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Are agri-environment schemes 'greening' the environmental attitudes of participating farmers?

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Are agri-environment schemes 'greening' the environmental attitudes of participating farmers?

SUMMARY

Although agri-environment schemes (AESs) have had a positive impact on improving the environmental value of the English countryside, it remains unclear if they are also able to sensitise the environmental attitudes of participating farmers, important for assessing the long term sustainability of these environmental enhancements. This briefing note shows that AESs do have the capacity to make farmers care more about the environment, however a number of barriers need to be overcome in order for environmentally 'green' attitudes to become a consistent trait amongst farmers participating in AESs. Institutions delivering AESs need to provide farmers with consistent positive feedback for good performance, and also education, so that pride and prestige in environmental welfare can be developed. In addition in order for farmers to feel partners in the process of protecting the environment, greater recognition is needed for farmers' knowledge, by allowing them greater participation in decision making regarding how environmental objectives are achieved.

Key Messages

1. The sustainability of the ecological enhancements AESs have had require AESs to foster environmentally green attitudes amongst participating farmers.

2. AESs as they are currently conceived do have the capacity to initiate attitudinal change amongst farmers.

3. However there are a number of barriers that need to be overcome in order for environmentally green attitudes to become a consistent outcome of AES participation.

4. Institutional feedback and education, recognition of farmers' tacit knowledge, and greater participation for farmers are all seen as important issues future AESs need to address.

Background

Agri-environment schemes (AESs) symbolise a shift in philosophical approach in the European Union (EU) towards agricultural policy which, owing to post war fears over food security, had previously prioritised maximising production (Llbery, 1998). Instead of encouraging farmers to keep optimum stocking rates and maximise the productive yield of their land, AESs are voluntary agreements which provide farmers with economic incentives to manage their land in a more environmentally sensitive way, symptomatic of a wider 'greener' approach to agriculture at a political level (Llbery & Bowler 1998).

AESs are funded through the EU's Common Agricultural Policy (CAP), with their specific design and operation being the discretion of member states (figure 1). In England this responsibility lies with the Department for Environment, Food and Rural Affairs (DEFRA) who delegate the implementation of AESs to Natural England (NE), a non-departmental public body. There have been a number of different AESs that have existed in England since their first introduction in 1987, which together have had a positive impact on maintaining and enhancing the ecological value of the English landscape over the last 27 years (Natural England, 2009).

However although the physical impact of AESs on improving the environment has been well studied (Carey et al., 2005; Carey et al., 2003; Manchester et al., 2003) their social impact has only

been considered in terms of farmers' resistance to participate (Ingram et al., 2013; Burton et al., 2008). Their influence on farmers' environmental attitudes on the other hand has not been sufficiently documented. Having an understanding of this is extremely important for assessing the long term sustainability of the ecological enhancements brought by AESs. Many contemporary farmers would have grown up in, or have been influenced by the agricultural era before AESs — which advocated intensification and production. This may have instilled in farmers a functional view towards the environment that doesn't consider it having value independent of agriculture. The structure of AESs is tied to the current political agenda, and because of budgets constraints this will mean the forthcoming AES' focus on biodiversity (due to start in 2016) will leave many landscapes previously protected by AESs ineligible for payment (DEFRA, 2014a, p.18). Therefore it's important to understand the likelihood farmers will see value in protecting the environment that extends beyond monetary gain and persevere with conservation in the absence of the financial support offered by AESs.

To help answer this question this briefing note now outlines the key findings of a research project which investigated the capacity of AESs to 'green' the environmental attitudes of farmers, and the barriers which may be inherent to AESs that could be impeding this process.

