann and Gujer, 2003). However, there are some RB-AEMs aiming at the conservation of key animal species, for example birds in Schleswig-Holstein (Stapelholmer Naturschutzvereine, 2007), breeding waders in the Netherlands (Verhulst et al., 2007) and carnivores in North Sweden (Zabel and Holm-Müller, 2008). Finally, there are a few RB-AEMs focussing on water quality, such as those aiming at reducing nitrogen surplus in three German Länder (Techen and Osterburg, 2011).

This paper analyses the RB-AEM introduced in 2000 in Baden-Württemberg (BW), Germany, in order to preserve biodiversity in species-rich grassland. This specific RB-AEM was called MEKA-B4 and it formed one module within the whole AEM program MEKA. It is important to note that the field work described in the next section was carried out in 2013 and therefore this paper focuses on the programming period 2007–2013. The new version of MEKA-B4, which was introduced in 2014 with the name FAKT-B3, will be briefly discussed in Section 6.

MEKA-B4 is a particularly interesting case because it is the first RB-AEM co-financed by the CAP. This longer time of functioning, with respect to other similar measures, allows a better insight on the results, the costs and the perception of all categories of involved stakeholders. Our objective is to contribute to the ongoing discussion on the opportunity of using RB-AEMs more widely in the EU to improve the effectiveness and cost-efficiency of the CAP (Moxey and White, 2014). In particular, we aim to gain insight on the following research questions:

- Is MEKA-B4 to be considered a pure market-based instrument, an incentive or a reward, according to the categorisation proposed by Muradian and Riva (2012)?
- Why do farmers decide to participate or not participate in the measure? What are the perceptions of the different categories of involved stakeholders?
- What is the opinion of the involved stakeholders on the trade-off of risk versus flexibility in the context of MEKA-B4?
- What can be said about the transaction costs for farmers and institutions?
- Does MEKA-B4 also play an educational role?

In order to answer these questions, Section 2 will briefly define the concepts of market-based instruments, incentives and rewards; Section 3 will present the main characteristics of MEKA-B4; Section 4 will explain the methodology used for this case-study; Section 5 will present the results of our interviews; Section 6 will discuss the main issues related to the design and implementation of the measure; and Section 7 will provide some conclusions.

2. Markets, incentives and rewards

RB-AEMs can be considered examples of Payment for Ecosystem Services (PES), as they remunerate farmers for the ecosystem services they provide (Osbeck et al., 2013). They ensure higher conditionality than AB-AEMs, because they link the payment to the attainment of a desired environmental outcome.

Muradian and Riva (2012) distinguish between three types of monetary transfers aiming at improving the delivery of ecosystem services: markets, incentives and rewards. Only the first category is to be considered a PES if the strict definition of PES proposed by environmental economists is adopted, i.e., “a voluntary transaction where a well-defined ES (or a land-use likely to secure that service) is being ‘bought’ by a (minimum one) ES buyer from a (minimum one) ES provider if and only if the ES provider secures ES provision (con-

ditionality)” (Wunder, 2005). However, all three categories can be considered PES if a broad definition of PES is adopted, like the one proposed by ecological economists (Muradian et al., 2010, p. 1205):

“a transfer of resources between social actors, which aims to create incentives to align individual and/or collective land use decisions with the social interest in the management of natural resources”.

Markets are characterised by high additionality (i.e., the behavioural change would not happen in the absence of the payment) and high commoditisation (the ecosystem service is clearly identified as a tradable commodity).

Rewards aim to reward for a positive behaviour already in place, and are characterised by low commoditization. Their objective is to provide social recognition to those already delivering a service to the society, and encourage positive behaviour. The payment associated to rewards is in general not proportional to the effort and may not cover the opportunity costs, in contrast to what happens with markets.

The motivation for the conservation of the ecosystem services is ‘extrinsic’ in the case of markets, as it depends on an external driver (i.e., the payment), and is ‘intrinsic’ for rewards, which address behaviour that is mostly driven by ethical motivations (for a discussion on the difference between intrinsic and extrinsic motivations, see Ryan and Deci, 2000).

Incentives are in between these two poles: their level of commoditisation is lower than that of markets, but higher than in the case of rewards. They are in general targeted at types of behaviour that are caused by a combination of intrinsic and extrinsic motivations. Additionality can be (but needs not be) high for incentives, as they may encourage a positive behavioural change (or discourage a negative one) that would not have occurred without the payment.

In the remainder of this paper, the RB-AEM in place in BW is analysed as an example of PES, and the degree to which it can be considered a market instrument, an incentive or a reward is discussed.

3. The result-based agri-environment measure in Baden-Württemberg

MEKA was one of the first AEMs in the EU. It was established in 1992 to contribute to the conservation of permanent grassland, which had been in decline in BW for decades, from 648,800 ha in 1979 – the first year of data availability – to 591,100 ha in 1992 – when MEKA was introduced – to 573,300 ha in 2000 (Baden-Württemberg Statistical Office, 2015). Within MEKA, AB-AEMs were in place for the conservation of extensively managed grassland, but they turned out to be inadequate for several reasons. They established a fixed number of cuts and mowing dates for meadows, which did not allow farmers to take into account annual and site-specific variations related to the growth of vegetation and different weather conditions in different years (a prolonged good weather period is essential for the production of hay). More flexibility was needed to allow management practices to be adapted to specific local conditions (Oppermann and Gujer, 2003; Briemle and Oppermann 2003). To overcome the limits of these AB-AEMs, MEKA-B4 was introduced in 2000 and turned out to be quite successful (about 10,000 participating farmers in the first three years – see Oppermann and Gujer 2003). However, the area covered by MEKA-B4 has decreased from 66,112 ha in 2003 to 42,860 ha in 2012, i.e., from approximately 12% to 8% of permanent grassland in BW (Baden-Württemberg Statistical Office, 2015),¹ mainly because

¹ Based on a large sample of plots, Krismann et al. (2006) estimated the total extent of species-rich grassland at about 21% of all grassland in BW, which corresponds to about 120,000 ha of species rich grassland.

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