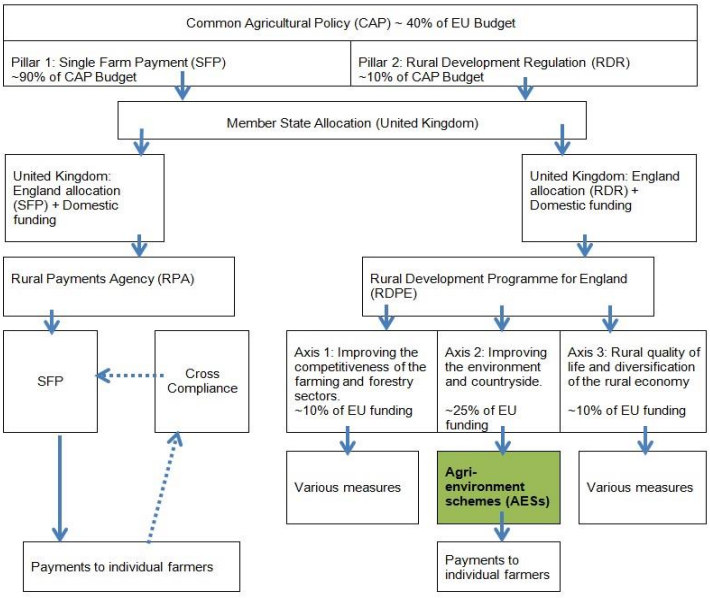

Figure 1: Highlights the position of AESs in the EU's 2007-2013 funding architecture for agricultural support and development. This framework is still active as of 2014 in England, but is due to be replaced in 2015 with the reformed version for the period 2014-2020. Information, including the budget, was taken from DEFRA (2006).

The findings

To investigate the potential for AESs to initiate attitudinal change regarding the environment the project examined 12 Yorkshire Dales upland farmers. Farmers were differentiated into two equally weighted groups according to their degree of involvement with AESs. 'High participator(s)' (HP(s)) were those farmers whose farms had had long, comprehensive involvement with AESs whereas 'low participator(s) (LP(s)) were those farmers whose farms had had only brief and or superficial involvement with AESs. Farmers' environmental attitudes before participation in AESs was measured using oral history interviews which were then compared to current attitudes since participation, measured using Q-methodology.

Attitudes before AESs

The interviews revealed two broadly different farming approaches amongst farmers prior to AESs, each of which had resulted in differing perspectives towards the environment. Seven of the farmers interviewed could have been categorised as 'traditionalist' farmers, whereby their farming approach was characterised by a continuation of the farming methods and techniques used by previous generations. The other five farmers on the other hand could have been categorised as 'intensive' farmers, whereby they had sought to break from the past, and tried to continually modernise their farms in order to make them more productive.

Traditionalist farmers all expressed how their early farming education had taught them the importance of looking after the landscape. However it was found that this was not because of the deleterious ecological ramifications not doing so would have, but rather because of agricultural reasons. For some traditionalist farmers interviewed there existed no differentiation between agriculture and the environment, the latter being essentially a manifestation of the former. Consequently these farmers saw themselves as the 'environment's creators'. Looking after the land merely meant making it conform to a particular agricultural aesthetic in order to demonstrate good farming practice. Contrastingly the other traditionalist farmers did

recognise the environment as having its own existential value independent of agriculture, however for them looking after the landscape stemmed from the belief that a mutually beneficial relationship existed between themselves and the environment, where looking after it would maximise the agricultural returns generated by it. A consistent comment from all traditionalist farmers was that negative environmental impacts caused by their farms was not noticed as a problem before AESs. This is not to say that environmental degradation was not occurring. Because their farming approach had been in use for many generations, it is likely environmental damage, if present, would have been imperceptible to them.

In contrast 'intensive' farmers spoke about how they were frequently confronted with environmental issues (e.g. soil erosion, river pollution) before AESs, a consequence of intensifying with previously unseen modern farming techniques (e.g. use of artificial fertilizers). The motivation for intensifying was similar to the traditionalist farmers who wanted to maximise the agricultural returns of their land, however whereas they saw the environment as a partner in this process, intensive farmers saw the environment as an obstacle that limited agricultural progress, and that needed to be conquered.

The difference in these styles largely foreshadowed the extent farmers participated in AESs, with HPs tending largely to consist of traditionalist farmers whereas LPs tended to consist of intensive farmers. However this was not because traditional farmers were more environmentally sensitive, but rather their style of farming required less behavioural change to comply with AESs' environmental demands. Indeed intensive farmers all cited greater restrictions on their farming approach as being the sole reason that stopped more advanced participation. The principle reason for participating in AESs, consistent for **all** farmers studied, was because of the economic incentives on offer, and not because of any innate value attached to protecting the environment.

The results of the oral history interviews showed that there were differing perspectives towards the environment before participation in AESs, the specific nature of which largely depended on if their early farming approach followed either an intensive or traditionalist mentality. However despite these differing views, neither traditionalist nor intensive farmers ever awarded the environment any intrinsic value in its own right. It was not seen as something that needed to be protected, but only ever as something to be exploited for agricultural returns.

Figure 2: Q Sort statements and idealized scores for each attitude

	Idealized attitude scores		
Statement	Agriculturalist	Custodian	Entrepreneur
1. Having a greater number of stock at a higher value than the previous generation is progress.	0	0	+1
2. Population growth and a potential food shortage is a problem that needs to be addressed.	+3	+1	+4
3. Collaborating with other farmers to achieve environmental objectives is a positive direction for future agri-environment schemes.	-2	0	-3
4. Although earning a good living is important, the main joy in farming is the lifestyle.	+2	+2	0
5. Farm tours, ice-cream production, and bee keeping are equally as credible income sources for uplands farmers as the rearing and selling of livestock.	-2	-2	+2
6. Agricultural damage to recognised rare habitats is a source of shame for those who cause it.	-1	+2	-1
7. Supplementing or replacing the income from the sale of livestock from other sources (e.g. farm cafes) does not make someone less of an uplands farmer.	0	0	+3
8. Farmers should always protect unique or rare habitats on their farms regardless of what compensation is available.	-2	+3	0
9. Cross compliance should be extended to cover more environmental issues so that more farmers do more to protect the environment.	-4	-3	-2
10. A good uplands farmer is primarily one that has good quality livestock and neat and tidy fields.	+2	+4	-1
11. Any damage to the environment caused by intensification is insignificant compared to the benefits of increasing production.	+1	-4	-2
12. There is pressure from society to enter land into environmental schemes.	-1	-2	+2
13. Farmers have the right to use their land any way they desire.	+2	-2	-3
14. Pests such as Fox and Badger populations should be eradicated from the area in order to protect livestock.	+1	-1	-4
15. Wildlife conservation should be considered before financial objectives.	-3	+1	-1
16. The sight of grazing good quality livestock is what most gives the local rural landscape its character.	+3	0	+2
17. Farmers in the local area are as likely to discuss environmental issues with each other as they are to discuss issues around livestock and trade prices.	-3	-1	-2
18. The reduction in productive capacity from participating in agri-environment schemes limits farmers' ability to be a good farmer.	0	-3	+1
19. Maintenance of the historic farming landscape (e.g. dry-stone walls) is important.	+1	+2	0
20. Profit from production is best spent investing in new machinery or new stock than spent to enhance wildlife or other environmental concerns.	+1	-1	+1
21. Farmers' interests are better represented by the NFU than by Natural England.	0	0	-1
22. Tourists need to be encouraged to visit the countryside because it allows farmers to show off their landscape and it brings economic opportunities.	-1	-1	+3
23. Halting the decline of rare species and encouraging the return of species such as the black grouse is extremely important for the local area.	-1	+1	0
24. Financial viability has to be the judge of everything you do on a farm.	+4	+3	0
25. A diversity of plant and animal species on the farmscape enhances a farm's prestige.	0	+1	+1

Figure 2: Shows the composite scores that participants who correlated with each attitude would typically award the 25 statements used in the Q-Methodology. The ranking scale used was; -4 "Least like my point of view" to +4 "Most like my point of view", a score of 0 suggested a neutral opinion on the issue.

Therefore this revealed that there was potential for AESs to have a transformative effect on farmers' environmental attitudes. Their actual impact is discussed in the following section.

Attitudes post AESs: Have attitudes changed?

Current environmental attitudes were measured by using Q-methodology to uncover the different viewpoints towards the environment that existed amongst farmers (figure 2), and then by analysing how these correlated with HPs and LPs.

Analysis of the Q-methodology results showed that **three dominate attitudes** towards the environment existed amongst farmers. An '**agriculturalist**' viewpoint that was dismissive of the environment and farming's ecological impact, with the environment being only seen as an exploitable resource. This attitude closely resembles attitudes prior to AESs. The other two viewpoints however did see value in protecting the environment, but for different reasons. The **'entrepreneur' viewpoint** felt protecting the environment was important in order to preserve its appeal to tourism, and provide economic opportunities for farmers. However the environment was not felt to have its own separate, innate value. In contrast the third, **'custodian'** viewpoint, although similar to the 'agriculturalists' in that importance was placed on the environment as being an exploitable resource, identified the environment's ecological integrity as the boundary where exploitation stopped. In this way, for the 'custodian', the environment did have its own innate value, with it felt that famers' position in the countryside made them obliged to uphold it. Because interviews had shown that virtually all of the farmers prior to AESs did not value the environment's ecological importance, and that the Q-methodology results show that this is **now** not uniformly true, evidence is provided to show that some degree of attitudinal change has occurred amongst the cohort of farmers.

In order to understand if AESs had 'greened' farmers' environmental attitudes it is necessary to look at the spread of HPs and LPs across the three different attitudes that emerged (figure 3). Virtually all LPs studied showed a significant association with either the agriculturalist or entrepreneur viewpoint. Demonstrating that their attitudes had either not changed, or had only commoditised the environment in terms of its value to tourism. Regarding the custodian viewpoint, an environmentally 'green' attitude, predominately LP farmers showed either a **negative or negligible** correlation with it.

Figure 3: Participants' correlations with each attitude

		Degree of correlation of participants with each attitude		
Participants		Agriculturist	Custodian	Entrepreneur
Agriculturalists				
HP1		0.6211*	0.3428	0.3571
HP5		0.5560*	0.1847	-0.4899
HP6		0.5804*	0.4199	-0.0976
LP3		0.8351*	-0.0065	-0.0205
LP5		0.5702*	0.2521	0.1790
LP6		0.7063*	-0.0921	0.2157
Custodians				
HP2		0.4008	0.8306*	-0.0317
HP3		-0.2461	0.8567*	0.0158
HP4		0.1320	0.7022*	0.2490
LP2		0.2316	0.8274*	-0.0695
Entrepreneurs				
LP1		0.4682	0.1566	0.6063*
LP4		0.0743	0.0315	0.8914*

(*) Indicates significance at the p<0.01 level. Participants referred to by codes (HP1=High participator 1 etc.)

However, amongst HP farmers, there was far greater association with the custodian viewpoint, with half of the HPs studied showing a very significant association with it. Although the results suggested that the environmental attitudes of the other HP farmers had not changed, due to their significant association with the agriculturalist viewpoint, unlike the LPs, a proportion (although not significant) of their attitudes still was also correlated to some extent with the custodian viewpoint. Thus potentially suggesting that the attitudes of these HPs were in the process of becoming more sensitive towards the environment. Therefore, from this perspective, it would suggest that

greater participation in AESs has a more positive effect **than lower participation** in greening farmers' environmental attitudes.

However the fact that only half of those HPs interviewed were found to significantly associate with the custodian viewpoint suggests that the effect of AESs to green farmers' environmental attitudes has only been **partial**. From comparing the Q-methodology and interview data regarding attitudes before AESs, rather counter-intuitively, the results showed instances amongst HPs where the environmental attitudes of previously intensive farmers (those that would be thought to be most resilient to change) had greened, and those of previously traditionalist farmers had largely stayed the same. This could be, as some researchers suggest (Burton et al., 2008), because there is a difficulty in overcoming longstanding cultural ideals embedded amongst farmers. However the discordance amongst HPs' attitudes could also be associated with differential experiences within AESs, and, as the following section suggests, addressing this may offer a way of overcoming, or reconfiguring these already established cultural values.

Barriers to overcome

One distinct difference between those HP farmers whose environmental attitudes had greened and those whose hadn't, was in the amount of **institutional feedback** received. Those associated with the 'custodian' viewpoint commented how ecological enhancements on their farm had been institutionally acknowledged, through their photographing, and then publication in promotional material NE had released relating to AESs. These farmers expressed how this had made them feel proud of these achievements, and had made them value their farms from an **ecological perspective**. In contrast, the HPs whose attitudes had not changed felt the conservation work they had undertaken had gone unnoticed by NE, and as a consequence they attached no significance to it. In addition there was also a difference in the amount of **education** HPs had received. Either by making them aware of the reasons behind the conservation work they were expected to undertake, or the environmental changes to their farming landscape they should expect to see. Those HPs whose attitudes had changed commented how when they had initially entered AESs NE had gone to great lengths to provide this information to them. However this personalised interaction with NE was found to be lacking for those HPs whose attitudes had not changed. Therefore this inconsistency in interaction may explain the discordance in environmental attitudes between HPs, rather than simply the resilience of older cultural ideals. By providing farmers with positive reinforcement for progress, or equipping farmers with the knowledge to track their progress and link it to its greater purpose, a sense of pride and prestige, or a revised **cultural capital,** can be established around their farms' enhanced ecological value. The accumulation of cultural capital has been found to be a key element in mediating farmers' attitudes (Sulemana & James, 2014; Burton, 2004). But rather than it be static and unchanging, like it has been suggested (Burton et al. 2008), this research suggests that it is more dynamic, and can change in response to external factors. Other studies have reported similar findings (Sutherland & Darnhofer, 2012). Therefore it is argued that AESs, appropriately applied, can devaluate older sources or cultural capital by either replacing them, or at least modifying them to incorporate norms relating to environmental care. However for this to be consistent, the institutions delivering AESs have to provide **education and positive reinforcement** for **all** participating farmers, not just piecemeal gestures to select farmers.

There were also broader barriers found to be inherent to AESs that militated against fostering green environmental attitudes. Regardless of participation status, or which attitude they correlated with, farmers frequently complained of institutional contempt and **dismissal of their own tacit knowledge** of the local environment. This antagonised farmers, who felt their input could help make AESs achieve their environmental targets more efficiently. Research investigating the use of knowledge in conservation theorises that the enforcement of one conceptualisation of conservation (i.c. AESs) on a large heterogeneous group of actors (i.c. participating farmers), each with differing interpretations, ultimately leads to its rejection (Morris, 2004).

Indeed, owing to the perceived contempt for their environmental knowledge, a perceived **'them and us'** dynamic was found to be prevalent amongst farmers regarding their relationship with NE. If farmers perceive themselves and the institutions delivering AESs to be separate entities, with no overlapping shared interests, it then becomes more unlikely that AESs' core objective (to improve the countryside's environmental value) will resonate with farmers, with it seen as being more pertinent to the interests of institutional 'outsiders'.

An obvious solution to overcome the 'them and us' dynamic would be for **greater participation** for farmers in designing the conservation measures they are asked to undertake. However as it currently stands farmers felt that there were no effective fora with which they could use to convey their concerns, and or recommendations to NE, and influence decision making within AESs. The absence of an effective forum for farmers will likely only serve to reinforce the perceived 'them and us' dynamic. Meaningful participation would help farmers feel more like partners in the process to improve the countryside's ecological value, and less like they were merely inconvenient obstacles that require financial appeasement in order for that to be achieved. In addition greater engagement with farmers may not only help promote greener environmental attitudes, but it may also improve the physical impact AESs have. Taking advantage of famers' knowledge of the landscape they farmed would provide the local environment with a scheme which was tailored made to it, rather than one that was based on generic criteria applied to the entire country.

Implications for future AESs and the environment

The findings contained within this briefing note show that AESs **do** have the capacity to make farmers care more about the environment. However there are a number of barriers that need to be overcome in order for greener environmental attitudes to become a consistent trait participation in AESs delivers. If these barriers are not addressed, and no importance is placed on changing farmers' environmental attitudes within AESs, then fears are raised over the long term sustainability of AESs and their ability to have a positive impact on improving the environment. These fears become even more marked when the new AES set to start in 2016 is considered. DEFRA have announced that the new AES will be focused on biodiversity (DEFRA, 2014b, p.22), and that due to budget constraints it will be much more targeted, with rumours suggesting that to meet its biodiversity objectives the countryside may be delineated according to how different areas predominately contribute to biodiversity (e.g. areas rich in farmland birds solely focused on their conservation), with the scheme then targeted to the land most relevant to this in these areas (DEFRA, 2014b, p.18). If the new AES is targeted to specific land, it could mean the eligibility of a proportion of famers' land, hitherto protected by AESs, is lost, as it does not contribute to that particular area's designated focus. For example the Yorkshire Dales could be designated as a focus area for farmland birds. All higher up land (e.g. the fells) would be protected. However protection for lower down meadow land, traditionally a central feature of AESs in the area to encourage wildflowers, might be lost. The conservation of wildflowers would then depend on farmers valuing them for their own ecological significance, and persevering with conservation measures without financial compensation from AESs. However because farmers were found not to value the environment before AESs, with participation being due to economic incentives, and that greener environmental attitudes amongst farmers have been inconsistently fostered since, may make this, as a typical occurrence, very unlikely. Therefore unless future AESs address the issues raised in this briefing note, and encourage all farmers to see value in protecting the environment that extends beyond monetary gain, then their goals to improve the environment may be undermined, such as in the case of the forthcoming AES' focus on biodiversity, where environmental objectives may be met in those areas targeted, but lost in those neglected.

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